

# NCH Software

# Zulu DJ Software

This user guide has been created for use with  
Zulu DJ Software Version 4.xx

## Technical Support

If you have difficulties using Zulu DJ Software please read the applicable topic before requesting support. If your problem is not covered in this user guide please view the up-to-date Zulu DJ Software Online Technical Support at [www.nch.com.au/dj/support.html](http://www.nch.com.au/dj/support.html).

If that does not solve your problem, you can contact us using the technical support contacts listed on that page.

## Software Suggestions

If you have any suggestions for improvements to Zulu DJ Software, or suggestions for other related software that you might need, please post it on our Suggestions page at [www.nch.com.au/suggestions/index.html](http://www.nch.com.au/suggestions/index.html).

Many of our software projects have been undertaken after suggestions from users like you. You get a free upgrade if we follow your suggestion.

# Zulu DJ Software

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# NCH Software Suite

This is a useful way to browse all the software available from NCH Software

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There is also a list of features for products in the category. Click on a feature, such as "Edit a Video File", to install a product with that ability.

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# Overview

Zulu is a DJ software program for performing live mixes. It allows you to control tracks, apply a range of effects and filters, play samples, beat match and cross fade.

## Features:

- Automatic beat detection
- Synchronization between the decks
- Cross fade between two tracks
- Apply effects in real-time including distortion, reverb, delay and more
- Real-time pitch and tempo control
- Supports the formats wav, mp3, wma, aiff and more
- Auto Play for seamless transitions, hands-free, with optional shuffle mode
- Record DJ mixes and save as an audio file
- Tap your space bar to the beat to set the BPM manually, or input your own BPM value for greater control
- Use keyboard hotkeys to control Zulu DJ Mixer
- Use cue points to adjust the track starting point
- Loop sections within a track and synchronize to the BPM
- Preview tracks with separate output for DJ headphones
- Can be used with any USB MIDI DJ Mixing Controller
- Play samples which are seamlessly mixed with currently playing tracks
- Play from up to 6 decks at the same time
- Play videos during a live set
- Normalize Track volumes
- Scratch any loaded decks

## System Requirements

- Windows XP/Vista/7/8/10

Zulu is just one component of the NCH Software suite of audio software. If you have not done so already, visit [www.nch.com.au](http://www.nch.com.au) to download and trial our other professional audio software packages.

# Quick Start Guide

## Beat Matching

### Deck A

Select a track from your playlist and click on the Load to A button to the right of the track details. Its' waveform and info will appear at the top of Deck A. You can also drag and drop the track into the deck. The track will be loaded into Zulu and is ready for playback. Once it is loaded press the Play button underneath the waveform. As the track starts playing the Play button will be grayed-out.

Make sure the crossfader is moved all the way to the left (so that your audience can only hear Deck A playing through the speakers). The Volume Slider should be set at default loudness which is 0. If it is not you can double click on the slider's knob and it will snap to 0. Every track's loudness is a little different so you may need to adjust the volume accordingly.

### Deck B

While the first track is playing, select your next track from your playlist and click on the Load to B button. Try to choose a track that has a similar tempo (BPM/speed) as your first track. That way the song won't sound too sped up or too slowed down and it will make it easier for you to mix it in with the first track.

You won't hear anything from Deck B through the speakers yet because the crossfader is set all the way to the left. The plan is to slowly mix in the track on Deck B when it is playing. By slowly moving the crossfader to the right you should hear the track on Deck B fade in, whereas the track on Deck A progressively fades out.

Before mixing in the second track, you must first beat-match it to the track playing on Deck A.

## Using Headphones

On Deck B press Play and then click on the Headphones icon. This allows you to listen to the track playing through your headphones. You can hear the track playing on Deck B without interfering with the main mix sent to your audience.

Regardless of the deck that you're hearing in your headphones, the main output is still controlled by the crossfader and volume sliders.

Note: You should always adjust the Pitch/Speed slider of the track that is NOT audible to the audience!

## Using the Sync Button

While Deck A is playing, on Deck B press the Sync A

button to synchronize its tempo and phase with that of Deck A. The sync button uses the BPM and beat markers to slow down or speed up a track in one particular deck and "synchronize" it to the track in the other deck. Due to the nature of music however, certain tracks can never be perfectly synchronized.

After pressing the Sync button the two tracks are more or less in synch but there may still be some fine tuning left.

#### Adjusting the Tempo by Hand

Adjust the Pitch/Speed slider on Deck B until the track's BPM either "sounds right" or directly matches the value of the other track's BPM, which is displayed at the top of Deck B.

In case you still hear a slight offset between both tracks, you can use the Slow Down/Speed Up

Click and hold down the Speed up button and it will nudge the track forward by speeding it up slightly. Likewise, click and hold down the Slow Down button and it will slow the track down slightly.

Now that both tracks are synched up nicely, you can bring the crossfader over from Deck A and slowly mix in the track in Deck B.

#### Cue Marking

You may want to have more control over which particular part of the track you are mixing in. For example, most of the time, not only the tempos but also the downbeats of both tracks should match. Using a particular point in a track is called "cueing".

Aligning both tracks is pretty straightforward:

- Choose a point in your track in Deck B that you want to mark as a cue point.
- Click on the Set Cue Point button. After setting it press the Play button in Deck B.
- When you hear a downbeat in the track from Deck A, press the Cue Play button in Deck B. The playback position on Deck B will jump to the stored cue point and the playback will continue from there.

See the [Cue Point](#) topic in this manual for more information about setting cue points.

# Interface Overview

The Zulu interface includes the music list, two decks, the crossfader and the master volume and additional features selectable by the appropriate tab. Each of the interface pieces are covered in the Interface section of this manual.

Screenshots are available [here](#).

- [Music List](#)
- [The Decks](#)
- 
- [Waveform Windows](#)
- [Play Controls](#)
- [Crossfader](#)
- [Master Volume](#)
- [Deck Volume Controls](#)
- [Synchronous Clock](#)
- [Deck Menus](#)
- [Cue Points\(Hot Cues\)](#)
- [Loops and Samples](#)
- [Deck Effects](#)
- [Additional Decks](#)
- [Video Display](#)

# Music List

The music list is where your list of tracks reside, you can add, remove, sort and load music into each deck from here.

## Headings

- Title Title of the track.
- Comment You can input comments here and they will be saved and reloaded next time you open Zulu.
- Artist The artist who created the track.
- Album The album from which the track is from.
- Length Length of the track.
- Play Count How many times the track has been loaded into the decks.
- BPM (Beats per minute) value. This is only assigned after you have loaded and scanned the track in a deck, or if you have edited the BPM of the track before it has been placed in the deck. This value is stored each time you close Zulu.
- Load To Buttons to quickly load or unload the selected track into a deck with 1 click.
- Normalize Volume gain in decibels to increase (or decrease) loudness of a track.
- Feed to This indicates which deck this track will be fed to: deck A or deck B. By default this is off and can be turned on in the options.

## Buttons

The buttons are located under the music list, at the bottom of the Zulu program window.

- Add Click the Add button to add music files to the list.
- << Click to toggle show and hide "File Browser".
- Search Enter a sequence of characters, the playlist is filtered to only show items with that sequence.
- Import Playlist Click the Import Playlist button to load your playlist from a XML file (custom Zulu format), M3U, WPL or PLS file. See [Import and Export Playlists](#) for more information on the supported files.
- Create Audio Playlist Click on the Create Audio Playlist button to add a new playlist. See [Import and Export Playlists](#) for more information on the supported files.

## Additional Options

These options are available through the right-click menu.

- Add Music Files Adds tracks to library
- Add Folder as Search Path Adds all tracks in folder to library and adds the folder to the list of search paths
- Add Files from Folder Add tracks in folder to library but the folder is NOT added as a Search Path
- Add Playlist Adds the tracks from the playlist into the library
- Add To Deck Adds selected track to specified deck.
- Open Track location Opens the file location of the track.

- Edit BPM Opens the Edit BPM window allowing a custom BPM designation.
- Edit Comment Sets the comment column of the playlist.
- Edit Play Count Sets the Play Count column of the playlist.
- Edit with WavePad Opens the selected track with the Audio Editor, WavePad. Please note that this option locks Zulu until WavePad is closed. Once WavePad is closed, the track is reloaded with any changes that have been made.
- Add Selected Tracks to Playlist Add selected tracks to a playlist specified by select tracklist
- Create Playlist There are 3 options when creating a playlist:
  1. Empty Playlist Creates a playlist with no tracks
  2. Currently Selected Creates a playlist and add tracks to the list which are currently selected.
  3. Current List Creates a playlist and add tracks to the list which are currently in the list.
- Scan Selected tracks for BPM and Volume Normalize Gain Adds the selected tracks to the top of the list of tracks being scanned.
- Reset Volume Normalize Gain to calculated value Resets the tracks' gain to the calculated value or 0 if not calculated yet.
- Reset BPM to calculated value Resets the tracks' BPM to the calculated value.
- Set Feed To Deck for selected tracks Sets the Autoplay option of Feed To Deck if it has been enabled.
- Clear all files Deletes all the files.
- Remove File(s) Deletes all the currently selected files
- Set File paths for selected tracks Change the current file path of the selected track(s)
- Cache selected tracks Create temporary .wav file from the selected file. This cached file can improve performance of Zulu.
- Validate Playlist Search the playlist to see if there are any missing files and check if any missing file locations are now valid(ie USB drive has been connected).
- Export To Playlist Opens a dialogue so a playlist or the library can be exported to a playlist.
- Skip playing Deck If Autoplay is currently on then we can skip the track which is currently playing to load the next one.
- Undock/Dock Audio Library Remove or Add the Audio Library window from or to the Main Window.

