MIDI Converter Overview

for v1.0.1

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Introduction

Koreographer's *MIDI Converter* is a powerful tool that can enhance your workflow when generating Koreography for your music. The technology works by reading musical information (timing and more) stored in a MIDI file and converting some of it directly into Koreography information and events. Depending on the scope of your Koreography, this tool can potentially save you hours of initial setup.

Overview

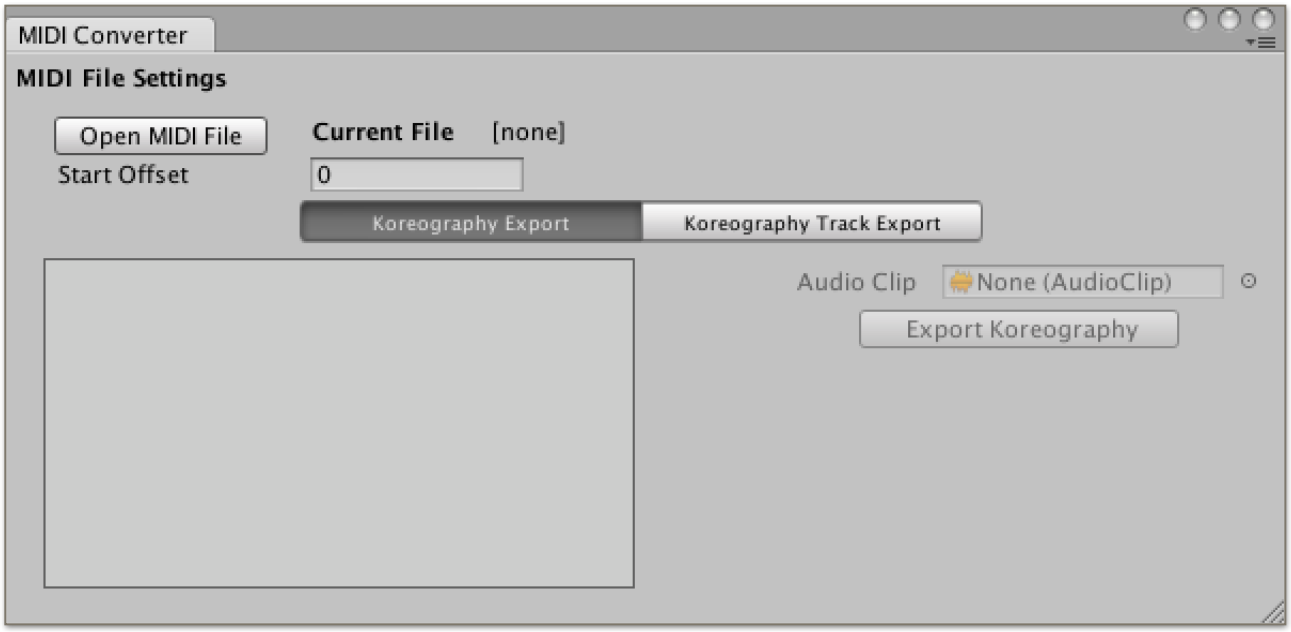
Startup

To access the MIDI Converter:

1. Select **Audio Tools** from the Unity menu bar.
2. Select **MIDI Converter**.

This will open the following window:

The MIDI Converter window is separated into three distinct areas:



The MIDI Converter

1. MIDI File Import
2. Koreography Export
3. Koreography Track Export

These will be discussed in more detail in the following sections.

