Cherrel Cadenza is an application that helps you to play along with a midifile or audiofile. It allows you to improvise with a midi keyboard, even if you have only limited or no midi keyboard skills.

It comes complete with a midifile sequencer to play, and manage midifile tracks. It also has an builtin synthesizer, and facilities for generating chords and keys from a midifile.

The main functions of the program are found in the **PlayMap**, **TrackMap**, and **ChordMap** windows.

The **PlayMap** displays chords that have been generated in a way that makes it easy to play with a midi keyboard. The display is updated as a midifile (or audiofile) is played.

The **TrackMap** shows the tracks of a midifile in a sequencer-type of display, with functions for muting, soloing, changing volume, pan, and midi instrument patches.

The **ChordMap** is used to generate and display chords. You can also edit chords, midi time signatures, and keys from here.

Sounds can be rendered using the builtin synthesizer, or a stand-alone midi synthesizer.

There are also windows for calculating keys from midifile tracks, creating and editing lyrics, and managing audiofile playback and synchronisation.

Getting Started

Start the Application

You should run the application as a normal user.

The first screens you should see are the **Initial Configuration** window and **PlayMap** window.

You can reopen the Initial Configuration Window from the PlayMap Menu > Help > Show Initial Screen.

Initial Configuration Window

If you haven't already done so, you should configure the Midi Keyboard and Midi Ouput. You should also configure the Audio Ouput if you are going to use the builtin synthesizer or play audio files from here.

These can also be reconfigured at a later time from the **PlayMap Menu**:

PlayMap Menu > Configure > Midi Keyboard Ranges.

PlayMap Menu > Configure > Audio Devices.

PlayMap Menu > Configure > Midi Devices.

Create a New Project

Go to the **PlayMap** Window and click the **New Project** Button.

This will allow you to copy an existing **MidiFile** into a new **Project**. If you haven't got any **MidiFiles**, you can download one from the internet - just do a search for MidiFiles.

You will also need to decide where to put the project, and what to call it.

Create a ChordFile

You will need to create some chords in order to use the chord play functions of this application.

You can either Generate Chords or Insert Chords

The chords will be saved in a **ChordFile** (*.chp) as part of the Project.

Play the Chords

You can now <u>Play the Chords along with the MidiFile</u>, or <u>Play a</u> <u>Melody along with the MidiFile</u> Installation

System Requirements

Windows Vista SP1, windows 7, 8, 8.1, 10

.Net 4.0 (installed by default on Windows 8 and later. May require a Microsoft Update for Windows Vista SP1 and Windows 7. The application will check this when first run.)

Audio output hardware (sound card, speakers or headphones)

Access to some MidiFiles. (If you haven't got any MidiFiles, there are many thousands available on the internet. Just do a search for MidiFiles.)

A midi keyboard is required, unless you only intend to use the key and chord generate functions of the program.

Install

Run the **Setup ChordCadenza.exe** file. If a previous version of Chord Cadenza is already installed, a warning message will be displayed before removing it. The option to install the starter soundfont file should be checked, unless you are going to be using an external synthesizer to convert midi to audio, or you already have a soundfont installed.

The Chord File

The **ChordFile** is a text file that contains the chords that have been generated or inserted for a particular song. It can also contain data relating to keys, time signatures, and various other parameters. It is located in the Project path, and has an extension of **.chp**.

Chords are created using the <u>ChordMap</u>, and can be saved from there or from the <u>PlayMap</u> or <u>TrackMap</u>.

The file can be edited with a text editor, but this is generally not recommended.

It is the only file that should always be present in order to play a song with this application, unless you want to create the chords from scratch every time you intend to play something!

The Midi File

This is a standard file that represents the musical events in a piece of music. The filename usually has an extension of **.mid**. It can be used to play a piece of music on midi instruments.

This program uses **MidiFiles** to play a piece of music, and to allow the chords to be generated algorithmically. A **MidiFile** is usually present in the Project folder, along with a **ChordFile** and sometimes some other files.

There are a large number of these files available on the internet. A google search for "midi files" will return many sites listing thousands of **MidiFiles**.

The Lyrics File

This is an optional file that may be present in the Project folder. It contains the lyrics of a song, which can be useful when synchronising to an **AudioFile**. The filename has an extension of **.chl**.

The file can be created and edited using the <u>Lyrics Editor</u> from the **PlayMap**, **TrackMap**, or **ChordMap**.

The file is a simple text file that can also be edited with any text editor.

The Audio File .mp1 - MPEG layer 1

This is an optional file that may be present in the Project folder. You can play atomy to this desing file synchronisation - see <u>How To Sync to an</u> Audio File The file can be in any of the following standard formats: 'way - PCM format

- **'.riff** PCM format
- ^r.aiff Audio interchange File Format
- '.ogg open container format

The AudioSync File

This is an optional file that may be present in the Project folder. It has the extension **.chtc**. It is used during audio synchronisation and playing - see <u>How To Sync to an AudioFile</u>.

SoundFont Files

SoundFont files are located in the <u>SoundFont Path</u>. They have the extension **.sf2**, which is a standard extension for soundfont2 files.

This is used by the **BuiltIn Synth** function of this program. If you are not using this (because you are using your own midi synth), then there is no need to have these files present.

You can download these files from the internet. They are generally free, and can be quite large.

You may come across other soundfont formats (e.g. .sfz, .sfArk). These cannot be used in this program, but may be converted by a utility.

You can associate a soundfont with a midi output device using the <u>Midi</u> <u>Devices Configuration Window.</u> The Amay Map is the first screen you should see after starting the application.

Closing the **PlayMap** will close the application.

The top part of the **PlayMap** contains the menu, command buttons, and various options.

The main panel below this shows the chord notes, spread across a keyboard. The keyboard can be configured to be 1 - 4 octaves long

Resizing the **PlayMap** window horizontally does not change the number of octaves displayed, but can be used to match the scale of a real midi keyboard.

You can also resize the **PlayMap** window vertically. This will allow more or less chords to be displayed. The bottom line of chords represent the current position, with lines above representing later chords.

The bottom panel shows the current major or minor key scale notes.

The left-hand panel show bar numbers, and the right-hand panel shows chord names.

The chord notes are updated as a **MidiFile** (or **AudioFile**) is played. Each time a beat is reached, the notes move down.

PlayMap File Menu

New Project

Brings up a **dialog** to create a new Project.

Load Project

Load all Project files from the containing folder that have the same qualifier as the selected file.

ChordFiles can have the qualifier .chp0 to .chp9 inclusively. If there is more than one of these files present in the directory, a dialog will be shown to allow you to select which **ChordFile** you want to load.

You can also load a Project by dragging and dropping a file or folder onto the **PlayMap, ChordMap, or TrackMap**.

Recent Projects

Shows up to 10 recently loaded projects.

Select a project to load it.

Reload Project

Reload the current project.

Can be useful if you have added a file manually and want to reload the project.

Save Project

Save all of the files in a Project to disk.

Save Project As...

Save all of the files in a Project to a new location on disk.

Save Settings

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Saven any (Shangaserys) de to various global parameters (as opposed to parameters only associated with the current Project). TMNMColors ini (ChordMap colours) This involves saving the following files in the application directory: TMSCColors.ini (PlayMap colours)

ChordCfg.ini (Chord generation parameters)

Chords.Ranks.ini (Chord Rank values)

Exit Application

Terminate the application.

The current settings will be saved, unless the option **Prompt to Save Settings on Exit** is set from the **Miscellaneous Configurations** Window.

Clicking the Close *Button* from the PlayMap will have the same effect.

PlayMap Configure Menu

Audio Devices

Show Configure Audio Devices Window

Midi Devices Velocity Bezier: Show Configure Midi Devices Window Show Velocity Bezier Window

Bezier Aftertouch Bezier:

Open Submenu Items: Show Atter Touch Bezier Window

SwitchKeys/Pedal

Show <u>SwitchKeys/Pedal Window</u> Show <u>Project Paths Window</u>

Paths SoundFonts:

Open Submenu Items: Show SoundFonts Paths Window

VidiFiles:

Show MidiFiles Paths Window

MidiFiles:

Show AudioFiles Paths Window

Midi Keyboard Ranges

Show Midi Keyboard Ranges Window

Manual Chord Sync

Show Man Chord Sync Window

Miscellaneous

Show Miscellaneous Configurations Window

Show AudioSync Window

Show AudioSync Window

You can use this to manage audio sync data.

PlayMap Help Menu

Contents

Show Help Contents Page

Show Initial Screen

Show Start-Up Screen

About

Shows information about the program.

PlayMap Buttons

"+" Button

Click to increase the track width

"-" Button

Click to decrease the track width

New Project

Brings up a **dialog** to create a new Project.

Load Project

Load all Project files from the containing folder that have the same qualifier as the selected file.

ChordFiles can have the qualifier .chp0 to .chp9 inclusively. If there is more than one of these files present in the directory, a dialog will be shown to allow you to select which **ChordFile** you want to load.

You can also load a Project by dragging and dropping a file or folder onto the **PlayMap, ChordMap, or TrackMap**.

Save Project

Save all of the files in a Project to disk.

Click with right mouse button to show what files will be saved.

Save Project As...

Save all of the files in a Project to a new location on disk.

GoTo Start

Set Start Bar to start of MidiFile

Play Midi

Play the MidiFile from Start Bar

Play Audio / Play Audio NoSyn

Play the AudioFile.

If synchronisation data is available, the button will show **Play Audio**, and the the cursor will move according to the synchronisation data in the AudioSync file.

Otherwise, the button will show **Play Audio NoSyn**. Synchronisation can still be done manually using the **Next Beat SwitchKey**.

Sync Audio

Play AudioFile and wait for sync SwitchKey

Play & Sync Audio

Play **AudioFile** using synchronisation from the **AudioSyncFile** until reaching the SyncBar, and then wait for the sync **SwitchKey**

This will allow you to continue a partially sync'ed audiofile.

Stop Play

Stop playing MidiFile or AudioFile

Pause Play

Pause playing MidiFile or AudioFile

! (Panic)

Panic! Switch off all midi events Useful if midi pitch is continuously sounding

Chord Map

Show the **ChordMap Window.**

If no ChordFile has been loaded, this will display an option to initialize a

new ChordFile

Track Map

Show the TrackMap Window

Audio Sync Config

Show AudioSync Window

You can use this to manage audio sync data.

Show Summ

Show MidiFile summary for each track.

Options to show preconfigured chord names and **MidiFile** time signatures, tempos and keys

Edit Lyrics

Opens up a <u>Window</u> with a simple text editor for updating the Lyrics File.

The easiest way to enter lyrics is to copy and paste the text from an online source into the editor. You can then use the editor window to match each bar with the lyrics.

The Lyrics File (*.chl) in the Project folder can also be edited by any text editor. It is advisable to switch on line numbering to display bar numbers whilst editing.

Note Font

Configure font used to show note names or solfa names

Chord Font

Configure font used to show chord names

Colours

Configure Colours using PlayMap Colours Configuration

Help

Show help documentation for this window

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The PlayMap Map is displayed at the top of the PlayMap only if **Windows > Map** is checked on the **PlayMap** Menu.

Track Selection Window

Shows the tracks present in the MidiFile (if present).

Click to select or deselect a track.

Multiple selections can be made using the Shift or Control keys.

Bar Numbers

Shows bar numbers.

Any bars that have been synchronised to an audio file will be highlighted in yellow.

Lyrics

Shows the lyrics of the music, if present.

Chord Names

Shows the chord names in the music, with the current chord highlighted in blue.

NoteMap

Shows the notes in the tracks selected in the window on the left.

This will only be shown if a MidiFile is present.

This can be used to help locate where you are in the music.

Selecting a melodic track is usually a good option.

PlayMap Check Boxes

Scroll

Check to scroll the map displays whenever the current position changes. Otherwise, only scroll when the left or right margin has been reached.

Sustain

Check to emulate the Sustain SwichKey. This will also show the current status of the Sustain SwitchKey if assigned to the keyboard or pedal.

KBChord

Check to emulate the KBChord SwichKey. This will also show the current status of the KBChord SwitchKey if assigned to the keyboard or pedal.

ManSync Chord Positioning

If checked, the chord positioning functions can be used from the Midi Keyboard.

Otherwise, unsynchronised audio play can be achieved using the **NextBeat**, **NextBar**, or **NextChord** SwitchKeys.

Capitalize Root Notes

Show root note of chord with caplital letter

Auto Capitalize Root Notes

Capitalize chord root note only if ChordMode set

Show Beats

Show beats as dotted lines

Show Chord Names

Show chord names on the right-hand pane

Show Chord Notes

Show chord notes on the right-hand pane

Show Tracks

Show notes from tracks selected on the **TrackMap**. May be useful for playing bass or melodies. Advisable to select only one track.