## The Decks

The Decks encapsulate the track information, the waveform windows, the play and cue controls, the pitch/speed slider, the volume, the sync button, the headphone button and the FX rack. Each deck is designed to load a track and play it back.

See also:

- [Interface Overview](#), for an interface diagram
- [Deck Information Panel](#)
- 
- [Play Controls](#)
- [Deck Volume Controls](#)
- [Deck Menus](#)

## Deck Information Panel

The deck information panel is located at the top of each deck and is labeled with the associated deck letter. It contains information about the track that is currently loaded into that deck. This information includes:

- The Deck letter
- The name of the track
- BPM (Beats per minute) of the track as detected by Zulu or manually set by you. Click left mouse button on BPM text to edit bmp.
- The percentage the BPM is shifted by the pitch slider.
- The button to toggle between Strict and Freestyle modes. This button may not be visible if there is not enough room. This mode can still be changed through the [Deck context menu](#).
- The total length of the loaded track. This may not be visible if the window is too small.
- The time the track has been playing (plus sign)
- The time the track has remaining (minus sign)

There is also a button to turn on/off Freestyle Mode for the deck. Refer to [Freestyle Mode](#) for more information. The BPM of the track will only be available after Zulu has scanned the track. Zulu uses an advanced beat detection algorithm to find the BPM. This algorithm works best on simple repetitive pieces of music (like most dance music, or music with strong, consistent beats) but may not work as well on other types of music.

See also:

- [Interface Overview, for an interface diagram](#)
- [BPM Edit](#)

# Waveform Windows

The waveform windows are where you can view the waveforms of the tracks you are playing. Waveforms are visual representations of the sound. There are two main waveform windows, the detailed window (larger, on top) and the preview waveform window (smaller, beneath the detailed window).

## Detailed Waveform Window

The detailed waveform windows show a selection of the track. The yellow play cursor indicates the moment that is currently playing or will play once the track begins playing. When the track is playing, the waveform will scroll from right to left in the detailed waveform window.

## Beat Markers

Directly above the waveform window there is a thin grey strip with white triangles and colored dot points (same color as the deck letter). These triangles and dots are the beat markers. They indicate that Zulu thinks there might be a beat at that point. The white triangles denote the strong beat, or downbeat. The colored dots denote weaker beats. Depending on the kind of music you are playing, these beat markers may or may not be completely accurate. The positioning of the beat markers is determined by the beats per minute (BPM), which can be edited (see the [Edit BPM](#) topic in this manual for more information).

## Cue points(Hot Cues)

When using the cue points, also called Hot Cues, you will see a blue marker in the detailed waveform window. This indicates that a cue point has been set at that point. By default, the cue point is always set based on the cursor position in the wave window, but can be placed anywhere you like. See the "Cue point buttons" section of the [Cue Point](#) for more information on how to set Cue points.

To move the cue point in the detailed waveform window, drag the blue line to change its position. Drag the edge of cue loop to change the loop length. By default it will snap to the nearest beat marker. Turn off Strict Style to have more control over where the Cue is placed. Hold down control then it will allow fine adjustment of the loop length.

## Wave Scratching

Click and drag the mouse inside the detailed waveform window to apply scratching. If a quick drag is applied and let go, the cursor will travel by on its own depending how quickly the cursor had moved previously.

## Wave Skipping

Click and drag the mouse inside the preview waveform window to the left and right to skip backward or forward for the loaded track.

## Preview Waveform Window

The preview waveform window shows the waveform for the full length of the track. The highlighted selection section is the section that is currently shown in the detailed waveform window. This highlighted selected section moves through the full track as you play the audio.

Click anywhere on the preview waveform window to jump the yellow play cursor to that point and display it in the detailed waveform window. For finer control of the position of a track use the detailed waveform window (see above).

See also:

- [Interface Overview, for an interface diagram](#)
- [Play Controls, for cue points](#)

# Play Controls

The play controls include the play buttons, cue point buttons, loop buttons, pitch/speed slider, sync button and headphone output button. These buttons are all located in the area directly below the waveform preview area. Please note that the controls will have slightly different behavior if Strict Mode is enabled. Strict Mode is enabled by default.

## Play/Pause buttons

The play/pause button begins playing the track that you have loaded into the deck, from the point the yellow play cursor is set. If there is no track loaded into the deck this button will do nothing. After you have started a track playing, clicking the play/pause button pauses the track at that point. If the deck is synced to another deck, it may not start at the expected position. The deck will start playing at the same bar position as the master deck.

There are no fast forward or rewind buttons in Zulu because you can skip to any place you wish in a track in the [waveform windows](#).

## Jump to Start button

Just to the left of the play/pause button is the jump to start button. If the yellow play cursor is somewhere in the middle of the track, you can click this button to quickly jump back to the beginning of the track. If Strict Mode is enabled, then the cursor will jump as close as possible to the start while preserving the tempo.

## Slow Down/Speed Up button

The left and right arrowed controls allow the user to temporarily slow or speed a deck for the purposes of manually matching the beats between decks, similar to using a jog wheel of a controller. It will slow down/speed up 4% from the current position of the pitch/speed slider. Please note that these buttons only apply a single change that will be removed on release of the button. Use these buttons in conjunction with the [synchronous clock](#) to gauge when the decks are matched up. These buttons can still be used to match up the beats while decks are synced.

## Cue point buttons

Use cue buttons to bookmark sections in your tracks so you can quickly skip, cue, match tempo, create loops, and more. See the [Cue Point](#) topic in this manual for more information about setting cue points. If Strict mode is enabled or if the deck is synced, playing from a cue point may not start exactly from a cue point as the tempo will be matched. These points will be stored in the library with the track information. These buttons can be reset with a right click.

## Cue Point Lock

The Cue Point Lock prevents the Cue Points or beat loops from being deleted if a right click is used accidentally.

## Beat Loops

Each beat loop button is associated with the Cue Point button above it. The Beat loop length is determined by the Beat Loop Length control at the right of the beat loop buttons. When a Beat Loop button is pressed, it will apply the specified loop length to the position currently set in the above cue point. If the above cue point position is not set then it will default to the cursor position. While the beat loop is applied, its length can be increased or decreased using hotkeys, the Deck context (right click) menu or the main menu. This length is saved in the library for future use. When the track is loaded by a deck, the previously used beat loops will also be loaded. These buttons can be reset with a right click.

### Beat Loop Length

This control specifies the length of a beat loop (if the beat loop is not already set) when it is applied. A Left Click shows the list of available lengths.

#### Available Beat Loop Lengths:

- 1/8 One eighth of a beat
- 1/4 One fourth of a beat
- 1/2 One half of a beat
- 1 One single beat
- 2 Two single beats
- 3 Three single beats
- 4 Four single beats
- 6 Six beats
- 8 Eight beats
- 12 Twelve beats
- 16 Sixteen beats
- 32 Thirty two beats
- Loop Track Loops the entire track loaded by the deck. Please note that this is available through the main menu and the deck context(right click) menu.

### Pitch Lock(also called Key Lock)

The Pitch Lock button controls whether the pitch will be changed when changing the tempo. Click this button if you want to keep the original pitch while altering the speed using the Pitch/Speed slider.

### Pitch/Speed Slider

The pitch/speed slider controls the pitch and speed of the track currently playing. You can speed up or slow down the track by moving the slider left or right. Note that unless the Lock Pitch button is pressed, the pitch will also raise or lower. To the right of the pitch slider is displayed a percentage of how much the pitch has changed from its original value.

The pitch/speed slider is normally used to adjust the speed of one track down so that it plays at the same speed as the track playing in the other deck, allowing you to smoothly mix one track into another without ever losing the beat. This is a skill which takes practice, however.

When you use the sync button to synchronize one deck to another you will notice that the pitch slider changes the pitch of the track so that it syncs to the speed of the other deck.

The pitch/speed slider can be moved by:

- Clicking and dragging the pitch/speed slider knob
- Clicking anywhere on the pitch/speed slider to move to that position
- Double clicking on the slider will set it to the middle

Please note that the slider can not be changed while the deck is synced.

#### Sync Button

The sync button uses the BPM and beat markers to slow down or speed up a track in one particular deck and "synchronize" it to the track in the other deck. For this to work properly the BPM of both tracks must be set accurately.

A sync menu button is available to allow you to select which target you would like the deck to sync to. Once a target has been selected, the sync button will be updated with the current sync target.

The pitch/speed slider, BPM, beat markers and sync buttons are all designed to help you sync one track to another track. Due to the nature of music however, certain tracks can never be perfectly synchronized. It is up to the skill of the DJ (you) to use these tools as best you can and to study which tracks of music will be able to be synchronized or not.

If Zulu has made an incorrect analysis of the BPM, the sync button will behave unpredictably and you may have to adjust the pitch/speed slider yourself until you feel the two tracks are playing in sync (this is a skill which may take some practice though). You can also set the BPM to a more accurate setting by editing the BPM.