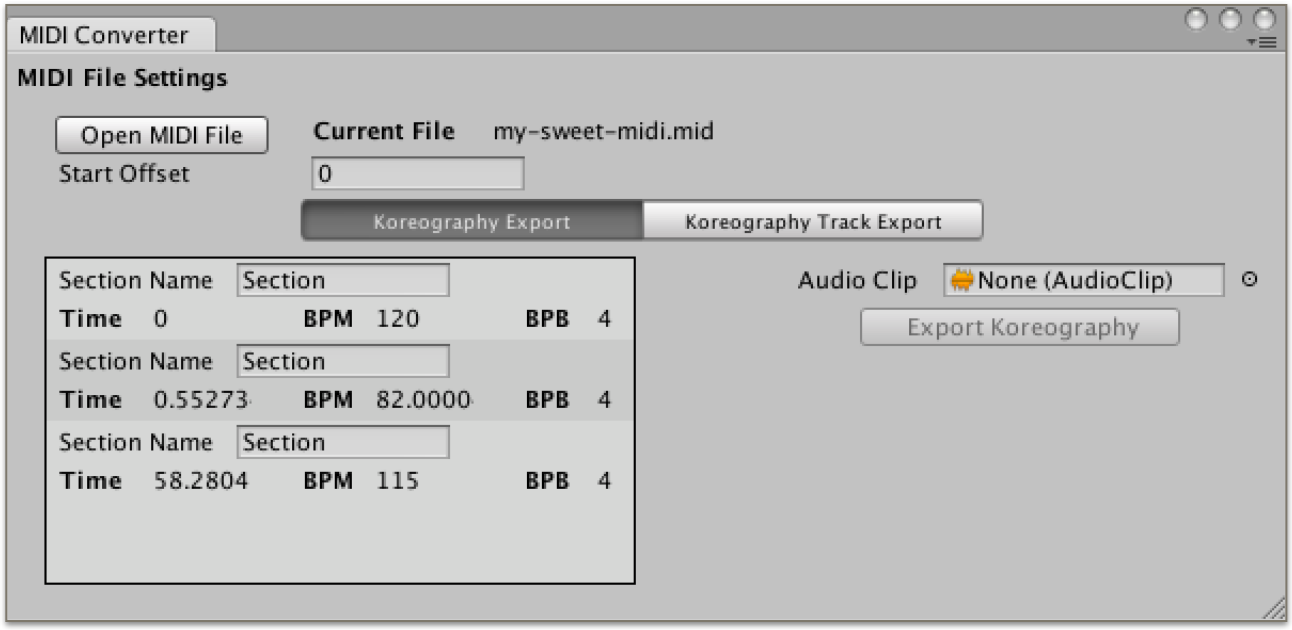
MIDI File Import

The *MIDI File Import* section allows you to specify the target MIDI file that contains the information you wish to convert into Koreography data.

To begin working with the MIDI Converter you must first import a MIDI file by clicking the **Open MIDI File** button. Navigate to your MIDI file, select it, and press **Open**. The MIDI Converter will open the MIDI file, parse it, and fill in the following sections.

> **Note:** Not all MIDI information is currently recognized by the MIDI Converter. Please see the *MIDI Data Usage* section for details on recognized MIDI information.

Once the file is opened it will be specified in the **Current File** field.



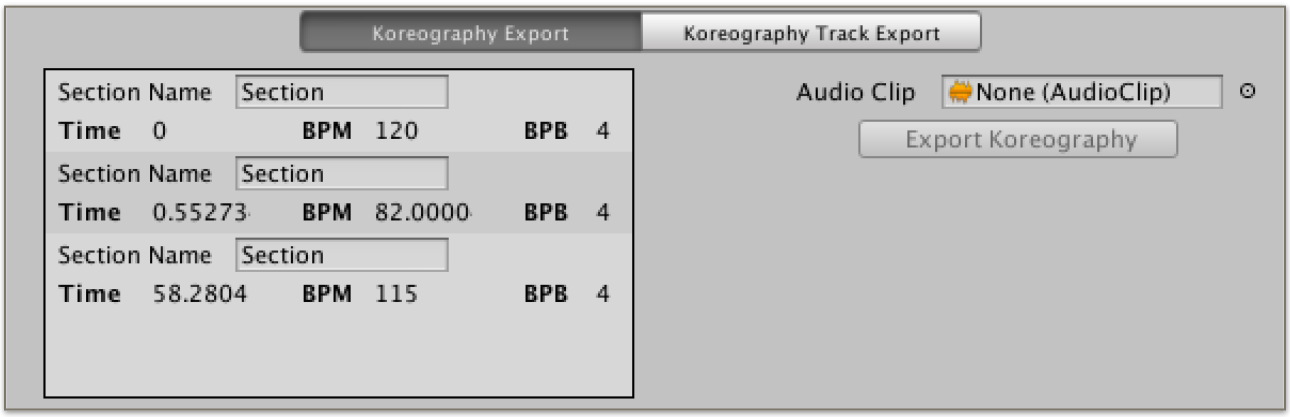
After opening a MIDI file

The **Start Offset**, visible below the **Open MIDI File** button, allows you to specify a global timing offset for Tempo Sections in the exported Koreography and all exported Koreography Events. This is useful if your music project was exported from your DAW with silence that was *added* during the export process.