Show Relative Chords

If checked, relative chord names (e.g. I, IIImin) will be shown in the **Chord Names Panel** of the **PlayMap**.

Otherwise, absolute chord names will be displayed (e.g. C, Emin).

Show Chords

Show chords on main window.

Usually checked.

Note Display - Run Notes Across Chords

Choose whether to run notes across chords in Keyboard Mode.

Setting this means the note name is only displayed when the note changes.

Unsetting it means that all note names are displayed for every new chord.

It is recommended to leave this unset unless you are playing chords manually.

PlayMap Numeric Controls

Syncopation

Syncopation Numerator (NN) and Denominator (DD).

Chord played NN/DD notes before the beat to allow for syncopation and keyboard delay.

This value is saved in the **ChordFile**, and overrides the default value from the **Miscellaneous Configuration** Window

Start Bar

Set bar to start playing from

Beat Height

Set beat height in pixels

Octaves

Set number of octaves to display.

Should match the number of playable octaves on midi keyboard, but may be limited by screen width.

May need to resize **PlayMap** window after changing this.

Channel Number

Midi channel number to use for midi keyboard output (1 - 16).

If the **Midi Keyboard Output Port** is the same as the **Midi Streaming Port**, this should be an unused midi channel.

Otherwise any channel should be OK.

Octave Transposition: KBPitch

Transpose the midi keyboard pitch by this number of semitones.

Clicking the control will increment or decrement the value by 12 semitones (1 octave).

This does not affect where the currently played keyboard keys are displayed.

Octave Transposition: Keyboard

Transpose the midi keyboard display by this number of semitones.

This does not affect the midi pitch that is actually sounded.

Clicking the control will increment or decrement the value by 12 semitones (1 octave).

(This will change the position of the currently played keyboard key(s) at the bottom of the main window.)

Octave Transposition: Display

Transpose the displayed notes by this number of semitones.

Clicking the control will increment or decrement the value by 12 semitones (1 octave).

This will only have an affect if **Show Tracks** is checked.

Semitone Transposition: KBPitch

Transpose the midi keyboard pitch by this number of semitones.

Clicking the control will increment or decrement the value by 1 semitone.

This does not affect where the currently played keyboard keys are displayed.

Semitone Transposition: Keyboard

Transpose the midi keyboard display by this number of semitones.

This does not affect the midi pitch that is actually sounded.

Clicking the control will increment or decrement the value by 1 semitone.

(This will change the position of the currently played keyboard key(s) at the bottom of the main window.)

Semitone Transposition: Stream Pitch

Transpose the **MidiFile** play stream by this number of semitones.

PlayMap Option Buttons

PlayMode - Chords Option

Set playmode to ChordMode. Play white midi keyboard keys assigned to current chord notes.

PlayMode - Keyboard Option

Set Playmode to **KeyboardMode**.

Play normal midi keyboard pitches, subject to any active transposition.

NoteDisplay - Solfa Option

Show solfa notation (d r m f s l t d) on main panel.

NoteDisplay - Note Name Option

Show actual note names (C, C#, ... Bb, B) on main panel

NoteDisplay - None Option

Don't show any note names on main panel.

May be useful if you want to practise working out the note names from chord names mentally.

Sustain Action Option: Replay

Emulate sustain by leaving all chord notes switched on until the sustain pedal or **SwitchKey** is released, or a new chord is played.

A chord is defined as any number of notes played within the time interval specified with the **Sustain** *Numeric Input* in this window.

See Sustain Types

Sustain Action Option: Carry Over

Same as **Replay**, but carries over any notes that are also in the next

chord.

This has the effect of making chord changes smoother for nonpercussive instruments.

See Sustain Types

Sustain Action Option: Send Sustain Ctlr

Same as **Replay**, but uses **Midi Sustain On/Off** messages instead of **Midi Note On/Off** messages.

It is recommended to only use this if you are having problems with the normal **Replay**.

See Sustain Types

Sustain Action Option: Normal

Use the normal Midi Sustain function. This will send **Midi Sustain On/Off** messages in response to the sustain pedal or **SwitchKey**.

See Sustain Types

Sustain Action CheckBox: Auto

Use the midi patch (instrument) to choose the optimal sustain type.

See Sustain Types

PlayMap Selection Lists

First Note

Sets first note of chord to be displayed on chordname panel.

Applies only if **Show Chord Notes** option is set.

May be useful when playing chords manually

Patch

Midi Patch (Program Change) to use on the **Midi Keyboard Output Channel**.

This sets the instrument to play according to the General Midi specification.

Set to blank to leave it unchanged.

PlayMap Sliders

KBChVol

Midi volume level on Midi Keyboard Output Channel

KBChPan

Midi pan setting on Midi Keyboard Output Channel

Tempo

Set the tempo at which midi files are played

Midipoint is the MidiFile tempo

Values away from the midpoint will be slower or faster than the **MidiFile** tempo

Tempo "R" Button

Reset tempo to current MidiFile (midpoint)

AudioVol Slider

Adjust AudioFile volume level.

AudioPan Slider

Adjust AudioFile panning (balance).

KBVol Slider

Adjust volume for the **Midi Keyboard Output** using the **BuiltIn Synthesizer**.

KBPan Slider

Adjust panning (balance) for the **Midi Keyboard Output** using the **BuiltIn Synthesizer**.

StreamVol Slider

Adjust volume for the **Sequencer Stream Output** using the **BuiltIn Synthesizer**.

StreamPan Slider

Adjust panning (balance) for the **Sequencer Stream Output** using the **BuiltIn Synthesizer**.

PlayMap Displays

Visible Range

Shows visible pitch range.

Track Range

Shows track pitch range.

Next Key Shows next key after current position

This Key

Shows current key

Bar Number

Panel on the left-hand side of the window.

Shows Bar Number

Chords

The main panel of the window.

Shows chords, and also also shows tracks if the **Show Tracks** box is checked.

Chord Names

The panel on the right-hand side of the window.

It shows absolute chord names (e.g. C, Amin) or relative chord names (e.g. I, VImin) depending on the setting of **Show Relative Chords** in the **General** panel of the **Miscellaneous Configuration** window.

Keyboard Display

The bottom panel of the window.

Shows the current notes that will be played by the midi keyboard.
The work of the used to set the colours used by the PlayMap.

You should try to set these colours in order to enhance the readability of the **PlayMap**. This is a personal preference, as everybody has a different perception of colours and contrast.

Mam Backgroundours may overlap each other, so be sure to check what the **ChordMap** looks like after changing a colour! The main background colour.

Configurable Colours

The colours set by this window are: olour representing a black key on the midi keyboard.

Chord Note:

-ill colour for a note that is part of the chord.

Root Note:

-ill colour for the root note of the chord.

This is only used if **Capitalize Root Notes** option is set.

Dominant Note:

-ill colour for the dominant note of the chord.

This is only used if **Capitalize Root Notes** option is set.

Note:

Note text (Solfa or Pitch) colour.

Frack Note:

-ill colour for a track note (as opposed to chord note).

3ottom Background:

Background colour of bottom row (scale notes).

Played Note:

Colour of filled circle showing currently played note or notes.

Current Background:

Background colour of current note row.

Scale:

Scale text colour (bottom row).

The **TrackMap** is the main window for managing and playing midi tracks.

It shows the notes for each track of the MidiFile.

It allows you to select tracks for generating chords, mute and solo tracks, and change the volume, panning, and patch (instrument) for each track.

You can also display the lyrics with this.

By default, all tracks from the **MidiFile** are shown, but you can click the **Track Styles** *Button* to bring up a window to manage which tracks are visible.

TrackMap Buttons

New Project

Brings up a **dialog** to create a new Project.

Load Project

Load all Project files from the containing folder that have the same qualifier as the selected file.

ChordFiles can have the qualifier .chp0 to .chp9 inclusively. If there is more than one of these files present in the directory, a dialog will be shown to allow you to select which **ChordFile** you want to load.

You can also load a Project by dragging and dropping a file or folder onto the **PlayMap, ChordMap, or TrackMap**.

Save Project

Save all of the files in a Project to disk.

Click with right mouse button to show what files will be saved.

Save Project As...

Save all of the files in a Project to a new location on disk.

GoTo Start

Set Start Bar to start of MidiFile

Play Midi

Play the MidiFile from Start Bar

Play Audio / Play Audio NoSyn

Play the AudioFile.

If synchronisation data is available, the button will show **Play Audio**, and the the cursor will move according to the synchronisation data in the

AudioSync file.

Otherwise, the button will show **Play Audio NoSyn**. Synchronisation can still be done manually using the **Next Beat SwitchKey**.

Sync Audio

Play AudioFile and wait for sync SwitchKey

Play & Sync Audio

Play **AudioFile** using synchronisation from the **AudioSyncFile** until reaching the SyncBar, and then wait for the sync **SwitchKey** This will allow you to continue a partially sync'ed audiofile.

Stop Play

Stop playing MidiFile or AudioFile

Pause Play

Pause playing MidiFile or AudioFile

! (Panic)

Panic! Switch off all midi events Useful if midi pitch is continuously sounding

Chord Map

Show the **ChordMap Window.**

If no **ChordFile** has been loaded, this will display an option to initialize a new **ChordFile**

Audio Sync Config

Show AudioSync Window

You can use this to manage audio sync data.

Show Summ

Show MidiFile summary for each track.

Options to show preconfigured chord names and **MidiFile** time signatures, tempos and keys

Edit Lyrics

Opens up a <u>Window</u> with a simple text editor for updating the Lyrics File.

The easiest way to enter lyrics is to copy and paste the text from an online source into the editor. You can then use the editor window to match each bar with the lyrics.

The Lyrics File (*.chl) in the Project folder can also be edited by any text editor. It is advisable to switch on line numbering to display bar numbers whilst editing.

Check All

Click to Select all tracks.

Tracks can be unselected individually in the main display.

Selected tracks are used when the **<u>ChordMap</u>** is loaded.

They are also the tracks that will be shown in the <u>PlayMap</u> if the **Show Tracks** *CheckBox* is checked in the <u>PlayMap</u>.

Uncheck All

Click to Deselect all tracks.

Tracks can be selected individually in the main display.

Selected tracks are used when the **<u>ChordMap</u>** is loaded.

They are also the tracks that will be shown in the <u>PlayMap</u> if the **Show Tracks** *CheckBox* is checked in the <u>PlayMap</u>.

Clear Mutes & Solos

Clear the Mute and Solo CheckBoxes on all tracks

Track Styles

Displays a window to allow groups of tracks to be selected, muted, hidden, or collapsed.

The tracks are grouped by <u>Style</u>.

Calc Keys

Open the CalcKeys Window.

This will allow you to generate keys from the MidiFile or ChordFile.

A dialog will be shown if there are multiple choices of where to generate the keys from.

Save MidiFile As...

Save the MidiFile at a given location with a given filename.

Displays the <u>Save MidiFile Dialog</u> to allow various options to be set before saving the MidiFile.

"+" Button in Vertical Group

Click to increase the track height

"-" Button in Vertical Group

Click to decrease the track height

"+" Button in Horizontal Group

Click to increase the track width

"-" Button in Horizontal Group

Click to decrease the track width

[Up Arrow] *Button* Collapse (hide) all tracks.

[Down Arrow] Button

Uncollapse (show) all tracks.

"Pan"

Click to set track controls to adjust midi pan (balance) value

"Vol"

Click to set track controls to adjust midi volume value

"+" Button to Right of Vol/Pan Buttons

Click to increase midi pan or volume on all selected tracks

"-" Button to Right of Vol/Pan Buttons

Click to decrease midi pan or volume on all selected tracks

TrackMap CheckBoxes

Display Lyrics Panel, using data from the LyricsFile.

Similar to the Lyrics Panel in the <u>ChordMap.</u>, but not editable.

Even Trk Spacing

If checked, each track will be about the same height, but the pitch scale will vary.

If unchecked, the pitch scale will be constant, but the track height will vary.

Changing this will reset the scale to its default value.

Show Beats

Check to display beat lines as well as bar lines for each track.

Show KB

Check to show midi keyboard black notes (default colour grey) for each track.

Show One Octave

If checked, will show notes condensed into one octave. This can make it easier to recognise chords.

Otherwise, actual pitches will be shown over whatever range each track uses.

TrackMap Displays

Shows the midi ticks for the current bar (when clicked with the mouse).

Lyrics

(Only displayed if LyricsFile is present.)

Show Lyrics, using data from the LyricsFile.

Exective track of the Track Map contains a Control Panel and a Display Panel.

The Control Panel

This shows basic information about the track, and also allows various properties to be changed.

It contains these controls:

Top Row

Up or Down Arrow

Collapse the track.