#### Headphones Output Button

The headphones output button has a small image of a pair of headphones on it. When you click on it, it will send the output of that deck's track to the headphones. For additional decks(C-F). This will remove sound from main speaker and play only to headphones.

In the audio section of the Options window you have the ability to choose a separate audio output for your headphones and speakers if you have an ASIO compatible soundcard which supports multiple outputs. This allows you to play one deck out the main speakers while playing the other deck into your headphones. ASIO will provide the best performance and the lowest possible latency and offer the greatest accuracy when synchronizing recordings. Another option is to install the driver from ASIO4ALL which provides a layer over the regular soundcard, allowing it to be used as an ASIO device by software such as Zulu. You can download it for free from <http://www.asio4all.com/>.

In a live situation, you would use this ability to listen to the track playing out the main speakers while changing the speed of the track playing in your headphones so it syncs to the track on the main speakers. As the main track begins to end, you would first turn off the headphones output for the new track and then crossfade the old track into the new track.

## Deck EQ

5 sliders are available to help adjust the decks output. The middle point of the slider represents a zero gain to the associated frequency band of the Deck audio output.

## Deck Clock

Shows the current time of the track.

## Deck Swap

The deck swap button is only available on the [Additional Decks](#). This button allows the currently set track to be swapped with the specified deck (A or B). All track options such as loops, sync, pitch, etc, are also be swapped.

See also:

- [Interface Overview, for an interface diagram](#)
- [Shortcut key reference](#)

# Deck Volume Controls

The deck volume control is located after the pause button and has a volume control and a display for how loud the track loaded into that deck is playing.

## Decibel Meter

The decibel meter is located above the volume slider, directly under the preview waveform. It displays the volume of the track playing for reference. The volume meter will show even if you have turned the volume to silent (to indicate that even though the volume is down, music is still playing).

## Volume Slider

The volume slider is located directly below the decibel meter. Here is where you control the loudness of the track. If you move the volume slider high enough that the volume displays in the decibel meter in the red zone, you will actually be applying gain to the track. Applying gain to a track is useful for when you have a track that was recorded at a lower volume than other tracks and needs a boost to play at the same level. The decibel levels are shown on the slider to give an idea of the possible gain.

It is not recommended that you move the volume slider past 0 decibels except for poorly recorded tracks.

**NOTE:** Applying gain to music already at an optimal level can produce distortion, such as crackles in the audio.

The volume slider can be moved by:

- Clicking and dragging the volume slider knob
- Clicking anywhere on the volume slider to move to that position
- Moving the mouse wheel up or down in the volume slider to increase or decrease the volume respectively
- Pressing the hotkeys assigned to increasing or decreasing that volume slider (see the [Hotkey Setup section](#) for more information)

# Deck Menus

Each deck has a menu, which can be accessed when you right-click on either deck. The menus give you access to these functions:

## Jump to Start (Home)

This is much the same as a stop button. It stops the deck playing and moves the cursor to the start of the track.

**Tip:** You can add a custom key command for the Jump to Start function for faster access. See [Hotkey Setup](#) for more information.

## Skip Track

If Autoplay is on and the Deck is currently playing then the currently playing track can be skipped.

## Clear Deck

This will reset the deck. The audio will stop playing and the track will be cleared from the deck.

## Reset Deck to Defaults (R)

This will set all controls and effects back to their default positions.

## Set Freestyle Mode On/Off (Shift+S)

By default, Strict mode is on. Strict mode will preserve the tempo of the track as much as possible when interacting with the deck. In Freestyle mode, tempo is not incorporated in order to provide greater accuracy.

## Edit Loaded Track's BPM (E)

This will allow you to edit the BPM (Beats Per Minute) value for this particular deck. See [Editing the BPM](#) for more information.

## Apply Stereo Pan

This will toggle a panning effect to the track and spread the sound signal to the left or right. At full left the sound appears in only the left channel, with all the sound going exclusively to the left channel speaker. Conversely when in the far right, the sound only appears in the right channel speaker.

## Edit Stereo Pan

The Stereo Pan dialog window allows you to adjust the panning of the track using select presets as well as adjusting the panning points manually. See [Stereo Pan](#) for more information.

## Loop Track

Loops the entire track.

## Increase Currently Applied Beat Loop

Increases the length of the currently applied loop based on the list of beat loop lengths.

## Decrease Currently Applied Beat Loop

Decreases the length of the currently applied loop based on the list of beat loop lengths.

## Save Loop To Sample

You can save the currently active loop of a deck to sample. It will be added automatically to the Loops and Samples Tab.

## Set Scratch Mode Vinyl

There are two scratch modes: Vinyl and Speed Up/Slow Down. By default, Vinyl mode is on. Click this to toggle between the two mode.

Tip: See [Hotkeys](#) for a list of the default hotkeys or to set your own hotkeys.

# Crossfader

The crossfader is found in the center panel of the Zulu interface, above the master volume control and between Deck A and B. It is a simple horizontal slider that you can move back and forth with your mouse. There are also arrow buttons on either side of the crossfader that can be used to auto-crossfade between decks at a constant speed.

## Using the Crossfader

When you load music into each of the decks and play them, moving the crossfader from side to side fades in between the two pieces of music as they play. When the crossfader is set completely to the left you will only hear the music playing in Deck A. When you set the crossfader completely to the right you will only hear the music playing in Deck B.

The idea is that as a track comes close to finishing in deck A, you begin to fade in a new track from deck B. Then while deck B is playing, you keep the crossfader fully to the right. This allows you to load a new piece of music into deck A so when deck B starts to finish you can start the music in deck A and then slowly push the crossfader away from deck B to nicely bring in the new music from Deck A.

The crossfader can also be manually incremented (and decremented) or set to full left and right using hotkeys.

## Crossfade Buttons

The crossfade buttons sit on the left and right of the crossfader. These perform a smooth auto crossfade from one deck to the other. The time it takes to crossfade can be set in the Options under the General tab.

Crossfading is automatically handled when in Auto Play mode to mix your music for you.

# Master Volume

The master volume controls the overall volume of Zulu. This is the combined volume from whatever is playing in the decks or samples.

The master volume is controlled by the volume slider directly under the crossfader in the panel between the decks.

## Headphone Output Volume

Directly under the master volume slider is the slider that controls the headphone output volume. When the headphone button is pressed on either of the decks, this slider controls the volume heard from the deck in headphone mode.

See Also:

- [Interface Overview, for an interface diagram](#)

## Synchronous Clock

There is a clock in the middle panel of Zulu interface, located between Deck A and B. It displays the relative beat position of all of Zulu's Decks and is a tool you can use to synchronize the downbeats (or one beats) of your tracks.

The color of each needle is based on the color associated with each deck (represented by the color of the deck letter). If decks are perfectly synchronized, their needles will overlap.

If it is a strong beat, the clock will flash the color for the deck. If multiple decks have their strong beat aligned then the clock will flash the combined color.

See Also:

- [Interface Overview, for an interface diagram](#)

## Auto Play

The Auto Play mode loads, plays and mixes the music for you. Auto Play can be enabled by clicking on the Auto Play button. The tracks play in order from top to bottom, starting from the first track in the music list. As each track ends, an auto-crossfade is performed into the next track.

Auto Play mode is ideal for when you do not want to mix the music yourself, but would rather let it play out automatically.

The order of tracks to be played can be randomized by selecting

In addition, there is also the option to restrict which deck the track can be loaded to in Auto Play mode. This done through the Feed To column and enabling this feature is also available in options through the Playing tab.

When Auto Play is enabled:

- If either deck is empty or reaches the end of its track, the next track will be loaded from the playlist.
- If neither deck is playing when Auto Play is enabled, one deck is started and crossfaded to.
- As a deck reaches the end of its track it will be faded out while the other deck will start to play and is faded in.

Please note that the Auto Play mode will be disabled if there are no tracks in the library.

## Shuffle Mode

Shuffle Mode will randomly choose a track in the playlist, which has not been played, to be loaded into a deck when Auto Play Mode is enabled. Shuffle Mode also incorporates the selected deck in the Feed To column into its choice. To turn on Shuffle Mode, click the Shuffle Mode button located just above the crossfader in the center panel between the two decks. Shuffle Mode can also be enabled through the Controls menu or by using the Hotkey.

See also:

- [Feed To](#)

# Recording

Zulu allows you to record your DJ sessions so you can use them for future DJ sessions, to mix into other songs (using [MixPad mixing software](#)), or listen to in other applications.

## Begin a new recording session

To begin a recording session, click on the Recording button located just above the crossfader between the two decks. While recording mode is enabled, the Recording button will blink.

Recording settings, including file name and where recordings are saved, are found on the [Recording tab](#) of the Options window, accessed through the Tools menu.

## Ending a recording session

When you have completed your DJ session, you can end recording by clicking the Recording button, located just above the crossfader between the two decks.

## Viewing Recorded Files

To view the location of your last recorded file, click the File menu and select Open Recording Folder. If all of your recordings have been saved to the same location on your hard drive, you should see them all using this shortcut. Double click any file to hear the recording.

Edit your recorded files using WavePad audio editor. Learn more about WavePad at <http://www.nch.com.au/wavepad/index.html>.