Koreography Export

The *Koreography Export* section allows you to convert tempo information found within the MIDI file to Koreography tempo information and associate it with an Audio Clip.

Once the MIDI file is opened any *Tempo Map* information (Tempo and Time Signature) found will be presented as a scrollable list (the scrollbar will only appear if needed).



The Tempo Map and Koreography settings

Upon export the *Tempo Map* information will be converted into Koreographer *Tempo Sections*. A new section is created any time either the tempo [Beats Per Minute] or time signature [Beats Per Bar] change. Prior to export you may modify the name of each tempo section.

In order to export a Koreography asset, you must specify the **Audio Clip** that the loaded MIDI file is associated with. This is required because the export process uses the sample frequency specified in the AudioClip object to calculate the sample timing of each of the exported Tempo Sections.

Once the Audio Clip is specified, the **Export Koreography** button will become enabled. To export Koreography:

The Audio Clip field and the Export button

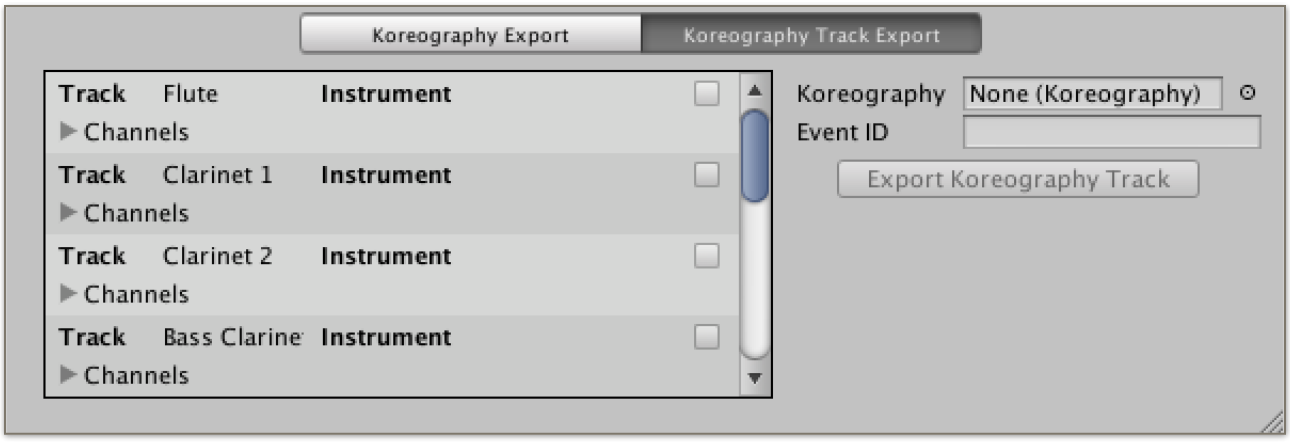
1. Click the **Export Koreography** button.
2. Specify a name and location for the new asset.
3. Click the **Save** button.

You may now open this Koreography in the **Koreography Editor** and modify the Tempo Sections or add Koreography Tracks.

Koreography Track Export

The *Koreography Track Export* section allows you to specify which of the supported MIDI musical event information you would like to convert into Koreography Events (which are contained within a Koreography Track).

Once the specified MIDI file is opened and parsed any *Note* information found within MIDI Tracks and their Channels will be presented as a scrollable list.