Track Description

Displays the Midi Track Description or Title. If this is updated, it will be saved in the MidiFile.

Style Display

Displays the Track Style

Middle Row

Channel Number Display

Show the midi channel number (C1 - C16).

Instrument Name

List for displaying and selecting the General Midi Instrument.

BottomRow

Check Box

CheckBox for selecting the track.

Selected tracks are used when the **<u>ChordMap</u>** is loaded.

They are also the tracks that will be shown in the <u>PlayMap</u> if the **Show Tracks** *CheckBox* is checked in the <u>PlayMap</u>.

'M' Button

Mute the track.

Colour changes from grey to red when muted.

'S' Button

Solo the track.

Mute all tracks except any that are solo'ed.

Colour changes from grey to blue when solo'ed.

Track Number Display

Shows the Midi Track Number preceded by 'T'.

If the track contains pitchbent notes, the text will be surrounded by a border.

Slider

Adjust Midi Volume or Pan level.

Use **Pan** and **Vol** buttons on main display to select whether volume or pan level is adjusted.

The Trk Panel

This is where the track notes are displayed.

Notes are displayed with the lowest 'C' at the bottom.

Any pitches that have had midi pitchbend applied are shown in blue.

The©WordMap is used to generate chords from the **MidiFile**, which is then saved to the **ChordFile**. A general guide to generating chords can be found <u>here</u>.

The **ChordMap** can also be used to **Insert Chords from an External Source.**

The top part of the **ChordMap** window consists of various buttons and options for creating the chords and playing the song.

Below this are various display windows - see <u>ChordMap Display</u> <u>Windows</u>.

The colours used by this window can be set with the <u>ChordMap Colours</u> <u>Configuration Window.</u>

The **Transpose Chord Names** and **Transpose Chord Notes** Controls allow you to enter transposed chord names and keys. This is useful for typing in chord names from an external source that are in a different key to the MidiFile or AudioFile.

ChordMap Buttons New Project

Brings up a **dialog** to create a new Project.

Load Project

Load all Project files from the containing folder that have the same qualifier as the selected file.

ChordFiles can have the qualifier .chp0 to .chp9 inclusively. If there is more than one of these files present in the directory, a dialog will be shown to allow you to select which **ChordFile** you want to load.

You can also load a Project by dragging and dropping a file or folder onto the **PlayMap, ChordMap, or TrackMap**.

Save Project

Save all of the files in a Project to disk.

Click with right mouse button to show what files will be saved.

Save Project As...

Save all of the files in a Project to a new location on disk.

GoTo Start

Set Start Bar to start of MidiFile

Play Midi

Play the MidiFile from Start Bar

Play Audio / Play Audio NoSyn

Play the AudioFile.

If synchronisation data is available, the button will show **Play Audio**, and the the cursor will move according to the synchronisation data in the AudioSync file.

Otherwise, the button will show **Play Audio NoSyn**. Synchronisation can still be done manually using the **Next Beat SwitchKey**.

Sync Audio

Play AudioFile and wait for sync SwitchKey

Play & Sync Audio

Play **AudioFile** using synchronisation from the **AudioSyncFile** until reaching the SyncBar, and then wait for the sync **SwitchKey**

This will allow you to continue a partially sync'ed audiofile.

Stop Play

Stop playing MidiFile or AudioFile

Pause Play

Pause playing MidiFile or AudioFile

! (Panic)

Panic! Switch off all midi events Useful if midi pitch is continuously sounding

Track Map

Show the TrackMap Window

Audio Sync Config

Show AudioSync Window

You can use this to manage audio sync data.

Show Summ

Show MidiFile summary for each track.

Options to show preconfigured chord names and **MidiFile** time signatures, tempos and keys

Edit Lyrics

Opens up a <u>Window</u> with a simple text editor for updating the Lyrics File.

The easiest way to enter lyrics is to copy and paste the text from an online source into the editor. You can then use the editor window to match each bar with the lyrics.

The Lyrics File (*.chl) in the Project folder can also be edited by any text editor. It is advisable to switch on line numbering to display bar numbers whilst editing.

Save Chords As...

Opens a **Dialog** to save the **ChordFile** with a filename extension chosen from a list.

Reload Midi Tracks

Reload the **MidiFile**, using selected tracks from the **<u>TrackMap</u>**.

May be useful if you want to use a different selection of tracks to generate the chords from.

Select All

Set the selected area to the whole song.

This is used for generating chords, and by Insert Bars, Delete Bars, Cut, Copy, Paste, and Paste Special.

Select None

Set the selected area to nothing.

If Generate Chords is clicked, this will cover the whole song.

Insert Bars

Insert empty bars at the current cursor.

The number of bars will be the same as the number of bars in the selected area

This will only affect the chords - not the MidiFile or Lyrics.

All chords after the selected area will be moved to the right.

Notes in the MidiFile will remain the same, but the time signatures may change.

Caution: Any chords that run off the end will be removed!

Delete Bars

Delete bars in the selected area.

All chords after the selected area will be moved to the left.

Notes in the MidiFile will remain the same, but the time signatures may change.

Cut

Copy chords, keys, and time signatures from the selected area to the Copy Buffer, and clear chords from the selected area.

Shortcut key is Ctrl/X.

Сору

Copy chords, keys, and time signatures from the selected area to the Copy Buffer.

Shortcut key is Ctrl/C.

Paste

This will open up a new window with options for pasting data from the Copy Buffer.

Shortcut key is Ctrl/V.

Trans Select

This will transpose all the chords in the selected area by the interval entered in the accompanying dialog.

Undo

Undo last change.

Shortcut key is Ctrl/Z.

This will undo any changes to the chords, keys, time signatures, or song length.

Redo

Redo last undone change.

Shortcut key is Ctrl/Y.

This will redo any changes to the chords, keys, time signatures, or song length.

Play Midi This

Play the MidiFile using the tracks in the ChordMap

Colours

Open the ChordMap Colours Configuration Window.

Calc Keys

Open the CalcKeys Window.

This will allow you to generate keys from the MidiFile or ChordFile.

A dialog will be shown if there are multiple choices of where to generate the keys from.

Generate Chords

Generate chords using the current **Chord Div** settings (Bar, Bar/2, Beat, or Auto).

This will create new chords in the **Chord Notes** panel, based on the minimum time interval selected with the **Chord Div** option.

"+" Button in Horizontal Group

Click to increase the track width

"-" Button in Horizontal Group

Click to decrease the track width

"+" *Button* in Vertical Group Click to increase the track height

"-" Button in Vertical Group

Click to decrease the track height

ChordMap Displays

Shows the **ChordFile** Description.

This can be updated here, and will be saved with the **ChordFile**.

Bar

Shows bar numbers. MouseClick can be used when synchronising to an **AudioFile** to set the sync position - see help topic: <u>How To Sync to an</u> <u>AudioFile</u>.

Any bars that have been synchronised to an audio file will be highlighted in yellow.

Margin

Set scroll margins.

Click the mouse to set regions where scrolling is forced by the current cursor.

Lyrics

(Only displayed if LyricsFile is present.)

Show Lyrics, using data from the LyricsFile.

Chord Names

This allows the chordnames to be displayed and updated.

Type in a chordname (e.g. C, Am, Fdim) and press enter to update.

Chord notes will also be updated in the **Chord Notes** panel.

Key (Names)

Shows and updates the midi keys, as applied to the **Chord Names** pane. (Click to display update menu.)

See HowTo Update Keys.

Midi

This shows the **MidiFile** notes from tracks selected in the <u>TrackMap</u>. Click with any Mouse Button to set the current cursor position. Shift/Click with the left mouse button to set the start of the selected area. Shift/Right click to set the end of the selected area. The selected area will always be aligned to a bar.

Chords

This shows the **ChordFile** notes.

Click with the Left Mouse Button to set the current cursor position.

Right click in the main body of the window to insert or delete chord notes.

Shift/Click with the left mouse button to set the start of the selected area.

Shift/Right click to set the end of the selected area.

The selected area will always be aligned to a bar.

You can use the **Snap To** *DropDownList* to control the duration of the deleted or inserted note.

The colours of the notes can be set with the <u>ChordMap Colours</u> <u>Configuration Window</u>.

Key (Notes)

Shows and updates the midi keys, as applied to the **Chord Notes** pane. (Click to display update menu.)

See HowTo Update Keys.

TSig

Shows and updates the midi time signatures. (Click to display update menu.)

See HowTo Update Time Signatures.

You can also change the song length from here when there is no MidiFile loaded.

Scroll

Horizontal scroll bar.

ChordMap Miscellaneous Controls Snap To DropDownList

Set **Snap To** interval. This can be Notes, Selected, Bar, HalfBar, or Beat). Controls what to snap to when inserting or deleting pitches in the **Chords Panel**.

Show Beats CheckBox

Show beat lines as well as bar lines.

One Octave CheckBox

If checked, displays Midi Window reduced to one octave. Else displays actual note pitches.

Show Keyboard CheckBox

Show black notes of the midi keyboard (default colour grey) in **Midi Panel** and **Chords Panel**.

Transpose Display: Chord Names Numeric Input

Transpose the **Chord Names** pane, but not the **Chord Notes** pane, by this number of semitones.

This will allow you to type in chord names in the **Chord Names** pane that are a transposition of the notes in the **ChordNotes** pane.

When the chordfile is saved, it will use the notes in the **Chord Notes** pane, and adjust the chord names if necessary.

Transpose Notes: Chord Notes '+'/'-' Commands

Transpose the **Chord Notes** pane, but not the **Chord Names** pane, up or down.

This will allow you to change the notes in the **Chord Notes** pane, whilst keeping the names of the chords in the **Chord Names** pane the same.

When the chordfile is saved, it will use the notes in the **Chord Notes** pane, and adjust the chord names if necessary.

Transpose Notes: Keys '+'/'-' Commands

Transpose all keys in the ChordMap up or down.

The key chosen will have the minimum number of sharps or flats in the key signature.

Transpose Notes: Chord Notes and Keys '+'/'-' Commands

Transpose the **Chord Notes** pane, but not the **Chord Names** pane, up or down.

This will allow you to change the notes and keys in the **Chord Notes** pane, whilst keeping the names of the chords in the **Chord Names** pane the same.

When the chordfile is saved, it will use the notes and keys in the **Chord Notes** pane, and adjust the chord names if necessary.

Chord Div Options (Bar, Bar/2, Beat, Auto)

Set the **Chord Div** value. This is used when generating chords to determine the time value to generate chords into.

A setting of **Auto** will analyse the chords and decide on an optimum value dynamically.

Shiftying can be used to set the colours used by the Chords Panel on the <u>ChordMap.</u> The main background colour.

Granfigy rebleo Grand US with the colour of the Selected Area.

The colours set by this window are:

The colour of the vertical line representing the current play cursor.

Selected Area:

The colour of the selected area.

This may be combined with the **Background Colour**.

Keyboard:

The colour of the black keys on the midi keynoard.

Common Chord:

Chord is of rank 1 or 2 according to the chords database (Chords.ini file).

Other Controls

Load Default Values

Reset colours back to values set during program installation.

Close

Close this window

And some set to configure the application's audio device.

It only needs to be configured if you are going to use the **BuiltIn Synth** or **Play AudioFile** functions of this program. All audio output is mixed down to one stereo channel, which is output to whatever audio device has been configured.

The top line Shows the current connection, if there is one.

Below that, there is a dropdown list showing available soundcard drivers on your system. You should select whatever device you intend to use, after clicking the **Disconnect Audio & BuiltIn MidiOut** *Button* if necessary.

The *CheckBox* below that is to set ASIO on or off. ASIO is a sound card driver specified by Steinberg Media Technologies GmbH. It is generally supported on high-end sound cards, and provides low latency. This is important for real time music applications like this, as you generally want to minimize any delays between playing a note and actually hearing it. If you are only going to use the soundcard for playing audio files, it doesn't really matter if you use ASIO or not.

If your soundcard does not support ASIO, you should leave the box unchecked, or download an ASIO driver. ASIO4All by Michael Tippach is an excellent driver that appears to work with most soundcards.

The general idea is that you should minimize the latency, but without distorting the sound output. If the latency is too low, you will get sound dropouts or no sound at all. If the latency is too high, there will be a discernable delay between playing a note on the midi keyboard, and actually hearing it.

Audio settings can be changed only when the soundcard is disconnected using the **Disconnect Audio & BuiltIn MidiOut** *Button*.

Configuring ASIO Drivers

If the **ASIO** *CheckBox* is checked, you should see a list of ASIO devices in the **Audio Output DropdownBox.** Select the device that you want to output to.

Clicking the **ASIO Panel** *Button* should show the ASIO control panel from the ASIO driver. If the device is not connected, you should be able

to adjust the settings on the ASIO panel and reconnect.