Mix your recorded files with other songs using MixPad multitrack mixing software. Learn more about MixPad at <http://www.nch.com.au/mixpad/index.html>.

## Loading Audio CDs and Caching

You can load tracks from an audio CD and they will be cached automatically in Zulu. The cached tracks can be played without the original Audio CD.

To load an audio CD into Zulu, click the "File menu and select Load Audio CD". If your audio CD is in your CD drive, the tracks will appear in a list on the Load Audio CD Track(s) dialog. Select the tracks you want to load into Zulu by pressing Ctrl while clicking select tracks, or press Shift while clicking to select adjacent tracks. Click the Load button to load the selected tracks into Zulu's Music List, and into Zulu's cache.

You can delete the cache tracks from the

Options Dialog on the General tab by clicking Clear Cache. You will be unable to play it in Zulu unless you load it back in again.

# Import and Export Playlists

Zulu allows you to save playlists and import them from other programs. Zulu currently supports both the PLS, WPL and M3U formats. Importing from an [iTunes Playlist](#) is also available.

## Import/Export Playlist

You can import and export your playlist from the menu as well as pressing the buttons at the bottom of the music list.

You can save your playlist in three different formats:

**XML** This is the internal format for Zulu. This playlist stores all the information Zulu uses for each track as well as track names and order. This format will not work with other software, but it is recommended for storing your personal Zulu playlists as things like the BPM and Cue points are saved.

**M3U** This is the standard M3U playlist format. No BPM or Cue point information is stored. You will need to set up this information again the next time you use this playlist, but it works with other audio player software.

**PLS** This is the standard PLS playlist format. No BPM or Cue point information is stored. You will need to set up this information again the next time you use this playlist, but it works with other audio player software.

**WPL** This is the standard WPL playlist format. No BPM or Cue point information is stored. You will need to set up this information again the next time you use this playlist, but it works with other audio player software.

## Import Playlists

To load a playlist into Zulu simply drag it into the list view or choose a PLS, M3U, WPL or (Zulu) XML file instead of an audio file when adding music.

# Loops and Samples

The Loops and Samples tab, located in the lower pane along with the Playlist, is where you can load samples and files you want to loop while the decks are playing.

Add, Remove, Clear

Click the Add button to browse for files to add to the sample list. The Remove button will remove any selected files from the list. Click Clear to remove all samples from the list. The supported file types are:

- aif
- aiff
- aifc
- mp3
- wav

## Download

Zulu comes with an option to download from a sound library that contains thousands of sound effects and music files which you can add to your loops and samples list. Click the Download button to open the sound library. See the [Sound Library](#) topic in this manual for more information.

## Search:

Use the search field to filter through your list and find a particular file by typing in the name.

## Operating Sample Files

Once a file is added to the tab, it appears in the list with all the controls needed to play it.

- Play - click this button to play the sample file.
- Stop - click this button to stop playback of the sample file.
- Volume - slide the volume control to change the volume for individual sample files.
- Loop - click this button if you want the sample file to play on a continuous loop.
- Sync - click this button to sync the sample file beat to the beat of a deck.
- Pitch - click this button to prevent pitch changes while you sync the beat.

Sync note: When applying the sync, the deck used is based on the following criteria:

- If Deck A and Deck B are both playing and Deck A is synced to Deck B or vice versa than the deck used is the one being synced to.
- If Deck A and Deck B are both playing and are out of sync, then the loudest deck is used.

- If only one deck is playing out of Deck A and B then that deck is used.
- If neither deck is playing than the most recently loaded deck is used.

### Import Sample List

Click the Import Sample List button at the bottom right of the Loops and Samples tab to import a list of samples.

### Export Sample List

Click the Export Sample List button at the bottom right of the Loops and Sample tab to export your sample list.

**XML** This is the internal format for Zulu. This playlist stores the volume and bpm for each track along with track names and order. This format will not work with other software, but it is recommended for storing your personal Zulu playlists as things like the BPM and volume are saved.

**M3U** This is the standard M3U playlist format. No BPM or Volume information is stored. You will need to set up this information again the next time you use this playlist, but it works with other audio player software.

**PLS** This is the standard PLS playlist format. No BPM or Volume information is stored. You will need to set up this information again the next time you use this playlist, but it works with other audio player software.

**WPL** This is the standard WPL playlist format. No BPM or Cue point information is stored. You will need to set up this information again the next time you use this playlist, but it works with other audio player software.

# Cue Point

The blue cursor, in the detailed and preview waveforms, is the cue point. By default, it is set at the beginning of a track, but can be moved anywhere you need. By using the cue play buttons you can:

- instantly skip to the cue point and start playing the audio immediately
- cue up a specific section of a track you want to start at
- match the tempo of one deck to the other by setting a cue point at the moment a beat begins in a track, so the two track's beats are aligned for seamless crossfading between the two decks
- create loops from certain sections of the track for playback. For example, you may want to trigger a small vocal section over and over in time with whatever is playing in the other deck by setting a loop that starts at the cue point

Cue points are saved between sessions. This means that if you set a cue point in a track in your library, the next time you load that track, the cue point will already be there.

## Add Cue Point

You can add up to 8 cue points for each track. When you have used up all 8 cue points you will need to overwrite an existing one.

## Strict Mode

This option automatically locks the cue point position to the position of the nearest beat marker. This allows you to easily align multiple track beats while playing. This option will also preserve the tempo while playing a track and Cue Play is used. This can be done by the Deck Mute using the hotkey.

## Fullscreen Mode

Fullscreen Mode allows you to increase the size of Zulu' main window to take up the whole screen, giving you more room to work and hiding the menu bar and the status bar. To toggle Fullscreen Mode on and off click the button on the console or use the [hotkey](#). While in Fullscreen Mode, you can also press the ESC key to turn the mode off.

## Microphone Mode

### Microphone Mode

A DJ may want to tell something to audience, even while music playing. Turn on this will reduce music volume by 6 db and allow user to speak to the audience through main speaker. Click the Microphone button on the console to toggle Microphone Mode on and off.

See [Audio Options](#) for more information about setting microphone.

## Safe Live Mode

When Safe Live Mode is activated it prevents any action that could potentially distort or ruin the audio. To turn on Safe Live Mode, click the lock icon in the center panel, or use the [hotkey](#).

The actions that are currently prevented when this mode is active are:

- Loading a song to a deck that is currently playing and can be heard
- Delete track that is currently playing and can be heard
- Clearing the playlist
- Applying deck sync while the deck is playing and can be heard
- Applying sample sync and pitch lock while the sample is playing
- Jump to start for currently heard deck
- Opening Options
- Edit currently playing track BPM
- Clear or reset currently playing deck
- Delete currently playing sample
- Downloading samples
- Clearing the sample list if any samples are playing
- Deck can only be paused if it can't be heard.
- Closing Zulu
- Auto crossfading to a deck if the deck is not playing
- Changing the main volume
- Changing the deck volume if the deck is playing and can be heard
- Editing Stereo Pan for the Deck
- Cue pause if no other deck is playing
- Cue play when deck is playing
- Loop when deck is playing
- Launching other applications via Zulu's menu

## Master Effects

The Master Effects window allows you to apply effects to the entire audio output, meaning that any effect will be applied to all decks and any samples that are currently playing. The effects available are the same as the effects available through the effect's Tab.

To open the Master Effects window, click the FX button in the center panel.

See the [Deck Effects Tab](#) for more information about the available effects and their parameters.

## Deck Effects

Each deck has an associated button to quickly apply the effect to the deck. To quickly disable or enable the effect for the chosen decks, click on the effect's check box.

An editor is also available to manipulate the effect's parameters. To use the editor, add an effect, select it in the current effects list and it will appear. The editor will appear in the window next to the current effects window.

The effects available are:

- [Amplify](#)
- [Chorus](#)
- [Compressor](#)
- [Distortion](#)
- [Echo](#)
- [Flanger](#)
- [High-Pass Filter](#)
- [Low-Pass Filter](#)
- [Reverb](#)
- [Tremolo](#)
- [Wah-Wah](#)
- [Pitch Shifter](#)
- [7 Band Equalizer](#)
- [VST Plugins](#)

Once the effect chain has been setup how you like it, there is an option to save so you don't have to redo all your hard work. Using the Export and Import Effect List buttons allow you to keep and restore the effects to how you like it. You can even load multiple effect lists!

## Additional Decks

Additional decks are provided through the decks tab. The differences between the main decks(A and B) and the decks on this tab are:

- The secondary decks have an extra button on them which allows for swapping the currently loaded tracks with Deck A or B.

To load one of these decks with track either drag a track from the playlist onto the Decks tab then drop onto a deck or, click the deck button on the playlist. Also, you can use the main menu or the playlist right click menu and select the appropriate deck. Hotkeys are also available to quickly load the selected track.

These additional decks also come with MIDI controller support. Just associate the specific deck control with the appropriate MIDI command and you will be able to control the additional decks from your controller.

# Video Display

## Video Display

This feature allows you to show a video while music is being played. Please note that the audio from the video will not be heard. To start showing a video, enable the feature through the "Video Display" menu item, add a video and double click on the video. An external window will be opened and your video will start playing.

### Enable Video Display

This allows to turn the feature on or off in order to prevent the interface from being clustered.