You should try to find the lowest latency time that does not cause distortion of the sound. Any settings will be saved with all of the other settings in the ChordCadenza.ini file.

Configuring Non-ASIO Drivers

If the **ASIO** *CheckBox* is unchecked, you should see a list of non-ASIO devices in the **Audio Output DropdownBox.** Select the device that you want to output to.

There should be a panel in the bottom left quadrant of the window showing **Device Characteristics and Device Variables**.

The **Device Characteristics** panel shows the latency and minimum buffer size, as reported from the sound card selected in the **Audio Output DropdownBox**. If you update the **Set Device Variable** fields, and click one of the **Connect Buttons**, this will activate the sound card with the new settings. You should be able to try out the audio card (assuming you have set a midi port to **BuiltIn Synth** on the <u>Midi Devices</u> <u>Configuration Window</u>).

Adjusting these parameters is somewhat hit and miss. If the sound is distorted or silent, you should increase the **Buffer Size**. If you are experiencing high latency (delay between playing a pitch and hearing it), you can try decreasing the **Buffer Size**. The smaller the buffer is, the shorter the **Update Period** should be.

Once you have found some values that work, don't forget to save the settings using **PlayMap Menu > File > Save Settings**, or click **Save Settings and Exit Program** option when exiting the application.

Audio Configuration Components

Current Connection Display

Shows the audio device that is currently connected.

This will be used by any midi output ports set to **BuiltIn Synth**, and by the **AudioFile** player.

It may or may not be the same as the selected device in the dropdown box.

Audio Output Selection

Selected audio output device.

Use this to select a new device. You may need to click the **Disconnect** Button before selecting a new device.

When selected, the **Device Characteristics** fields should be updated.

Click the **Connect** *Button* to make the device the current connection.

Asio CheckBox

Use ASIO driver.

Check if you have an ASIO soundcard or third party driver.

ASIO Panel Button

Show ASIO Control Panel (as supplied by the ASIO driver)

Connect Audio Only Button

Connect the audio device selected on the Audio Output DropdownList.

If you want to use any **BuiltIn Synthesizer** Midi ports, these will need to be connected using the <u>Midi Devices Configuration Window</u>.

Alternatively, you can click the **Connect Audio & BuiltIn MidiOut** *Button* to connect any **BuiltIn Synthesizer** Midi ports.

Connect Audio & BuiltIn MidiOut Button

Connect the audio device selected on the **Audio Output DropdownList**. This will also connect any **BuiltIn Synthesizer** Midi ports.

Disconnect Audio & BuiltIn MidiOut Button

Disconnect the audio device selected in the Audio Output DropdownList.

You may need to click this before selecting a new device.

This may be useful if you want to start another audio application that needs exclusive access to a soundcard.

This will also disconnect any BuiltIn Synthesizer Midi ports.

Latency Display

Shows the delay (in milliseconds) between sending an audio signal, and hearing it, as estimated from the soundcard.

Min Buffer Display

Shows the minimum buffer size (in milliseconds) required, as reported from the soundcard.

Buffer Size Numeric Control

Set the Buffer Size (in milliseconds) that will be used when the soundcard is connected.

Decreasing this should decrease the latency, but with the risk of sound distortion or drop-outs.

Values should be in the range 11 to 5000 milliseconds.

Update Period Numeric Control

Set the Update Period in milliseconds.

This will be sent to the soundcard when connected.

You may need to lower this to support a smaller buffer size, but this will use more CPU.

Values should be in the range 5 to 100 milliseconds.

Calc From Update Period Button

Calculate the **Buffer Size** from the **Update Period**.

This is done using a simple formula to calculate a minmum buffersize, using the device's **Min Buffer** setting.

It is not guaranteed to give a satisfactory result, but can act as a starting point for further experimentation.

MidiPlay Delay Numeric Control

Set a delay (in milliseconds) before updating the play cursor whilst playing a midifile.

This can be useful if the audio driver has a significant latency.

The default is zero, meaning the play cursor will be updated as soon as the bar or beat in the midifile is reached.

Any changes have immediate effect - there is no need to reconnect the device.

Keyboard Delay Numeric Control

Set the delay before moving on to the next chord in the **ChordMap**.

This will be added to the syncopation time, which is set from the **PlayMap**.

Any changes have immediate effect - there is no need to reconnect the device.

Set From Device (MidiPlay Delay) Button

Set the MidiPlay Delay to the latency from the audio device driver.

If the latency is low (less than 50 ms), it is not normally necessary to set this.

Switch Off (MidiPlay Delay) Button

Set the MidiPlay Delay to zero.

Set From Device (Keyboard Delay) Button

Set the Midi Keyboard Delay to the latency from the audio device driver. If the latency is low (less than 50 ms), it is not normally necessary to set this.

Switch Off (Keyboard Delay) Button

Set the Midi Keyboard Delay to zero.

Help

Show help documentation for this window

Close

Close this window

Whis is used to comfigure the parameters used when playing along with an unsynchronised audio source using chord positioning. It is typically used when playing along with an internet stream or other musicians. It can also be used to play along with an audio file (.mp3), whether it is synchronised or not.

The window is displayed by selecting **Configure > Manual Chord Sync** from the **PlayMap**.

A summary of the techniques available to play along with live audio, including chord positioning, can be found <u>here</u>.
Manual Chord Synchronisation Components Single Black key - No Action Option

Take no action when a single black key is played.

Single Black key - Next chord Option

Move the current position forward by one chord when a single black key is played.

The position is moved when the midi key is released.

Single Black key - Previous chord Option

Move the current position backward by one chord when a single black key is played.

The position is moved when the midi key is released.

Single White key - No Action Option

Take no action when a single white key is played.

Single White key - Next chord Option

Move the current position forward by one chord when a single white key is played.

The position is moved when the midi key is released.

Single White key - Previous chord Option

Move the current position backward by one chord when a single white key is played.

The position is moved when the midi key is released.

Next Chord if All Black Checkbox

If checked, move the current position forward by one chord if 2 or more black notes are played on the keyboard.

The position is moved when the 2nd. midi key is played.

Next Chord if All White Checkbox

If checked, move the current position forward by one chord if 2 or more white notes are played on the keyboard.

The position is moved when the 2nd. midi key is played.

Help Button

Show help documentation for this window

Close Button

Close this window

White is a serigt micron figure the midi devices (ports) used by this application. **Vidi Keyboard Output** There are three devices that can be configured here:

The **Midi Keyboard Input** should be set to your midi keyboard

The output devices can be set to a midi synthesizer that is external to this application, or to the **BuiltIn Synth** that is provided by this application.

If you set the output devices to the same external synthesizer, you will have to ensure that the **Midi Keyboard Output** is set to a midi channel not used by the **Sequencer Stream Output**. If you set the output devices to the BuiltIn synthesizer, they will use different ports, so all channels can be used on both devices.

The synth packaged with Windows (Microsoft GS Wavetable Synth or similar) is not recommended. This is poor quality, and introduces a latency (delay) that will be noticeable even if the sound card delay is small.

If you use the **BuiltIn Synth**, and the audiocard is connected, a panel will be displayed to allow the soundfont, volume, tuning and FX effects to be set.

The **Soundfont DropdownList** shows all the soundfont files found in the soundfonts path. The list can be changed using **PlayMap Menu > Configure > Paths > SoundFonts**. You will need to redisplay the **Midi Devices Configuration** window for the update to take effect.

The selected soundfont will be loaded when the **Connect** Button is clicked. If there are no soundfont files found, you will be prompted to select a new soundfonts path.

Changes will be actioned after one of the the **Connect** or **Disconnect** *Buttons* are clicked, and will be saved using the **PlayMap Menu > File > Save Settings**, or clicking **Save Settings and Exit Program** option when exiting the application.

A description of the controls used in the Midi Devices Configuration Window can be found <u>here</u>.

Midi Devices Components Midi Keyboard Input ListBox

Select Midi Keyboard Input device. Click **Connect** to action any change.

Connect/Disconnect Midi Keyboard Input Button

Connect or disconnect the Midi keyboard input port.

Connect/Disconnect Midi Keyboard Output *Button*

Connect or disconnect the Midi keyboard output port.

Connect/Disconnect Midi Stream Output Button

Connect or disconnect the Midi stream output port. This is used for playing MidiFiles.

Sequencer Stream Output ListBox

Select Midi Output device for streaming midi (MidiFile playing).

Either a real midi device (software or hardware), or the synthesizer supplied by this application (**BuiltIn Synth**).

Click **Connect** to action any change.

Midi Keyboard Output ListBox

Select Midi Output device for midi keyboard.

Either a real midi device (software or hardware), or the synthesizer supplied by this application (**BuiltIn Synth**).

Click **Connect** to action any change.

SoundFont (Sequencer Stream) ListBox

Select soundFont for **Sequencer Stream Output** using the **BuiltIn Synthesizer**.

See <u>Midi Devices Configuration</u> for information about downloading and installing soundfonts.

SoundFont (Midi Keyboard Out) ListBox

Select soundFont for Midi Keyboard Output using the BuiltIn Synthesizer.

See <u>Midi Devices Configuration</u> for information about downloading and installing soundfonts.

Tuning (Stream) Slider

Adjust tuning for the **Sequencer Stream Output** using the **BuiltIn Synthesizer**.

Tuning interval is plus or minus one semitone.

Supported by **BuiltIn Synth**, and any external synth that responds to Midi RPN 1 (Fine Tuning).

Tuning (Keyboard Out) Slider

Adjust tuning for the **Midi Keyboard Output** using the **BuiltIn Synthesizer**.

Tuning interval is plus or minus one semitone.

Supported by BuiltIn Synth, and any external synth that responds to Midi RPN 1 (Fine Tuning).

FX (Stream) Button

Open the **FX (Effects) Window** for the **Midi Sequencer** using the **BuiltIn Synthesizer**.

FX (Keyboard Out) Button

Open the **FX (Effects) Window** for the **Midi Keyboard Output** using the **BuiltIn Synthesizer**.

Close Window Button

Close this window

Help Button

Show help documentation for this window

FX Effects Active CheckBox

Check to activate FX on a midi port using the BuiltIn Synth.

Reset Button

Click to set all values back to their default values.

Dry Mix Slider

Set the gain of the original sound in the final mix.

Wet Mix Slider

Set the gain of sound with FX effects applied in the final mix.

Room Size Slider

Set size of the reverberation chamber.

Damp Slider

Set degree of damping.

Width Slider

Set the stereo width (how much the reverb part from left and right channels mix.)

Configure Bezier Window

This is used to edit the velocity or aftertouch profiles.

A Bezier Curve is an intuitive way of drawing a curve between two points. This is used in this application to draw a **Keyboard Velocity Profile** or an **Aftertouch Profile**.

You can find out how to use a Bezier Curve here

Configure Bezier Window

The contents of the window include:

Bezier Curve *Display*

Graph showing the Velocity Profile or Aftertouch Profile.

The horizontal axis is the **Velocity** or **Aftertouch** value output by the midi keyboard.

The vertical axis is the **Velocity** or **Aftertouch** value sent to the midi output.

The red circles at the end of the straight line can be dragged by the mouse to change the curve.

Load Default Values Button

Load default profile - a straight line representing no change in **Velocity** or **Aftertouch**.

Close Button

Close this window

ক্ষাৰ্জ ক্ষাৰ্থ সৈয়ে জুপুত uto allocate one or more Actions to a SwitchKey (or Sustain Pedal).

The grey ComboBoxes show the current **SwitchKey** allocated to the **Action** on the right. If this is blank, then no **SwitchKey** is currently allocated.

Click one of the grey ComboBoxes to select a **SwitchKey** to associate with an **Action**, or select **None** to deselect any **SwitchKey**.

Any changes take effect immediately. Use **PlayMap Menu > File > Save Settings** to save the current **SwitchKey** settings.

The **SwitchKeys** should occupy the bottom octave of the midi keyboard. This can be configured using **PlayMap Menu > Configure > Midi Keyboard Ranges**.

You can find out more about how to set up and use SwitchKeys here.

SwitchKey ComboBoxes

Play the nearest chord note to the played note whilst **SwitchKey** is down. If nearest note is already sounding, play the next chord note up or down. Allows chords to be played more easily.

Sustain

Activate Sustain whilst SwitchKey is down.

This is the normal action for the sustain pedal.

Sustain can be configured to be the normal **Midi Sustain**, or one of the emulated **Sustain Types**.

Sync

The **Sync SwitchKey** - used for synchronizing the chords to an audio source.

Prev Beat

Move backwards to previous beat.

This is used whilst playing to an unsynchronised audio source.

See How To Play to Live Audio.

Next Beat

Move forward to next beat.

This is used whilst playing to an unsynchronised audio source.