### Add Video(s)

Opens up a browse window where videos can be added to the video playlist. Similar to the audio playlist.

### Delete Video(s)

Deletes any videos which are currently selected.

### Clear Videos

Removes all currently loaded videos in the playlist.

### Play Selected Video

Opens up the external Video Display window (if not already opened) and starts playing the first selected video or the first video in the playlist.

### Pause Video

Pauses the currently selected video.

### Stop Video

Pauses the currently selected video and seeks to the beginning of the video.

### Import Video Playlist

Opens a browse window and imports any videos that are in the selected playlist file.

### Export Video Playlist

Exports the currently loaded videos to a playlist file.

### Full Screen Mode

To enable or disable full screen mode for the video window, double click on the video window. The menu option, Toggle Video Fullscreen Mode, is also available.

Steps to show video on monitor or projector

1. Enable Video display using the "Enable Video Display" menu option under the Video Display menu.
2. Add video(s) to the playlist by using the Add button on the bottom panel.
3. Double click on the video to play.
4. Drag the video display window to desired monitor or projector.
5. Double click on display window to make it full screen.

**Supported Formats** Please note that the added files must have video streams inside, otherwise they cannot be loaded into the video playlist.

- .asf
- .avi
- .divx
- .f4v
- .flc
- .flv
- .m2ts
- .m4v
- .mpeg
- .mkv
- .mov
- .mp4
- .mpe
- .mpeg
- .mpg
- .mts
- .nsv
- .nut
- .ogg
- .ogv
- .rm
- .rmvb
- .rv
- .ts
- .ts4
- .vob
- .webm
- .wmv
- .wtv
- .xvid

# Shortcut Keys and Default Hotkey Reference

Almost all actions in Zulu have a hotkey assigned (or can have a hotkey assigned) which allow you to control using your keyboard instead of the mouse. Hotkeys can be changed according to your preference on the Hotkeys tab of Options (also see the [Options ~ Hotkeys](#) topic in this manual). The Shortcut Keys are automatically assigned by the system and cannot be changed.

## Shortcut Keys

- Open Help Documentation F1
- Quit Zulu Alt+F4

## Default Hotkeys

- Add to Playlist Ctrl+O
- Select All Ctrl+A
- Add to Loops and Samples List Shift+O
- Add to Effect List Alt+O
- Delete from Playlist Ctrl+Delete
- Delete from Loops and Samples List Shift+Delete
- Delete from Effect List Alt+Delete
- Toggle Auto Play Mode Ctrl+P
- Turn Shuffle Mode On/Off Ctrl+S
- Toggle Recording Ctrl+R
- Open/Close Master Effects Window Ctrl+E
- Toggle Safe Live Mode Ctrl+L
- Toggle Microphone Mode Ctrl+N
- Toggle Fullscreen Mode F11
- Add to deck (A) A
- Add to deck (B) Alt+A
- Play/Pause (A) Space
- Play/Pause (B) Alt+Space
- Increase Currently Applied Beat Loop Shift+Up Arrow
- Decrease Currently Applied Beat Loop Shift+Down Arrow
- Sync On/Off (A) S
- Sync On/Off (B) Alt+S
- Headphones On/Off (A) H
- Headphones On/Off (B) Alt+H
- Increase Volume (Master) Ctrl+Num+
- Decrease Volume (Master) Ctrl+Num-
- Increase Volume (Headphone) Ctrl+Shift+Num+

- Decrease Volume (Headphone) Ctrl+Shift+Num-
- Increase Volume (A) V
- Decrease Volume (A) Shift+V
- Increase Volume (B) Alt+V
- Decrease Volume (B) Alt+Shift+V
- Crossfade Left (decrement) Left Arrow
- Crossfade Right (increment) Right Arrow
- Auto Crossfade Left Alt+Left Arrow
- Auto Crossfade Right Alt+Right Arrow
- Crossfade Full Left Shift+Left Arrow
- Crossfade Full Right Shift+Right Arrow
- Crossfade Center =
- Jump to Start (A) Home
- Jump to Start (B) Alt+Home
- Edit BPM (A) E
- Edit BPM (B) Alt+E
- Reset Deck (A) R
- Reset Deck (B) Alt+R
- Strict Mode On/Off (A) Shift+S
- Strict Mode On/Off (B) Alt+Shift+S
- Select Audio Library Tab Alt+1
- Select Loops and Samples Tab Alt+2
- Select Deck Effects Tab Alt+3
- Select Additional Decks Tab Alt+4
- Select Video Controls Tab Alt+5
- Select YouTube Streaming Tab Alt+6

Note: There are a lot more controls that don't have default Hotkeys associated with them. For a full list of available controls please go to the Hotkeys Tab on Zulu's Options page.

# Image Effects

## Watermarking

User can place (separate or combined) text and image watermarks on your converted images.

### Watermark Text

The following properties control how the watermark text will appear:

- Enable - If the Enable checkbox is ticked, all future image conversions will have the watermark text applied.
- Text - Input here the watermark text.
- Font - Click the popup menu to select the font typeface.
- Bold and Italic - Press the buttons as needed.
- Size - Choose "Width" or "Height" to specify which dimension to be used for the "Pixels" and "Percent" settings. Select "Pixels" and specify the pixel dimension of the text. Or select "Percent" and slide to adjust the size. It is scaled as a percentage of the final height of each individually converted image. Manual calibration will be required to ensure that the entire watermark text fits on the converted images while still being readable.
- Opacity - Slide to reduce the watermark text opacity to increase the visibility of the converted image from behind the watermark text.
- Alignment - Click the 3x3 grid of buttons to align the watermark text to different snapping points on your converted image. You can set offsets according to the selected alignment.
- Color - Click the color box to change the text's foreground color.
- Background color - Tick the checkbox and click the color box to change the text's background color.

### Watermark Image

The following properties control how the watermark image will appear:

- Enable - If the Enable checkbox is ticked, all future image conversions will have the watermark image applied.
- Browse button and image name - Click the browse button to choose a watermark image. When a watermark image has been selected, the image file name will appear next to the Browse button.
- Size - Slide to adjust the size of the watermark image. The maximum size will not exceed the converted image's post-conversion width or height.

- Filter - Select "Sharp square pixels" (best for low resolution images), or "Smooth blurry pixels" (best for photographs and scanned images).
- Opacity - Slide to reduce the watermark image opacity to increase the visibility of the converted image from behind the watermark image.
- Alignment - Click the 3x3 grid of buttons to align the watermark image to different snapping points on your converted image. You can set offsets from top-left corner when top-left alignment is selected.

## Fit to Window

It provides a quick way to make you see everything of the selected source image with effects.

## Restore Defaults

Remove all effects and restore to original image.

# Stream To YouTube Guide

## Stream to YouTube

YouTube Live Streaming is a new feature we've added to NCH Software's Video/Audio products. It enables you to stream Video/Audio content to YouTube so that your broadcast can be viewed by anyone who has access to YouTube.

To stream to YouTube, please follow the steps below:

- Set up YouTube settings by clicking the "Settings" button from YouTube Streaming Tab or from File->Options->Recording/Streaming. In the options page, select "Stream to YouTube" and click "YouTube Settings" button. Create or Select an event in the "YouTube Settings" dialog. Save your settings by clicking the OK button in the "YouTube Settings" dialog.
- Create a streaming image. Zulu allows you to display an image while streaming audio, you can open an existing image and add some text/image to it. You can do so by clicking the "Edit Streaming Image" button from YouTube Streaming Tab.
- Once you have set up YouTube settings correctly, you can play the audio and click "Start Streaming" to start streaming to YouTube. You can also start/stop stream by clicking the recording/streaming button in Zulu console which is located in the middle between two decks.
- Go to your YouTube website online and log in with your YouTube account, choose the event you just created/selected in zulu and control your live streaming there. For more information about YouTube Live Streaming, please visit  
<https://support.google.com/youtube>.

## Google Authorization Process on Windows XP and Vista

Extra steps are required to give Zulu authorization to upload to Google Drive and/or YouTube when running on Windows XP or Windows Vista:

1. Click Authorize... in the Authorization dialog.
2. In the web page that opens, sign in to your Google account, if required.
3. Confirm that you authorize Zulu to access the requested features.
4. Copy the Authorization Code provided by Google and paste it in the Authorization confirm dialog in Zulu.
5. Click Ready to confirm that authorization is complete.

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3. This software, and all accompanying files, data and materials, are distributed "as is" and with no warranties of any kind, whether express or implied except as required by law. If you intend to rely on this software for critical purposes you must test it fully prior to using it, install redundant systems and assume any risk.
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If you reside in the United States, NCH Software and you agree to arbitrate all disputes and claims between us. This agreement to arbitrate is intended to be broadly interpreted. References to "NCH" "you," and "us" include our respective subsidiaries, affiliates, agents, employees, predecessors in interest, successors, and assigns. This arbitration agreement does not preclude you from bringing issues to the attention of U.S. federal, state, or local agencies. Such agencies can, if the law allows, seek relief against us on your behalf. This Agreement evidences a transaction in interstate commerce, and thus the Federal Arbitration Act governs the interpretation and enforcement of this provision. This arbitration provision shall survive termination of this Agreement.