See How To Play to Live Audio.

Prev Bar

Move backwards to previous bar.

This is used whilst playing to an unsynchronised audio source.

See How To Play to Live Audio.

Next Bar

Move forward to next bar. This is used whilst playing to an unsynchronised audio source. See <u>How To Play to Live Audio</u>.

Prev Chord

Move backwards to previous chord.

This is used whilst playing to an unsynchronised audio source. See <u>How To Play to Live Audio</u>.

Next Chord

Move forward to next chord.

This is used whilst playing to an unsynchronised audio source.

See How To Play to Live Audio.

Configure Paths

Tomes of the select a

MidiFiles: used to copy a matching MidiFile into the Project folder when Rething range were project to locate:

AudioFiles: used to copy a matching **AudioFile** into the Project folder when creating a new Project

Configuring Keyboard Ranges

The Keyboard Ranges Window is used to configure your midi keyboard. It is opened from PlayMap Menu > Configure > Midi Keyboard Ranges.

It allows you to set the lowest key present on your midi keyboard, and the lowest key that you want to be displayed.

It is important to do this in order for the keyboard keys that you play to be within the range of the PlayMap.

It also matters if you want the bottom octave of the midi keyboard to be used for SwitchKeys.

Miniglawinel Owning to change various parameters. These are saved in the file ChordCadenza.ini

Miscellaneous Configurations - General Load TrackMap on .chp Load CheckBox

If checked, the <u>TrackMap</u> will be displayed after loading a Project containing a **MidiFile**.

Send AllNotesOff after Sustain Up CheckBox

This is normally unchecked. However, if you find some notes are not switched off after releasing the sustain pedal or **SwitchKey**, you can set this to send a midi AllNotesOff message to the synthesizer.

ToolTips Active CheckBox

If checked, **ToolTips** will be shown over window components.

Note: This will take effect immediately, except for menu items that require the application to be restarted.

Prompt to Save Settings on Exit CheckBox

Check to show a window with options to save or not save the .ini configuration files. Otherwise, the ini files are always saved.

Disable AutoSync on Audio Play CheckBox

Check to disable automatic audio synchronisation.

This will allow you to use manual chord or bar/beat synchronisation on a synchronised audio (.mp3) file.

Undo/Redo Capacity Numeric Input

Sets the maximum number of events allowed in the Undo or Redo stacks.

When this limit is reached, the oldest event will be removed.

This change will be effected when:

ChordMap Undo/Redo: ChordMap is reloaded.

AudioSync Undo/Redo: Project is reloaded.

Lyrics Undo/Redo: Lyrics window is reloaded.

Reset Settings Button

This will rename all Ini files to Ini.BU, overwriting any existing Ini.BU files. It will then restart the application, using default values.

You should use this if you want to reset all global parameters to their default values.

Restore Settings Button

This will rename all Ini.BU files to Ini, overwriting any existing Ini files.

It will then restart the application, using the new Ini files

You should use this if you want to restore all global parameters from a copy saved after the last time they were set to their default values.

Chord Config Button

Open a window to configure the chord generation parameters.

This is an advanced feature that you normally do not need to use, but you are welcome to try changing some of these parameters to see what effect it has!

Any changes can be saved to the ChotdCfg.ini file, and you can always reset back to the default values (factory settings).

Chord Ranks Button

Configure chord ranks. These are weightings that usually favour simple chords over complex chords in the chord generation process.

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Sustain

The time (in milliseconds) to wait for notes to be considered to be part of the same chord.

This is used by the emulated sustain functions - see **Sustain Types**.

Stream Resolution

This is the resolution used to play Midi events from a midifile. It is expressed as a number of milliseconds.

Increasing it will use less computer memory and CPU. A decrease will make the midi playing more accurate.

The recommended value is 5.

A Project reload is required to effect any change in this value.

Syncopation

The time interval before the actual chord time when the chord becomes active during playing.

This is to allow the chord to be played just before a beat or bar, and also allows for any keyboard latencies.

The time is expressed as a fraction of a midi note. The default value is 1/16. Heavily syncopated music may require more syncopation (e.g. 1/8).

This value is saved in the application ini file (ChordCadenza.ini). It is the default used if not overriden by the **ChordFile**.

Miscellaneous Configurations - ChordPlay Display Notes per Chord Numeric Input

Set the number of notes to display for each chord in ChordMode. Only active if adjacent *CheckBox* is checked.

Display Notes per Chord CheckBox

Activate the **Display Notes per Chord** number.

PlayMap will show this number of notes for each chord in ChordMode.

The chord display will be padded out or truncated to fit.

Play Notes per Chord Numeric Input

Set the number of notes to play for each chord.

Only active if adjacent *CheckBox* is checked.

Play Notes per Chord CheckBox

Activate the **Play Notes per Chord** number.

ChordMode and KBChord will play this number of notes when a single midi keyboard key is pressed.

This is in contrast to the normal play method for ChordMode or KBChord that plays only one note for each midi keyboard key press.

See <u>Modes</u> for information about ChordMode and KBChord.

Miscellaneous Configurations - Midi Numeric Inputs
Display Resolution

This is the resolution used by the display windows (**TrackMap**, **PlayMap**, and **ChordMap**).

It is expressed as the number of intervals in a whole note. The recommended value is 32.

Decreasing it will use less computer memory and CPU.

A increase will make the midi files displays more accurate.

Change effected on Project reload.

Default Song Length (WholeNotes)

Used to set the default song length in whole notes when there is no MidiFile.

The song length can be changed later by clicking on the **TSig** Window in the **ChordMap**.

Miscellaneous Configurations - File Status **File Status** *Panel*

This shows the file extension of all Project files, if that file is active. Otherwise, shows blank. **This vise displayed** immediately after the program starts for the first time, and whenever the program starts again, until the option to not show again is taken.

It has the following buttons:

Close Button

Close this window

Close Window and Don't Show Again Button

Close this window and don't show again

Configure Audio Devices Button

Configure ASIO and non_ASIO Soundcards

Configure Midi Device and SoundFonts Button

Configure Midi Input (Keyboard) and Output (Keyboard and **MidiFile** Player) Devices

Choose SoundFont file

Adjust Volume and Fine Tuning

Configure Special Effects (FX)

Configure Keyboard Ranges Button

Set Highest and Lowest playable notes on the Midi Keyboard

Set PlayMap display range

Introduction Button

Show Introduction Help screen.

Save Configuration Button ChordCadenza.ini (the main config file) Save Global Configuration Parameters

Baites any (Switches 978) de to various global parameters (as opposed to parameters only associated with the current Project).

Thin incovers any ingride in the application directory:

rmSCColors.ini (PlayMap colours)

ChordCfg.ini (Chord generation parameters)

Chords.Ranks.ini (Chord Rank values)

Methies with the second second

It allows you to create a new Project folder, with options to copy an existing **MidiFile** and an existing **AudioFile**

•

New Project Components Copy MidiFile From TextBox

Location to copy a **MidiFile** from.

The file will be copied to the Project folder, and renamed to *Project_Name.*mid.

Copy MidiFile From ... Button

Click to display a File Explorer window to select a MidiFile.

This will be used to copy the selected file into the Project folder.

The file will be renamed to *Project_Name*.mid.

Copy AudioFile From TextBox

Location to copy an **AudioFile** from.

The file will be copied to the Project folder, and renamed to *Project_Name.ext*, where *ext* is the extension of the original **AudioFile** (e.g. mp3).

Copy AudioFile From ... Button

Click to display a File Explorer window to select an AudioFile.

This will be used to copy the selected file into the Project folder.

The file will be renamed to *Project_Name.ext*, where *ext* is the extension of the original **AudioFile** (e.g. mp3).

Project Location TextBox

Location on disk of the Project

Project Location ... Button

Click to display a **File Explorer** window to select the location on disk of the Project.

Add Name Subdirectory to Location CheckBox

Check to add the **Project Name** as a subdirectory to the **Project**

Location.

This is useful for keeping all files associated with a Project in one folder.

Project Name TextBox

The name of the Project.

This will be used to create the filename qualifier of the various files that make up the Project.

If the Add Name Subdirectory to Location *CheckBox* is checked, it will also be added as a subdirectory to the **Project Location**.

Use MidiFile Qualifier Button

Click to set the **Project Name** to the **MidiFile** qualifier.

Use AudioFile Qualifier Button

Click to set the **Project Name** to the **AudioFile** qualifier.

OK Button

Click to create the new Project.

If the Project location (including the Project subdirectory) already exists, you will get a warning message.

Cancel Button

Close the window without making any changes.

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It allows you to save a Project in a new location on disk.

•

Save Project As... Components Project Location TextBox

Location on disk of the Project

Project Location ... Button

Click to display a **File Explorer** window to select the location on disk of the Project.

Add Name Subdirectory to Location CheckBox

Check to add the **Project Name** as a subdirectory to the **Project Location**.

This is useful for keeping all files associated with a Project in one folder.

Project Name TextBox

The name of the Project.

This will be used to create the filename qualifier of the various files that make up the Project.

If the **Add Name Subdirectory to Location** *CheckBox* is checked, it will also be added as a subdirectory to the **Project Location**.

OK Button

Click to save the Project using the new location and name .

If the Project location (including the Project subdirectory) already exists, you will get a warning message.

Cancel Button

Close the window without saving the Project.

Addississ as a set of the audio synchronisation function.

An introduction to this function can be found <u>here</u>.

The AudioSync Configuration Window allows you to manage the synchronisation data. This consists of two tracks: the **Record Track** and the **Play Track**.

The **Record Track** is created when you sync an **AudioFile** using the **Sync Audio** *Button* on the **ChordMap** or **TrackMap**.

The **Play Track** controls the current cursor when playing an **AudioFile**. This is located in the Project directory with the file extension .chtc.

The **Record Track** is copied to, or merged with, the **Play Track** from the **AudioSync Configuration Window**.

Extension .chtc saves byte offset values for an AudioFile.

Other controls in this window allow you to manage the synchronisation data and AudioFile position.

AudioSync Menu File -> Save Play to File

.

Save audio synchronisation data in the Project directory with extension .chtc

Edit -> Selected -> Remove Record

Clear the **Record Track** from the synchronisation data.

Edit -> Selected -> Remove Play

Clear the **Play Track** from the synchronisation data.

Edit -> Selected -> Copy Record to Play

Clear the **Play Track** and copy all data in the **Record Track** to the **Play Track**

AudioSync Components Update Display Button

Updates the display with the current data.

Merge Record To Play Button

Merge the Record Track into the Play Track

If there is any inconsistency in the merged data, a message will be shown.

Clear Play and Move Record To Play Button

Clear the **Play Track** and move the **Record Track** to the **Play Track**

Clear Record Button

Clear the **Record Track**.

Clear All Button

Clear the **Record Track** and the **Play Track**.

Offset Times Button

Display a window to enter the time (in milliseconds) to change each beat by.

This will cause the play cursor to be displayed later if the time is positive, or earlier if negative.

This is usually only required if you are playing the audio file with a soundcard that has a latency that is significantly different from the one that was used when the synchronisation file (*.chtc) was created.

Offset Beats Button

Display a window to enter the number of beats to move the synchronisation points by.

This can be a postive or a negative number.

Undo Button

Undo last change. Shortcut key is Ctrl/Z.

Redo Button

Redo last undone change. Shortcut key is Ctrl/Y.

Save Play To File Button

Save the **Play Track** to the synchronisation file.

Position Slider

Set the start position in the AudioFile, or display current position.

Start from Position Time CheckBox

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Rasifieriendastoray in utwer haight Corner of Window

This shows the current position in the **AudioFile**. The format of the display is:

Tahise is used to calculate the keys in a Project from the MidiFile.

In order to do this, each bar of the **MidiFile** is analysed. Once this has been done, all the bars are examined together in order to find the optimum keys for the music as a whole. This involves using an **Inertia** value - the higher the **Inertia**, the less often the key is likely to change.

CalcKeys can use the tracks selected in the **TrackMap**, or all tracks, or the chords as input.

Any percussion tracks (midi channel 10) or pitchbent notes are omitted from the algorithms used by CalcKeys.

When the **CalcKeys** window is displayed, it calculates the keys for all valid **Inertias**. This can be repeated with the same or different parameters using the **Recalculate** *Button*. The **Apply** or **Apply and Close** buttons can then be used to apply the calculated keys to the current **MidiFile**, using the selected **Inertia**.

The only part of the **CalcKeys** window that you really need to use is the **Apply and Close** *Button*. The other controls you can experiment with if you wish, but it isn't normally necessary to change any of the values they contain.

CalcKeys Compoenets Load Text Keys CheckBox

Load keys from the **ChordFile**. Used to compare calculated keys with.

Use ChordFile CheckBox

Check to calculate keys from the **ChordFile** chords.

This is only useful if you have don't have a midifile. It is likely to be less accurate than using a midifile, but can be useful if you have created a **ChordFile** manually.

Flat Option

Give equal weight to all selected notes present in the **MidiFile** (excluding percussion and pitchbent notes.)

Weighted Option

Weight the notes according to the number of tracks that contain the note.

Zero Inertia Option

No Inertia - set the key for a bar independently of other bars.

Non-Zero Inertias Options

Set Inertia - the greater the Inertia, the less often the key will change.

Recalculate Button

Calculate the keys for all **Inertias** and display the results in the main panel.

Apply Button

Apply the calculated keys to the MidiFile, using the selected Inertia.

Apply and Close Button

Apply the **CalcKeys** algorithm to the **MidiFile** and close this window.

ম্পান্তais used to display information about the loaded MidiFile and chords.

The main window shows summary information for each track of the **MidiFile**. The columns show:

Tk

Track Number (1 - 32).

Ch

Midi Channel Number (1-16).

Count

Number of Midi On events.

Min

Minimum pitch (Notename and Octave).

Max

Maximum pitch (Notename and Octave).

Min

Minimum pitch (midi pitch value)

Max

Maximum pitch (midi pitch value)

Rng

Pitch Range (maximum midi pitch - minimum midi pitch).

Style

The Track **<u>Style</u>**.

Poly

Degree of polyphony (average simultaneous notes played.)

Patch

General Midi Instrument

Title

Track Description
Summary Buttons

EARC (the more common the chord)

Click to show a list of all the chords defined in the **Chords.ini** file. **Votes** (for root note C) Shows

Time Signatures

Click to show time signatures.

Tempos

Click to show the tempos.

Shows **Tempo** in Beats per Minute, **MidiTempo** in Microseconds per Midi Quarternote, and **MSecsPerQI** as Milliseconds per Quantize (Display) Interval

Keys

Click to show the keys.

Attributes

Click to show some global values.

Close

Close this window

Deviation be displayed after opening a file or folder from the **Load Project Open File Dialog**.

It allows you to choose from a collection of **ChordFiles** to load (or save) as part of the Project.

When loading a project, the window will only be shown if there is more than one **ChordFile** associated with the current **Project**.

Load Project Components Filename Extensions ListBox

Shows a list of **ChordFile** filename extensions present on disk associated with the Project.

Selected name will be used as the loaded **ChordFile**.

Click **Load File** *Button*, or doubleclick the selected filename, to load a Project containing the selected filename.

Delete Button

Click to delete the selected file.

Load Project (or Save File) Button

Click to load a Project containing the selected filename, or to save the **ChordFile** to the selected filename.

Cancel Button

Close this Window without taking any action.

মঞ্চিজ্ঞাগটাকে initial splayed whenever you click the Save As Button on the ChordMap.

It allows you to choose the number (0 - 9) to append to the .chp extension of the **ChordFile** name. This will let you choose from a collection of **ChordFiles** whenever you load a Project. You can use this to save **ChordFiles** that have been created in different ways (e.g. by using different selected tracks, different time divisions, or copied from sheet music.)

Save ChordFile As... Components Filename Extensions ListBox

Shows a list of all **ChordFile** filename extensions (.chpN), where N = 0 - 9.

Selected name will be used as the saved filename.

Delete Button

Click to delete the selected file.

Save File Button

Click to save the **ChordFile** with the selected filename extension.

Cancel Button

Close this Window without taking any action.

Station on the **PlayMap**, or the **Save Midi** Button on the **TrackMap**.

You would normally save the MidiFile if you want to save the chords in a MidiFile track (to be used with another application), or to save your last playing session in a MidiFile track.

The window presents various options for doing this. If you click on the **Save As ...** *Button*, it will display a dialog for inputting the file location and path to save to.

Save MidiFile As... Options Save Muted Tracks CheckBox

Save muted tracks along with non-muted tracks.

Save Chord Names as Labels CheckBox

Save chord names as midi labels.

Save Chord Track CheckBox

Save generated chords as a midi track.

Chord Root Position CheckBox

Save chords in root position.

Chord Channel Numeric Input

The midi channel number to use for the chord track.

Chord Track Title *TextBox*

Text associated with the chord track in the MidiFile. If nothing is entered, "Chords" will be used.

Save As ... Button

Show the **Save File Dialog** to allow the MidiFile location and filename to be entered before saving the MidiFile with the options in this window.

Cancel Button

Close the window without saving the MidiFile.

This figures and to edit any lyrics associated with a project. Simple text editing functions are provided for changing, inserting, or deleting lyrics lines. One lyrics line corresponds to one bar of music.

Lyrics can be useful for locating a place in the music, especially when synchronising to an audio file. They can also be used to locate cue points in the music (e.g. the start of a solo instrument).

Changes are only updated on the **ChordMap**, **TrackMap**, and **PlayMap** when the **Update** *Button* is clicked. Saving the project will save the current lyrics as displayed on these Maps as a file ending with the extension **.chl**.

Updates can be undone or redone using the **Undo Update** and **Redo Update** *Buttons*. Any changes made before using the **Update** *Button* cannot be undone until after the **Update** *Button* is clicked.

It is advisable to make sure the time signature(s) are correct before entering lyrics. If any time signatures are changed, the lyrics will probably become out of sync with the new bars, and will need to be edited.

If lines are inserted with the editor, or a time signature is changed, some lines may me moved beyond the last bar. These lines will still be saved, even though they are not visible. They can be restored by reversing the action that caused them to go beyond the last bar, or using the **Undo** *Button*.

Styles are used to categorise Midi Tracks by analysing the notes played in the track.

If a track is empty, it is assigned a **Style** of **NoStyle**.

If all the notes are on midi channel 10, it is assigned a **Style** of **Percussion**.

If the track is nearly empty, it is assigned a **Style** of **Sparse**.

If the track contains mainly block of chords, it assigned a **Style** of **BChords**.

If the track contains mainly bass notes, it assigned a Style of Bass.

If the track contains nearly all chord notes (by comparing it with the **ChordFile**), it is assigned a **Style** of **AChords**.

Otherwise, it is assigned a **Style** of **Melody**.

Modes used by this program:

KeyBoardMode

All of the keys of the midi keyboard are set to their normal pitches (subject to any transposition that may be active).

This may be used with the **KBChord SwitchKey**, which will play the nearest chord note to the key actually played.

ChordMode

Only the white keys of the midi keyboard are active, and these are assigned to chord notes.

Sustain Types Normal

Use the normal Midi Sustain function. This will send **Midi Sustain On/Off** messages in response to the sustain pedal or **SwitchKey**.

Replay

Emulate sustain by leaving all chord notes switched on until the sustain pedal or **SwitchKey** is released, or a new chord is played.

A chord is defined as any number of notes played within the time interval specified with the **Sustain** *Numeric Input* in this window.

Carry Over

Same as **Replay**, but carries over any notes that are also in the next chord.

This has the effect of making chord changes smoother for nonpercussive instruments.

Send Ctlr

Same as **Replay**, but uses **Midi Sustain On/Off** messages instead of **Midi Note On/Off** messages.

It is recommended to only use this if you are having problems with the normal **Replay**.

How To Create a New Project

A **Project** is a collection of files associated with a particular piece of music. These are located in a **Project** folder.

You can create a new **Project** using the **PlayMap > New Project** *Button* or **PlayMap Menu > File > New Project**. This will display the <u>New</u> <u>**Project Window**</u>.

This will allow you to create and load a Project folder. You can also optionally copy a **MidiFile** (to create chords from, or to play along to) and an **AudioFile** (to play along to) into the Project folder.

Once the Project folder has been created, you can use the functions of this program to create a **ChordFile**, an **AudioSyncFile**, and a **LyricsFile**.

How To Insert Keys and Chords from an External Source

This application can generate the keys and chords of the music from a **MidiFile**. However, you may want to insert chords into the **ChordFile** directly from an external source (sheet music, lead sheet etc). This can be done with the **ChordMap** window.

You can either load an existing Project containing a **ChordFile**, or start with a Project not containing any chords.

Open the ChordMap window

If the **ChordMap** window is not yet opened, you can open it using the **ChordMap** *Button* on the **PlayMap**.

If the **ChordMap** is empty, you may **prompted** to initialize a new ChordMap. Click **OK** to this.

If there are already chords in the ChordMap, you can either override them as you insert new chords, or clear the existing chords with the **Cut** *Button*.

The chord input window is near the top of the **ChordMap** (labelled **Chord Names**). This will show any chords currently present in the **ChordFile**.

If your chord source (sheet music etc.) is in a different key to the **MidiFile**, it will need to be transposed. This can be done by using the transpose controls.

Set the Key

If the keys of the **ChordFile** have not yet been set, this should be done using <u>How To Update Keys</u> or <u>How To Generate Keys</u>.

Transpose

You can skip this section if the external source is in the same key as the music.

Transpose Chord Names will transpose the Chord Names pane, but not the Chord Notes pane. Transpose Chord Notes will transpose the Chord Notes pane, but not the Chord Names pane. This will allow you to type in chord names from an external source, and transpose the notes.

If you have an external source that is in a different (initial) key to the **ChordFile** or **MidiFile**, you can use **Transpose Chord Names** to match the key with the external source. If you don't know what key the midi or audio file is in, you can transpose the chords later on. You can also transpose all the keys with the **Transpose Keys** Buttons.

For example, if your source is sheet music in the key of C major, but your **MidiFile** is in the key of C# major, you should set **Transpose Chord Names** to -1. This is because the chordname text is one semitone lower than the midi file.

If you have a synchronised AudioFile but no MidiFile, and don't know what key the music is in, you should start typing in the chords until some time after the first synchronised beat. You can then try playing along to it, and transpose the chord notes until it sounds right. If you can't find a transposiiton that sounds good, you may have to adjust the fine tuning (see <u>Midi Devices Components</u>).

Note: The **Chord Notes** pane represents the chord notes and keys that will actually be saved in the **ChordFile**.

Type in the Chords

The chords can now be typed in from the external source. Click on the cell you want to update and type in the name, as shown in the external source. The program should recognise most chords and variations.

If you type in something that is not recognised as a valid chord, the program will restore the original value.

You can change the current cell position with the keyboard up/down/left/right keys, and delete a chord with backspace or delete. (You may need to click on a cell if the **Chord Names** window is not the currently active window.)

Save the Chords

You can check the chords in the **Chord Notes** pane. This will show the notes of the chords. You can change any notes on this screen by clicking with the mouse - this is documented elsewhere.

To save the chords in the **ChordFile**, click the **Save Project** or **Save Chords As** *Button* in the **ChordMap** window.

Further Information

More information about using the **ChordMap** to generate chords can be found <u>here</u>.

How To Create a Velocity or Aftertouch Profile using a Bezier Curve

A Bezier Curve is an intuitive way of drawing a curve between two points. This is used in this application to draw a keyboard velocity profile or an aftertouch profile. If yout midi keyboard does not support key velocity or aftertouch, or you key velocity is set to a constant value, the Bezier Curve will not be of any use.

The diagrams below show examples of velocity profiles that could be used.





The curve on the left show the default velocity profile, where the output velocity is the same as the input velocity.

The curve on the right shows a velocity profile with more sensitivity in the middle.

Drawing a Velocity Bezier Curve

First, display the Velocity Bezier Curve by selecting **PlayMap Menu > Configure > Bezier > Velocity**.

Then, click on the red circles and drag the mouse to move the spline (straight line) around. This will change the shape of the curve. With a little practice, you can change the curve in almost any way.

You can restore the default at any time with the *Button* at the bottom of the window.

The curve will be saved with the rest of the application settings.

Drawing an Aftertouch Bezier Curve

If your keyboard has Aftertouch, you can create an Aftertouch profile using **PlayMap Menu > Configure > Bezier > Aftertouch,** using the same method.

How To Set Up SwitchKeys and the Sustain Pedal

SwitchKeys allow you to perform functions (like changing Mode, or synchronizing) from your Midi keyboard. The same functions can be performed from your sustain pedal (if you have one).

Setting Up the Midi Keyboard

In order to use **SwitchKeys**, you will need to make sure the bottom octave of your Midi keyboard is reserved for the **SwitchKeys**. This can be done by going to **PlayMap Menu > Configure > Midi Keyboard Ranges**

Setting SwitchKeys

The SwitchKey/Pedal Configuration window can be opened from PlayMap Menu > Configure > SwitchKeys/Pedal

From here, you can select a **SwitchKey** or **Pedal** to assign to any **SwitchKey** action. A **SwitchKey** or **Pedal** can contain multiple actions.

The settings will be saved if you select **File > Save Settings** from the **PlayMap Menu**.