A party who intends to seek arbitration must first send to the other, by certified mail, a written Notice of Dispute ("Notice"). The Notice to NCH should be addressed to:

Legal Department

NCH Software, Inc.

6120 Greenwood Plaza Blvd, Ste 120

Greenwood Village CO, 80111

USA

("Notice Address"). The Notice must (a) describe the nature and basis of the claim or dispute; and (b) set forth the specific relief sought ("Demand"). If NCH and you do not reach an agreement to resolve the claim within 30 days after the Notice is received, you or NCH may commence an arbitration proceeding. The amount of any settlement offer made by NCH or you shall not be disclosed to the arbitrator.

A. The arbitration will be governed by the Commercial Arbitration Rules and the Supplementary Procedures for Consumer Related Disputes (collectively, "AAA Rules") of the American Arbitration Association ("AAA"), as modified by this Agreement, and will be administered by the AAA. The AAA Rules are available online at adr.org, by calling the AAA at 1-800-778-7879, or by writing to the Notice Address. The arbitrator is bound by the terms of this Agreement. All issues are for the arbitrator to decide, including issues relating to the scope and enforceability of the arbitration provision. Unless NCH and you agree otherwise, any arbitration hearings will take place in Greenwood Village Colorado. If your claim is for \$10,000 or less, we agree that you may choose whether the arbitration will be conducted solely on the basis of documents submitted to the arbitrator, through a telephonic hearing, or by an in-person hearing as established by the AAA Rules. If your claim exceeds \$10,000, the right to a hearing will be determined by the AAA Rules. Regardless of the manner in which the arbitration is conducted, the arbitrator shall issue a reasoned written decision. NCH will pay all AAA filing, administration, and arbitrator fees for any arbitration initiated in accordance with the notice requirements above. If, however, the arbitrator finds that either the substance of your claim or the relief sought in the Demand is frivolous or brought for an improper purpose then the payment of all such fees will be governed by the AAA Rules. In such case, you agree to reimburse NCH for all monies previously disbursed by it that are otherwise your obligation to pay under the AAA Rules. In addition, if you initiate an arbitration in which you seek more than \$75,000 in damages, the payment of these fees will be governed by the AAA rules.

B. The arbitrator may award declaratory or injunctive relief only in favor of the individual party seeking relief and only to the extent necessary to provide relief warranted by that party's individual claim. YOU AND NCH AGREE THAT EACH MAY BRING CLAIMS AGAINST THE OTHER ONLY IN YOUR OR ITS INDIVIDUAL CAPACITY, AND NOT AS A PLAINTIFF OR CLASS MEMBER IN ANY PURPORTED CLASS OR REPRESENTATIVE PROCEEDING. Further, unless both you and NCH agree otherwise, the arbitrator may not consolidate more than one person's claims, and may not otherwise preside over any form of a representative or class proceeding. If this specific provision is found to be unenforceable, then the entirety of this arbitration provision shall be null and void.

C. Notwithstanding any provision in this Agreement to the contrary, we agree that if NCH makes any future change to this arbitration provision (other than a change to the Notice Address) you may reject any such change by sending us written notice within 30 days of the change to the Arbitration Notice Address provided above. By rejecting any future change, you are agreeing that you will arbitrate any dispute between us in accordance with the language of this provision.

D. To opt out of this Arbitration Agreement and class action waiver send an Opt Out notice to the Notice Address stating "I am electing to opt out of the Arbitration Agreement and class action waiver contained in the Legal Terms applicable to my purchase of an NCH product." Your Opt Out Notice must include the date and proof of purchase. The Opt Out Notice must be postmarked no later than thirty (30) days after the date of purchase. A separate Opt Out Notice must be sent for each product purchased.

## Effects - Stereo Pan

### Stereo Pan

The stereo pan effect allows you to change how loud the sound is that comes out the left or right speaker. For example if you had a stereo recording with all the sound coming out of only one speaker, you could use the pan effect to "center" the sound yourself. You can also make a centered sound change move one from speaker to the other as the sound file plays.

Enable/Disable and Edit Pan from Deck Controls under the desired Deck menu. Click on a point and move it upwards for an increase in volume on the left speaker, or move it downwards for an increase in volume on the right speaker.

Please note the stereo pan effect only works on stereo files.

## Effects - Amplify

### Amplify

To 'amplify' is to increase the loudness or volume of the selected region. To make a part of the recording softer or louder, select it and then use the menu Effects -> Amplify. The volume is entered in percent (100 being no change, 50 being -6dB softer or 200 being +6dB louder).

## Effects - Chorus

### Chorus

The chorus sound effect is used to make one voice or one instrument sound like 3 voices or instruments by playing the original with variably delayed and slightly pitch changed copies of the original.

## Effects - Compressor

### Dynamic Range Compressor

A dynamic range compressor limits the volume levels of a sound recording so that it stays within a certain loudness range.

An example of where it is used is in TV broadcasting, where it ensures that the volume levels of ads are perceived as being louder than the television program itself (without any change in the actual broadcast volume).

It also has a use for recording audio from one medium to another, where the two mediums are not capable of handling the same range of volume levels (e.g. A CD can handle a much greater range than a cassette tape).

## Effects - Distortion

### Distortion

While normally we do everything to reduce distortion, sometimes you want to add it. It is popular for use with guitars. The distortion is measured between 0.0 (off) and 1.0 (clipping). You also specify the level where it kicks in dB (default -8dB).

## Effects - Echo

### Echo

An echo is a repeat of the sound after a short time (usually 400 - 1000ms). It sounds a bit like the person is in a large stadium or is shouting between two mountains.

To add echo select the region and use the menu Effects -> Echo then specify the duration and amplitude of the echo. The duration is the length of time after which the sound repeats - usually this is between 400 and 1000ms. The amplitude can be between 1 - 99% (99 being a very loud echo).

## Effects - Flanger

### Flanger

A Flanger sound effect is similar to the phaser except that the delay is slowly modulated over time. You specify the starting delay time (default 5ms), the frequency of modulation in times per second, the depth of modulation (default 50%) and the wet dry gain (100% for wet, 0% for dry).

## Effects - High-Pass Filter

### High-Pass Filter

A high-pass filter (sometimes called a low cut filter) removes all low frequencies below a specified Hz. This is useful if you want to make your recording sound 'clearer' or less 'muddy'. It is very usual to use a high-pass filter of about 300Hz on all voice recordings to improve intelligibility.

## Effects - Low-Pass Filter

### Low-Pass Filter

A low-pass filter reduces the amplitude of signals with frequencies higher than the cut off frequency.

## Effects - Reverb

### Reverb

Reverb is many small reflections of the sound that come after a set time. It usually occurs when someone is speaking in a room, hall, etc. More reverb is called wet, no reverb is called dry.

## Effects - Tremolo

### Tremolo

The tremolo sound effect is similar to the vibrato effect, except that the amplitude pulsates rather than the pitch. The higher the Frequency (Hz) set, the more often the pulsation will be heard, and the higher the Depth (%), the deeper the fluctuation in volume.

# Effects - Wah-Wah

## Wah-Wah

As the name suggests, the effect modulates a specified frequency band within the sample, which results in the characteristic "Wah wah" sound. The effect is a bandpass filter with its center frequency (not to be confused with the center frequency parameter, below) alternating between a min frequency and max frequency (specified by the center frequency and depth parameters) and from max frequency to min frequency. The frequency of alternating direction is represented as a triangular wave with a frequency specified by the wah frequency parameter.

Resonance: also known as Q or emphasis, this parameter controls the resonant peak of the bandpass filter. This value determines the sharpness of the wah-wah effect. Higher values produce more resonant/peaky tones.

Depth: this parameter determines the frequency range swept by the bandpass filter. Its range is specified as a percentage of the range (0 to center frequency). If the value of the percentage of the range (0, center frequency) is specified as X, the min and max frequencies are (center frequency - X) and (center frequency + X).

Center Frequency: This parameter is the center frequency of the bandpass filter sweep, and is used to determine the min and max frequencies as mentioned above.

Wah Frequency: This is the frequency of alternating the direction of the sweep, or the frequency of the wah-wah sound. It is the frequency of the triangular wave described above.

## Effects - Pitch Shifter

### Pitch Shifter

This effect changes pitch without changing speed. The "Pitch Shift" slider is used to increase or decrease the pitch.

## Effects - 7 Band Equalizer

### 7 Band Equalizer

This equalizer is a graphic equalizer allowing the manipulation of the following bands in ascending order: 55hz, 150hz, 250hz, 1200hz, 3000hz, 6000hz and 12000hz. Drag the sliders to adjust the gain applied to the frequency band.

## Effects - VST Plugins

### VST Plugins

This feature allows you to use Virtual Studio Technology DLL plugins to apply effects to the audio. To use this feature, select the VSTs tab from the Options window, where you can type or browse for the directory on your computer that contains VST plugins - note that the plugins must be DLL files.

Once you have specified a directory name, you should see a list of VST plugin names appear in the effect's tab under VST Effects. Select the plugin you want to use and double-click it to make it appear in the Effects list in the middle panel. When the VST effect is selected from here, its controls will show in the right panel, where you can adjust the effects parameters.

Also please visit <http://www.kvraudio.com>, which is a comprehensive information resource for all types of plugins, including VST and DirectX plugins.

To see a list of recommended free VST plugins, visit [Free Vst Plugins](#).

# Interface - Freestyle and Strict Mode

## Freestyle Mode

The Freestyle mode will not take into account the tempo which allows for accurate changes. This mode applies to all functionality available from setting Cue Points or Free Loops, to simply seeking a new position.

## Strict Mode

Strict mode will preserve the tempo of the deck while it is playing and try to match everything to a beat. This applies to all functionality the same as Free Style Mode. Also note that Strict Mode is on by default.

# NCH Sound Library - NCH Sound Library

The NCH Sound Library is a collection of thousands of royalty-free sound effects that can be added to your project.

Once you have opened the library, you'll see the following:

## Folder Tree

On the left hand side, each folder represents a category of sounds. Expand a folder to either see its subfolders or a list of sounds it contains.

## Sound List

On the right hand side, all the sounds in the currently selected category are listed. This will be empty until a category is selected.

## Preview Sound

Select a sound in the list then click the Play button to hear it. When you have finished, click

## Download

Select a sound in the list then click the Download button to download the sound (if it hasn't already been downloaded).

# Screen References - Advanced Recording Options

## Automatic Recording

The recording can be automatically started when either the Record Control dialog is opened or when the audio to be recorded reaches the threshold level. Additionally any quiet periods at the start and the end of the recording that is below the threshold level can be trimmed.

## Auto Start Recording

The recording will automatically start when the Record Control dialog is opened, you will not need to select the record button.

## Auto Trim Recording

Trim the recording to remove any quiet periods from the start and ending of the recording. Use the threshold slider to specify the cutoff level. Voice Activated Recording

Automatically start the recording when the audio level reaches the threshold.

## Threshold:

Use the slider to set the threshold level for the recording. Used for both the auto trim and the voice activated start.

# Screen References - Opus Encoder Options

Encode audio into the Opus format.

## Bitrate

Target bitrate in kbit/sec (6-256 per channel) In VBR mode this specifies the average rate for a large and diverse collection of audio. In CVBR and Hard-CBR mode it specifies the specific output bitrate. Default for >=44.1kHz input is 64kbps per mono stream, 96kbps per coupled pair.

### Use default bitrate encoding

In default mode, encoder will choose bitrate automatically. For >=44.1kHz input is 64kbps per mono stream, 96kbps per coupled pair.

### Use variable bitrate encoding

In VBR mode the bitrate may go up and down freely depending on the content to achieve more consistent quality.

### Use constrained variable bitrate encoding

Outputs to a specific bitrate. This mode is analogous to CBR in AAC/MP3 encoders and managed mode in vorbis coders. This delivers less consistent quality than VBR mode but consistent bitrate.

### Use hard constant bitrate encoding

With hard-cbr every frame will be exactly the same size, similar to how speech codecs work. This delivers lower overall quality but is useful where bitrate changes might leak data in encrypted channels or on synchronous transports.

## Down mix (None)

Don't down mix, keep the channels same as source.

## Downmix to mono

Force to Downmix to mono.

## Downmix to stereo

Downmix to stereo if input channels > 2.

# Screen References - YouTube Live Event Settings

Here you can fill all required fields and create a YouTube Live Broadcast event.

Title:

This is the title of the YouTube Live Broadcast event.

Description:

This is the description of the YouTube Live Broadcast event.

Start Date:

This is the date and time the broadcast is scheduled to start.

End Date:

This is the date and time the broadcast is scheduled to end. End times are not needed for 24/7 broadcasts.

Privacy:

This is the privacy settings of the broadcast event. Only public broadcast events will appear on your channel, search results and promotion. Choose unlisted or private for test events.

Allow Playback Controls

Check this if you want to give viewers the access to DVR controls when they watch the broadcast. DVR controls enable the viewer to control the video playback experience by pausing, rewinding, or fast forwarding content.

Video Resolution:

This is the format of the video stream that you are sending to YouTube.

## Screen References - YouTube Broadcast List

This dialog lists all existing active YouTube Live Broadcast events on your YouTube account from which you can select one to stream video content to.

## Screen References - Edit BPM

This feature allows you to manually specify the Beats Per Minute (BPM) or tap the space bar in time with the beat until a new BPM is found. Please note that the Automatic BPM calculation uses the range of 70.0 to 180.0 when determining a tracks BPM to reduce calculation time. If you would like to use a BPM value outside this range, it will need to be manually set. The maximum BPM allowed is 240.0.

### Waveform Windows

These windows give an illustration of what how the BPM values will appear if they were applied to the current track. You can use mouse wheel to zoom in/out waveform for more accurate beat offset adjustment.

### Jump To Start

Same as the play controls variation.

### Play

Play this track in headphone, you may need to setup the headphone settings, see Options. Please note that the track will automatically start playing if the Tap Tempo feature is used.

### Pause

Same as the play controls variation.

### BPM Offset Click

If this button is on and you click on the wave, the location of the click will be set as the start of the BPM for the track. If the wave is dragged, the BPM Offset will be dragged. If this button is off, the position of playback will be changed instead. So a click or a drag on the wave will seek the position.

### BPM Update

Clicking on this button will update the wave windows based on the current values of the BPM and BPM Offset.

### Edit BPM Offset

The BPM Offset is the distance to the first beat from the start of the track. The BPM scan will set this value automatically once the calculation is finished. However, you can also adjust it by entering a value manually. The sample rate used by Zulu is 44100 so a single sample is 1/44100 of a second.

### Edit Beats Per Minute

This field allows you to designate a custom BPM value for the particular track. If Zulu has made an incorrect analysis of the BPM, you can set the BPM to a more accurate setting. Press enter to apply the changed value.

### Scan for BPM

If you have a specific tempo you would like to use for the track, you can simply type the BPM in yourself and Zulu will use that number when generating the beat markers. The rescan button prompts Zulu to scan the BPM for you again (in case you typed in an incorrect BPM and you want to go back to the calculated value).

### Tap Tempo

Tap tempo works best if you play a track in the background and tap the space bar in time with the beats of the music. Each time you hit the space bar the BPM will change according to the timing of your taps, the longer you tap for, the more accurate the BPM becomes. As you tap you will notice that the BPM will stabilize around a particular number. This is your generated tap tempo BPM and is normally accurate to within one second of the actual BPM. Please note that if the spacebar is not pressed within 15 seconds then the BPM will be reset on the next press.

Tip: If you want unscanned (as in the BPM has not been set yet) tracks to load faster into Zulu's decks you can use the Edit BPM feature to scan the track before it is loaded. This allows Zulu to load the track instantly as it does not have to scan the BPM again.

Tip: A good way to test if a BPM is "correct" or not is to loop a few beats using the beat loop feature. If the sounds seamless (ie you cannot tell it is looping, the music sounds continuous) then that indicates that Zulu's beat markers are correctly placed and the BPM is correct.

# Screen References - Configure Jog Wheel

## Jog Wheel Controls

This list of controls associated with the Jog Wheel(Dial) that can be set. Double click on a control to launch the wizard for the selected deck. Please note that due to the nature of the Jog Wheel, individual controls can not be set without using a variation of the setup wizard.

## Jog Wheel Configuration

The signal sent from the MIDI controller to represent forward or backward movement of the jog wheel varies depending on manufacturer. The information regarding which command is used by your MIDI controller should be available in the controller's manual. Otherwise, test your controller with the different setups to see which works best for you.

## Jog Wheel Latency

The amount of time(in milliseconds) before it is determined that scratching has finished after the last message from the jog wheel has been received. A high latency is used to allow for slower scratching (time between jog wheel movements). Please note that the higher this number is the longer it will take to resume playing (if the deck was playing before scratch was applied). If you would like no latency, assign a MIDI command to the Scratch toggle(if not already) and set Scratch On while scratching and turn it off just before finishing the scratch and playback will resume as normal. While MIDI scratch is on, silence will be used between jog wheel movements instead of trying to determine if the scratch has finished.

## Invert Wheel Direction

Check this option to reverse the interpreted direction of the jog wheel.

## Increase Drag Magnitude

Some controllers only return a small value when using the jog wheel. Increase this amount to increase the interpreted magnitude when dragging the jog wheel.

## Run Setup Wizard

Using the setup wizard via the button, allows multiple Jog Wheels to be configured to multiple decks. This wizard will continue until all decks have been set but can be stopped at anytime. Refer to [Jog Wheel\(Dial\) Wizard](#) for more information regarding the process.

## Screen References - Jog Wheel(Dial) Control Capture

### Jog Wheel(Dial) Control Capture

A small clockwise movement is needed to determine how the messages are sent from the MIDI controller. Once this movement is done, Zulu can determine how to interpret these messages and configure the Jog Wheel for the currently selected deck. The [Jog Wheel Configuration](#) will also be set once the wizard has finished as it can also be determined from the received messages. Please note that only a small movement is required for interpretation, no more than a full revolution of the wheel.

## Screen References - iTunes Playlist Import

This feature allows you to select a playlist from your iTunes Music Library and load all the tracks.

The steps to load a playlist into Zulu are;

- Select the menu option to load the iTunes playlist.
- Select your iTunes Music Library and click Open. A window will appear showing a list of available playlists.
- Select the desired playlist and press Ok. All tracks in the playlist will be loaded into Zulu's library.