Sustain Function

The Sustain Pedal normally sends **Midi Sustain On** and **Off** messages to the midi synthesiser. This works well for percussion instruments like the piano, but is not really suitable for other instruments.

By default, this application uses **Midi Note Off** messages to emulate the sustain function when playing chords from a ChordFile. It recognises when new chords are being played, and sends **Midi Note Off** messages to switch off the old chord. This is especially useful if you are using **ChordMode or KBChord** for emulate sustain and switch off old chord **Vetacetti** change this behaviour by setting the **Sustain Action** controls in the **Miscellaneous Configuration** window. This can be opened from **PlayMapquerterior Configuration**, **WideBit anel Sidi Note Off** if pitches are he same. (This allows for smoother chord changes.) The controls in the **Sustain Action** panel are:

Send Sustain Ctlr: Works better on some synthesizers.

Normal: Send **Midi Sustain On** and **Off** messages (normal sustain pedal function).

Auto: Set the sustain automatically when the Midi patch (instrument) changes to be the most suitable option.

If no ChordFile is loaded, the keyboard defaults to playing the actual notes on the keyboard, and the sustain function also defaults to normal.

Further Information

More information about using the **SwitchKeys** window can be found <u>here</u>.

How To Generate Chords from a MidiFile

If you haven't already done so, load a Project

This should contain at least a **MidiFile** (*.mid) of the piece of music you want to generate the chords for.

Open the ChordMap Window

If a **ChordFile** is present, but empty, you should get a warning about there being no notes in the **ChordFile** - click **OK** and continue.

If the **ChordMap** window is not visible, click the **ChordMap** *Button* on the **PlayMap**.

This will open the **ChordMap** window that shows, in the Midi pane, all of the notes in the **MidiFile** condensed into one track (excluding percussion and pitchbent notes).

The **Chord Notes** pane shows any chords that are in the **ChordFile**. You can clear this by clicking the **Cut** *Button* at the top of the window.

Generate Chords

There are many options in the **ChordMap** window, but for now you can just take the default options and click the **Generate Chords** *Button* near the top of the window.

If you haven't generated or edited the keys yet, you should see a dialog asking whether you want to invoke **CalcKeys**. The keys are used by the chord generation algorithms. Unless you are sure the MidiFile keys are OK, you should select one of the **CalcKeys** options and then click **Apply and Close** from the **CalcKeys** window. More information about **CalcKeys** can be found <u>here</u>

This will generate the chords for the whole **MidiFile**, which will be displayed in the **Chord Notes** pane. The names of the chords will also be displayed in the text boxes near the bottom of the window.

Save Keys and Chords to a ChordFile

Click the Save Chords As... or Save Project Button to save the chords

in the ChordFile.

The **ChordFile** (.chp0) will be saved in the same directory as the **MidiFile** (.mid).

It contains information about the chords and keys, as well as some miscellaneous information. It is the main file that is used by the program alongside a **MidiFile**.

It can be read or edited by a text file editor like Notepad, although manually editing the file is generally not recommended.

Further Information

More information about using the **ChordMap** can be found <u>here</u>.

How To Generate Keys from a MidiFile

If you haven't already done so, load a Project

This should contain at least a **MidiFile** (*.mid) of the piece of music you want to generate the keys for.

This should open the **TrackMap** window.

Select which tracks you want to use to calculate the keys using the TrackMap Window.

It's usually OK to select all tracks, using the **Check All** *Button* at the top of the **TrackMap** window.

Any percussion tracks or notes that have had pitchbend applied will be ignored by **CalcKeys** .

Click the "Calc Keys" Button on the TrackMap

This will bring up the **CalcKeys** window, which contains a table of calculated keys for each bar.

There are a number of options on here for fine tuning how the keys are calculated. However, the default options work very well for most midifiles.

The column labelled with an **Inertia** of '90' will be used by default, and is usually the most accurate. You can select another inertia by using the **Inertia** option buttons.

(Note: the higher the inertia, the less frequently the key is likely to change.)

Generate the Keys

Click the **Apply** or **Apply and Close** *Button* to generate the keys (and close the window).

Further Information

More information about using the **CalcKeys** window can be found <u>here</u>.

How To Update Keys and Modulate

This shows you how to update the keys of a **ChordFile** manually. This can be used instead of, or after using <u>CalcKeys</u>.

It does not change any of the chords of the **ChordFile**, except possibly the harmonic spelling of chord root notes (e.g. C# may be switched for Db).

Use presented by the second project of the s

ChordFile and follow the prompts to create an empty **ChordFile**. You can either:

Jse **PlayMap Menu > File > New Project** to load a new Project and ollow the prompts to create an empty **ChordFile**.

Update Keys

If you click anywhere in the **Keys (Names)** or **Keys (Notes)** pane of the **ChordMap** window, a context-sensitive submenu will appear. This will allow you to change or remove an existing key, or add a new key. All keys must be on a bar.

If the source you are using for your keys and chords is transposed relative the MidiFile or AudioFile, you should enter the keys in the **Keys** (Names) pane. Otherwise, you can enter the keys in either the **Keys** (Names) or **Keys (Notes)** pane. Either way, both panes will be updated together.

The **ChordMap** provides functions for transposing the chord names and keys, the chord notes and keys, or just the keys. This allows you to transpose the chord notes and keys at any time.

Save Keys

Keys will be saved when the **ChordFile** is saved using the **Save** or **Save** As *Button* in the **ChordMap**.

How To Update Time Signatures

The **ChordMap** provides a way of updating time signatures in a **ChordFile**.

Generally, it is a good idea to make sure the time signature(s) of the music are correct before inputting any chords or lyrics, or synchronising audio. If you are using a **MidiFile**, the time signatures will be copied from there. You should only then need to update the time signatures if they are incorrect.

Open the ChordMap window

Click the **ChordMap** *Button* from the **PlayMap** or **TrackMap**. If you haven't loaded a **ChordFile**, a window should be displayed to create a new **ChordFile** with a maximum number of bars. Click **OK** to proceed.

Update Time Signatures

If you click on anywhere in the **TSig** pane of the **ChordMap**, you will get a **Sehu Sig d p d a i f i g d p d a i f i m e** signatures.

This hangentaregionation e of a matheightantes, use who added the end absolute approximation (ticks) of chords or pitches.

The Intime signature shefter I the inguise brown and termils be replaced with the new time signature.

Change TSigs in Selected Area

Change the time signature(s) in the selected area to the new time signature.

If the new time signature does not fit the selected area exactly, a filler bar will be inserted. This should ensure that any bars after the selected area remain the same.

If you try to put a new time signature into a selected area that is too small, you will get an error message.

Remove TSigs from Selected Area

Remove time signatures from the selected area.

This will shift any time signatures after the selected area towards the start, by the number of bars in the selected area.

Insert TSig in Selected Area

Insert a new time signature at the start of the selected area. The time signature of the new bars is selected from a drop-down list.

This will shift any time signatures after the selected area towards the end, by the number of bars in the selected area. Any time signatures moved beyond the end will be deleted.

Change Song Length

Brings up a window to change the length of the song.

This will only be active if there is no MidiFile associated with the project.

Notes

Time signature changes can be undone or redone using the **Undo** and **Redo** *Buttons* at the top of the window.

The position of chords (midi ticks) will not be changed after updating the time signatures. This means if a chord was aligned to a bar, it may no longer be aligned after updating a time signature. Regenerating the chords may produce a better alignment to the new bars.

Any lyrics or audio synchronisation that has already been done for the current project will need to be redone if a time signature is changed.

How To Play Chords along with a MidiFile

If you haven't already done so, load a Project containing a **MidiFile** and a **ChordFile**

(See <u>How to Generate Chords from a MidiFile</u> or <u>How To Insert Keys</u> and <u>Chords from An External Source</u> to find out how to create a ChordFile.)

Open The PlayMap

This shows the current position in the **MidiFile** in a display that shows the generated chords rolling downwards as the music progresses. This makes it easier to improvise and play along with the **MidiFile**.

If possible, you should try to locate your keyboard below your computer screen, and resize the **PlayMap** so that your keyboard keys match the **PlayMap** display.

Choose which Method you want to use

There are 3 ways you can play chords: **KeyboardMode, ChordMode,** and the **KBChord SwitchKey**. These are explained below.

Whichever method you choose to use, you should click the **Play Midi** *Button* on the **PlayMap** to start playing the **MidiFile**, or the **Play Audio** *Button* to start playing a synchronised audio file. You can then use the midi keyboard to play along to it.

Play Chords using KeyboardMode

With **KeyboardMode**, the pitches that would normally play on a midi keyboard are played, subject to any transposition that may be set.

Play Chords using ChordMode

With **ChordMode**, the white notes of the keyboard are mapped to the current chord notes. This is easier to play, but does not allow non-chord notes to be played.

The current chord changes as the **MidiFile** is played. If a null chord is

found, it will play the previous chord (if present).

If the first chord in the **ChordFile** is a null, nothing will sound until a nonnull chord is reached.

Play Chords using KBChord SwitchKey

Set the Mode to **Keyboard Mode.** Then go to the **PlayMap Menu > Configure > SwitchKeys**/Pedal.

This will open up the **SwitchKeys** window. Here, you can select the dropdown menu KBChord and set it to a **SwitchKey** or sustain pedal. **SwitchKeys** are actioned from the bottom octave of your Midi keyboard, or the sustain pedal.

When the **SwitchKey** or sustain pedal is pressed down, your Midi keyboard will play the nearest chord note to the note played. If you are already playing the nearest chord note, it will play the next one up or down.

You can play block chords or arpeggios. However, if you play an arpeggio, you should keep the midi keys pressed down until you have finished playing the chord.

This will allow you to play chords when the **SwitchKey** is down, or nonchord notes when it is up.

The current chord changes as the **MidiFile** is played. If a null chord is found, it will play the previous chord (if present).

If the first chord in the **ChordFile** is a null, it will play the keyboard notes without change.

How To Improvise a Melody along with a MidiFile

The main idea here is to improvise a melody using the chords generated (or inputted) into this application.

The **PlayMap** makes this easier by displaying the chords, with note names or sol-fa notation, in a horizontal Midi Keyboard display. With practice, you can improve your improvisation skills by playing the chord notes and passing notes in different ways.

If you haven't already done so, load a Project containing a **MidiFile** and a **ChordFile**

(See <u>How to Generate Chords from a MidiFile</u> or <u>How To Insert Keys</u> and <u>Chords from An External Source</u> to find out how to create a ChordFile.)

Open The PlayMap

The **PlayMap** shows the current position in the **MidiFile** in a display that shows the generated chords rolling downwards as the music progresses. This makes it easier to improvise and play along with the **MidiFile**.

If possible, you should try to locate your keyboard below your computer screen, and resize the **PlayMap** so that your keyboard keys match the **PlayMap** display.

Select a Play Mode

There are two play modes available KeyboardMode and ChordMode .

These can be selected using the option buttons on the left-hand side of the **PlayMap**, or from a **SwitchKey**.

In both cases, the **PlayMap** will display the notes matching the pitches that will be played by the appropriate key on the Midi keyboard.

Keyboard Mode

With **Keyboard Mode**, the normal pitch from the Midi keyboard (subject to any transposition or octave shifting that you may have set) will be played. This gives you the freedom to play any notes, using the **PlayMap**

as a guide.

Notes of the scale of the current key are shown on the bottom line. Chord notes are shown in a different colour on the lines above.

Chord Mode

With **ChordMode**, only the notes of the current chord on the white keys are played. This is easier to play, but does not allow non-chord notes to be played

How To Choose a Type of Audio Synchronisation

Instead of playing to a **MidiFile**, you can play to an audio source, which can be either an **AudioFile** (e.g. MP3) or a live stream.

In order to do this, you have to synchronize the midi data (chords) with the audio source. This can be done before playing the audio source (file synchronisation), or whilst it is being played (live synchronisation).

You can then play to the audio source in the same way as you would play to a **MidiFile**.

Choosing File Synchronisation

File Synchronisation is easier to set up and use, and is the preferred method by default.

The **AudioFile** is played by this program, and synchronisation is performed using the actual position in the file (bytes).

Choosing Live Synchronisation

If you want to play to a live source, or a source that cannot be reproduced, you can use live synchronization. <u>How To Sync to an AudioFile</u> This requires you to synchronize the midi data (chords) whilst the audio is being played Along with Live Audio

How To Play Along with an AudioFile See also:

How To Sync to an AudioFile

This explains how to sync to an **AudioFile** that will be played by this program.

Load a Project

This should contain at least a **ChordFile** (*.chp) and an **AudioFile** (*.mp1, *.mp2, *.mp3, *.wav, *.riff, *.aiff, or *.ogg).

The **AudioFile** should be an approximate match to the **ChordFile**. This means it should have the same rhythm and structure, but doesn't need to be in the same key.

The **ChordFile** can be created from a **MidiFile** (see <u>How To Generate</u> <u>Chords from a MidiFile</u>), or an external source (see <u>How To Insert</u> <u>Chords from an External Source</u>.

Setup the Sync SwitchKey

Goto PlayMap Menu > Configure > SwitchKeys/Pedal.

Set the **Sync** dropdown box to a **SwitchKey** or Pedal.

Position the ChordFile to a Cue Point

You can use the **TrackMap** or **ChordMap** to do this. However, you will need to cue to somewhere you will recognise in the song (e.g. when a solo or vocal starts) that is on a barline.

If you have created a lyric file (*.chl), you can use the **TrackMap** or **ChordMap** to show the lyrics, and use them to help find a good cue point.

Otherwise, it's usually easier to use a solo track on the **TrackMap** to find a cue point.

Set the current cursor (vertical bar) in the **TrackMap** (click in any **Track** pane) or **ChordMap** (click in body of **Midi** pane) to wherever you want the song to start playing (usually at the start). The bar will be highlighted in red.

Click inside the **Bar Pane** of the **TrackMap** or **ChordMap** with the left mouse button to set the cue position. This is where you will start synchronising from. This must be somewhere after where you set the song to start playing from.

Sync to the AudioFile

Click the **Record Audio** *Button* on the **TrackMap** or **ChordMap** to start playing the AudioFile. Then hit the **Sync SwitchKey** (or Pedal) when the cue point is reached.

Continue to hit the key on every beat until the end.

Hit the **Stop Play** *Button* to end the sync.

The sync data will be saved in the AudioSync Record Track. The Play Track will not be updated until you use Copy or Merge from the AudioSync window.

Save the Sync Data

The AudioSync Record Track contains the last sync that you recorded.

If you want to save or play this, you will need to merge or copy it into the **AudioSync Play Track.**

Open the AudioSync window from PlayMap Menu > File > Show AudioSync Window

Click the **Merge Record To Play** *Button*. If you get an error message, it means you are trying to merge data that is not in sequence. You will have to either use **Copy Record To Play** or re-record the sync data.

You can the use the **Save Play to File** *Button* to save the sync data to a .chtc file.

Partial Synchronisation

If you want to synchronise from somewhere other than the start (e.g. to correct a mistake, or continue from where you left off), you can set the current cursor on the **TrackMap** or **ChordMap** to a bar that has alreay been synchronised. You should then set the Bar Pane cursor (left mouse button) to somewhere after this, but in a region that has still been

synchronised. Then click the **P & R Audio** *Button* on the **TrackMap** or **ChordMap**.

This will start playing from the current cursor position, but pause when you reach the Bar Pane cursor to allow you to use the synchronize switch key to start synchronising.

Bar Pane Cursors

This is normally set by clicking the left mouse button over the **Bar Pane** in the **TrackMap** or **ChordMap**. However, you can also use the right mouse button to set a different cursor.

If set, this will be used to set the set the position in the MidiFile after hitting the **Sync Switchkey** during playing with **P & R Audio**. This has the effect of jumping the MidiFile position during audio play. This is useful if there are bars in the MidiFile that are not present in the AudioFile. rou can't create a **ChordFile** directly from an **AudioFile** - you will need to to this from a **MidiFile** that approximately matches the **AudioFile**, or HowarTexRelaxielong with an eAudioFile or Stream

You can play along to an **AudioFile** (MP3 etc) in a similar way to a you can t mute tracks as you can with a **MidiFile**. However, you may be **MidiFile**, but with some important differences: able to download backing tracks that usually allow you to mute or solo audio tracks.

You will need to synchronize the midi data (chords) to the **AudioFile** Ising the synchronisation function, or synchronise as you play along. _ive Synchronisation

Choose a Synchronisation Method Use How to Choose a type of Audio Synchronisation to choose You can synchronise to the audio stream in one of two ways: between the two methods above.

If you choose Live Synchronisation, you should go to the <u>How To Play</u> <u>along to Live Audio</u>.

Otherwise, you will need to create a sync file using <u>How to Sync to an</u> <u>Audio File</u>, and then follow the steps below.

Setup the Sync SwitchKey

Go to PlayMap Menu > Configure > SwitchKeys/Pedal.

Set the **Sync** dropdown box to a **SwitchKey** or Pedal.

Load a Project

This should contain a SyncFile (*.chtc). It should also contain a **ChordFile**(*.chp) if you want to play chords.

After loading the Project, the **Play Audio** *Button* on all playable windows (**TrackMap, ChordMap and PlayMap**) will be activated if a SyncFile has also been loaded.

Start Sync Play

Click The **Play Audio** *Button* on any playable window (**PlayMap**, **TrackMap**, **or ChordMap**). The AudioFile should start playing from the current cursor position on the **ChordMap** or **TrackMap**.

(If the AudioSync Window is open and the option to Start from Position

Time is enabled and checked, it will start from the Time on the **Position** *Slider*.)

The position will be updated on all visible playable windows as the **AudioFile** plays, and you should be able to use the **ChordMap** to play along with it in the same way as you play along with a **MidiFile**.

Transposition and Tuning

If the ChordFile is in a different key to the Audio File or Stream, you will have to use transposition to match it. One way to do this is to set the **KBPitch** on the **PlayMap** to the number of semitones to match the audio file. You can also use the transposition functions of the **ChordMap** to achieve similar results.

In the unlikely event that the Audio File or Stream is not tuned to standard pitch, you may have to alter the fine tuning using the <u>Midi</u> <u>Configuration Window.</u> This will change the pitch of all notes played on the keyboard or midistream by up to one semitone. Mour com play along with other musicians or an audio stream without synchronising the midi data (chords) beforehand.

You can either use the **Next Beat/Next Bar SwitchKeys**, or **Manual Chord Sync Positioning**.

Whichever method you intend to use, it will help if you can keep track of where you are in the music as it is being played. This can be achieved either by showing the lyrics, or by displaying at least one recognisable midi track from the MidiFile. You should, therefore, ensure the **PlayMap** menu item: **Window > Map** is checked. This will show the lyrics (if present), and it will also allow you to display at least one recognisable track (by selecting a track in the **Track Selection Window** on the upper left hand corner.) See **PlayMap** for more information.

Using the Next/Prev Beat/Bar/Chord SwitchKeys

With the **Next Beat**, **Next Bar**, or **Next Chord** SwitchKeys, you will need to hit the **SwitchKey** as each bar, beat, or chord is reached.

It is usually preferable to use just one of these SwitchKeys, depending on your personal preference. The **Next Beat** SwitchKey is the easiest to use, but can get a bit tiring after a while. This is similar to synchronising an audio file (see <u>How to Sync to an AudioFile</u>), except you will be synchronising as you play the chords.

The **Next Bar** SwitchKey is only really useful if all chords are aligned to a bar.

The **Next Chord** SwitchKey is probably the most useful, as long as you remember to hit the SwitchKey each time a chord is reached (even if you don't actually play it.)

All of the **SwitchKeys** work on the same principle - you hit the SwitchKey to move on to the next beat/bar/chord. However, you can play the next chord just before or after hitting the SwitchKey if it coincides with the SwitchKey. This is because the SwitchKey will be set up to play the next chord when the previous SwitchKey is released. The display will change when the SwitchKey is played. This might sound a bit complicated, but it seems to work quite well in practice, as long as you keep the SwitchKey pressed down until just before the next MidiKey is played.

Setup Next Bar/Beat/Chord Sync

The ManSync Chord Positioning CheckBox should be unchecked to ensure you are using the Next Bar/Beat/Chord SwitchKeys.

Setup the SwitchKeys

Go to PlayMap Menu > Configure > SwitchKeys/Pedal.

Set the **Next Beat**, **Next Bar**, or **Next Chord** dropdown box to a **SwitchKey** or Pedal. It is recommended to use only one of these SwitchKeys at a time.

Optionally, you can set the Prev Beat, Prev Bar, or Prev Chord

dropdown boxes to another **SwitchKey** or Pedal.

Load a Project and Play

You will need to load a Project containing a **ChordFile** that matches the audio that you want to play along to.

You should then set the current cursor to where you want to start playing from. If you are playing an audio file using the **Play Audio NoSyn** *Button*, it will start playing at the start unless you have set another start position from the <u>AudioSync Configuration Window</u>.

Once the audio source has started playing, you should wait for it to reach the cue point, and then hit the **Next Beat (or Next Bar) SwitchKey**.

You can now play the first chord from the cue point.

Continue hitting the **SwitchKey** when the next beat/bar/chord is reached, whilst playing the chords.

Chords are normally aligned to a beat, which will coincide with a **SwitchKey**. However, it doesn't matter if the chord is played just before or after the **SwitchKey**, as it will be ready to locate to the chord after the previous **SwitchKey** is released. If you are playing a slow song, or using the **Next Bar** or **Next Chord** SwitchKey, make sure you don't release the **SwitchKey** too early!

If you lose your position in the song, you should try to go forward quickly to a point in the music you can recognise, and wait to start playing again. If you need to go backwards, you can either wait for the music to catch up, or use a **Prev** SwitchKey to to get back to the current position.

Using Manual Chord Positioning Without SwitchKeys

This allows you to move to the next chord when required without using a Switch Key. It takes more time to setup and get used to, but it allows you to play the chords with one hand only. It works best when you want to **Single White Key to accompany** the music with.

It is configured using the Manual Chord Sync window. Vext Chord if All Black: Unchecked The recommended settings on the Manual Chord Sync Window are: Vext Chord if All White: Checked

Set ManSync Chord Positioning

The ManSync Chord Positioning *CheckBox* should be checked to ensure you are using chord positioning (as opposed to Next Bar/Next Beat SwitchKeys).

Set KBChord Mode

These settings will be set automatically if the **ManSync Bar/Beat** *CheckBox* is changed from checked to unchecked on the **Miscellaneous Configuration Window**.

In order to use manual chord positioning, you should set the **Play Mode** to **Keyboard**, and the **KBChord** *Checkbox* should be checked. These are present in the **PlayMap** Controls Window. (**KBChord** can also be set with a **SwitchKey**.) The **PlayNotes per Chord** *CheckBox* in the **Miscellaneous Configuration** Window should be left unset.

Load a Project and Play

You will need to load a Project containing a **ChordFile** that matches the audio that you want to play along to.

You should then set the current cursor to the cue point where you want to start playing from. This should be at the start of a non-null chord. If you are playing an audio file using the **Play Audio NoSyn Button**, it will start playing at the start unless you have set another start position from the **AudioSync Configuration Window**.

Once the audio source has started playing, you should wait for it to reach the cue point, and then play the chord exclusively using the white notes or black notes of the keyboard. The position will move on to the next chord if white notes are played, and the option **Next Chord is All White** is checked, or if all black notes are played, and the option **Next Chord is All Black** is checked. The first chord should be played with a combination of notes that does not involve repositioning.

if you want to reposition without playing a chord, use a single key. It will perform the action set according to the option selected in the **Single Black Key** or **Single White Key** options in the <u>Manual Chord Sync</u> Window.

Any null chords are skipped over during repositioning.

Single Black Key: Next Chord Single Black Key: No Action Single Black Ke Midi Keyboard (input)

Sequere Midi Revices

This is used to configure Midi Input and Output devices Midi Keyboard (output) There are three devices that can be configured here:

The Midi Keyboard input device should be set to your midi keyboard

The output devices can be set to a Midi Synthesizer that is external to this application, or to the Built_In synthesizer that is provided by this application.

If you set the output devices to the same external synthesizer, you will have to ensure that any midi keyboard output is set to a midi channel not used by the output stream. If you set the output devices to the built-in synthesizer, they will use different ports, so all channels can be used on both devices.

The synth packaged with Windows (Microsoft GS Wavetable Synth or similar) is not recommended. This is poor quality, and introduces a latency (delay) that will be noticeable even if the sound card delay is small.

If you use the Built_In Synth, and the audiocard is connected, a panel will be displayed to allow the soundfont, volume, tuning and FX effects to be set.

The soundfont dropdown list shows all the soundfont files found in the soundfonts path. The list can be changed using **PlayMap Menu > Configure > Paths > SoundFonts**. You will need to redisplay the Midi Config window for the update to take effect.

The selected soundfont will be loaded on Connect/Reconnect. If there are no soundfont files found, you will be prompted to select a new soundfonts path.

Changes will be actioned after the Connect/Reconnect button is clicked, and will be saved using the **PlayMap Menu > File > Save Settings**, or clicking **Save Settings and Exit Program** option when exiting the application.

A description of the controls used in the Midi Devices Configuration Window can be found <u>here</u>.