Note: The browse window for the iTunes Music Library initially shows the default location for the iTunes Music Library. This location may not be the actual location of your library if a custom location has been chosen.

## Screen References - Edit Play Count

### Edit Play Count

Specify how many times you have played the selected track(s).

## Screen References - YouTube Setting

Title:

It shows the title of the YouTube live event

Stream Name:

Copy this field from the Ingestion Settings page on YouTube webpage

Primary Server URL:

Copy this field from the Ingestion Settings page on YouTube webpage

Video resolution:

Select the resolution of the YouTube live event

Stream Image:

Select an image for YouTube stream. The image will be used to create a video consisting of this simple image

Create a new event...

Click to create a new YouTube live event (IE8 or higher version is needed to do YouTube authorization correctly)

Select an existing event...

Click to retrieve all YouTube live events under your YouTube account (IE8 or higher version is needed to do YouTube authorization correctly)

## Screen References - Create Playlist

### Create Playlist

Choose a name for the playlist that is unique.

Select from the list of options how you would like your playlist to be created.

- Empty - No Tracks will be added to the new playlist
- Currently Selected - Only tracks which are selected in the list will be added to the new playlist
- Current Tracks - All tracks which are currently listed will be added to the new playlist. If a search is applied then only tracks that are relevant to the search are added to the playlist.

## Screen References - Select Playlist

### Select Playlist

Select from the current list of Audio Playlists. This list is all the playlist currently available in Zulu.

Please note that if the option "All Tracks in Library" is available, then it is referring to the tracks in the entire Audio Library.

## Screen References - Advanced Options for Generating Library

Add to the list every folder that you would like to be imported into Zulu's library. The option to import the previous library is also available.

## Screen References - Options ~ General

### File data path

When you close Zulu it stores all the information about each track for the next time you use it in an XML file. The file data path is the place where it stores this file.

### Cross Fader AutoFade Length

This sets the duration of the auto fade from one deck to the other. Autofading is executed when you press one of the autofade buttons located to the left and right of the crossfade slider located in the middle of the Zulu console. Autofade is also available via a hotkey.

### Cross Fader Hotkey Left/Right Value

This value is the amount of movement applied either left(decrement) or right(increment) when using the hotkeys.

### BPM AutoScan

Checking this box will cause Zulu to scan the BPM of each track in the playlist in the background. Please note that this is very processor intensive, so you may want to disable this feature if you hear any interruptions in the audio playback.

### Audio Library

Contains a list of options to customize the Audio Library actions.

- Add a new playlist when importing a CD - Creates a new playlist with all the tracks from CD
- Remove search when changing track filter selection - Remove search when selecting another playlist or browser path.

### Deck Options

Contains a list of options to customize the Deck actions.

- Reset the Deck to its default state when it is loaded.

### Reset Warnings

Click this button to make warnings appear in Zulu that you previously ignored.

# Screen References - Options ~ Audio

## Audio Settings

### Main output (Left / Right)

This is where you set the sound card channels for your main output. In a performance situation you would select the outputs connected to your front of house speakers. This is what the audience will hear. If an ASIO device is selected, the setup button is enabled for opening the ASIO setup panel.

### Headphone output (Left / Right)

This is the sound output that is used when you click on the headphones button in the play controls.

For the headphones output, you should select different output channels from the ones selected for your main output. In a performance situation, you would select the output channels of your sound card connected to your headphones. This enables you to make changes to a particular deck (such as cueing or applying effects) without the audience hearing the changes until you're ready.

### Use a separate device for headphone output

If you don't have a sound device with 4 channels or more, you can select a second sound device for your headphone.

## Microphone

### Microphone Device

If you have more than one microphone device installed, use this list to select the one you want to use.

### Input Channel

Use this pull down list to select the input channel for microphone. The recommended setting is "Microphone" or "Mic-In". If you have problems using the mic-in setting, select Windows Record Mixer and open the Windows Record Mixer to manually adjust settings.

### Microphone Volume

Adjust the volume using this fader.

If you have selected Windows Record Mixer, you can click on the button "Open Windows Record Mixer" for manual mixer settings.

# Screen References - Options ~ Hotkey

## Hotkey Setup

This area allows you to assign keyboard keys to particular controls in Zulu. When you use keyboard keys for major functions like pause/loop and cue points you can vastly increase your real time control over Zulu. This allows you to work faster and more creatively.

You will see a list of descriptions of each control that you can assign a key to. Select the control description that you want to assign a key to and press the "Add/Change Key" button. A small window will appear asking you to type the key or key combination that you would like to use for this command.

The keys have been organized into different categories. There is a separate tab for each deck, general and sample controls. Select tab to change the target controls.

You cannot use the same key for multiple commands. For instance you cannot assign the key "B" to play both deck A and deck B. You can assign it to one, but not both.

### Add/Change Key

Choose this after selecting a command from the list that you would like to assign a key to. It will open a small window and wait for you to hit a key on your keyboard that will be assigned to that command.

### Clear Key

This will remove the key command that you have selected.

### Reset Key to Default

Resets the selected key command to the default hotkey assignments. A list of the default hotkey assignments can be found in the [Shortcut Key Reference](#) section of this manual.

### Reset All Keys to Defaults

Resets all key commands that you have made to the default hotkey assignments. A list of the default hotkey assignments can be found in the [Shortcut Key Reference](#) section of this manual.

### Clear All Keys

Removes all key commands that you have made.

# Screen References - Options ~ Controller

## MIDI Device

Select a MIDI device to be used as a MIDI controller.

## Command Map

Select a default controller mapping or create a custom map.

The keys have been organized into different categories. There is a separate tab for each deck, general and sample controls. Select tab to change the target controls.

## Turn MIDI Button toggle mode on

Some MIDI buttons on MIDI devices have a toggle on and toggle off status. Check this box if this is the case. Often in toggle off status, if you press a button on the MIDI device, it will send two MIDI commands. While in toggle on status, it will send only one.

## Set MIDI Command

Click this button or click on the list to set a MIDI command for a control.

## Clear MIDI Command

Click this button to delete the associated MIDI command and control.

## Clear All MIDI commands

Click this button to delete all associated MIDI commands for the selected Tab.

## Set all to default

Revert the current MIDI commands back to what was set when the options were first opened. If no MIDI commands had been set then this button is disabled.

## Configure Jog Wheel(Dial)

The configuration of a controller varies between devices. Press this button to configure how the Jog Wheel(Dial) is handled by Zulu. See [Jog Wheel\(Dial\) Configuration](#) for more information.

# Screen References - Options ~ Recording/Streaming

## Recording Setup

This area allows you to record the audio from main output device(mixer). In separate mode this feature is disabled.

### Destination folder

The output folder of recorded file.

### Output file name

The file name of recorded file. If you are using auto file name, the file name will be in YYYY-MM-DD HH-MM-SS format. Otherwise you can specify a file name and a number will be appended to the filename next time you start recording.

### Output file type

The file format of the recorded file. The recorded file can be either a .wav, .mp3 or .aiff file. The default format for recording in Zulu is .wav.

### Record to File

Select this to record the audio from main output device(mixer) to a file.

### Stream to BroadWave

You can choose to stream Zulu to BroadWave. To do this, choose the Stream to BroadWave option and start recording. Zulu and BroadWave must be installed at same host. In BroadWave, you need to setup a Zulu streaming channel. The minimum BroadWave version for supporting this feature is V1.21.

### Record to File and Stream to BroadWave

Select this if you want to record to file and stream to BroadWave at the same time.

### Stream to YouTube

Select this if you want to stream to YouTube.

# Screen References - Options ~ Playing

## Flash Waveform Near End of Track

Enabling this feature will cause the waveform display of the deck that is currently playing to flash red, indicating that the track is about to end so you can prepare the other deck to keep your session uninterrupted. You can set the your desired remaining time at which the flashing will begin from 1 to 120 seconds.

## Show Beat Grid

Enabling this feature will show a beat grid which is a line that goes through the waveform.

## Loading new track

Enabling this feature will cause a warning dialogue box to show up when loading a new track into a deck in which a track is currently playing. Loading a new track into a deck will stop playing the current track in the deck.

## Delete a track

Enabling this feature will cause a warning dialogue box to show up when deleting a deck which is currently playing. Deleting the track will stop playing if the track is currently in deck.

## Tracks can be fed to separate deck (Feed To column)

Enabling this feature will allow you to choose which deck a track will be fed to in Auto Play mode. You can select Deck A or Deck B by clicking the "Feed to" column from play list.

## Silence Detection

Enabling this feature will allow Zulu to detect silence at the beginning of a track and play from the first detection of sound. This feature is effective when a track is loaded into a deck, in AutoPlay Mode, or when user click Jump To Start button.

## Additional Decks

Enabling this feature adds the option to load and manipulate tracks through additional decks which are available through the Decks tab. Once the this feature is enabled, the menu options that control these additional decks will also be enabled. This option can also be enabled through the Deck Controls on the menu bar.

## Screen References - Options ~ VSTs

### VST Plugin Directory

Select the location of the VSTs. Use the effect refresh button to refresh the list. If any plugins are available in this location, they will appear under VST Effects on the Available Effects window, under the effect's tab.

See Also:

- [Deck Effects](#)