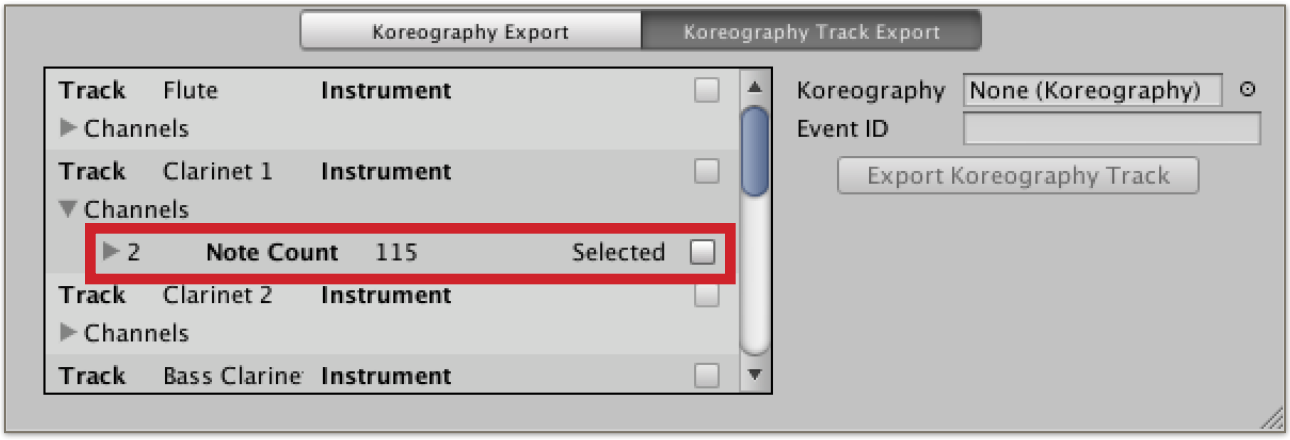
MIDI Track info and Koreography Track settings

Depending on the environment that generated the MIDI file, the **Track** and **Instrument** name fields may or may not have any content in them (or they may be identical). In this example, no instrument name was included in the loaded MIDI file.

Note: The MIDI **Track Name** and **Instrument Name** data is not currently exported in any way; it is for informational and organizational purposes only.

The checkbox that appears to the right of the **Instrument** shows if content within the given track has been selected for export or not (see below).

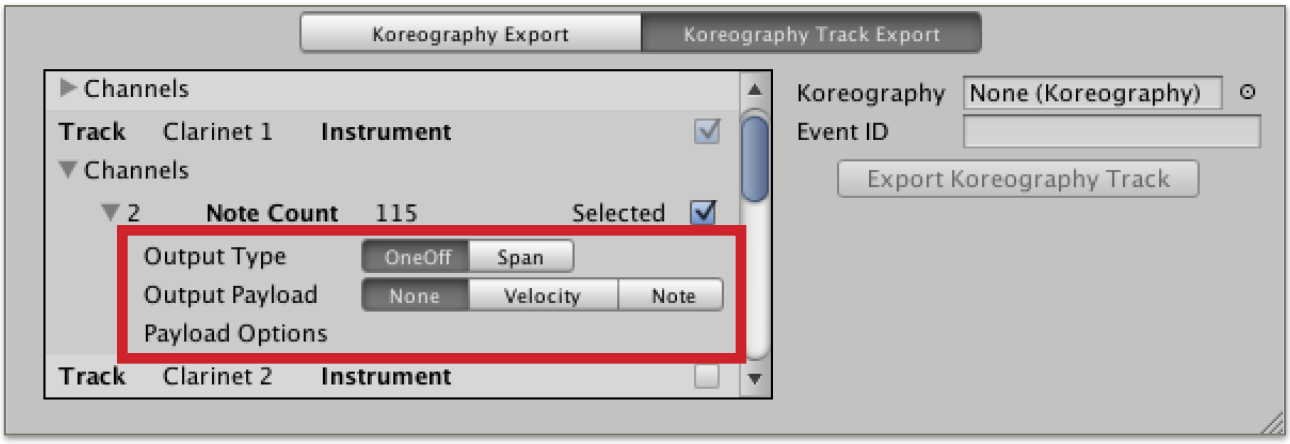
Each MIDI Track may contain up to 16 discreet channels of music event information. Click the dropdown (▶) to display the channels found in a given track.



Displaying MIDI channel information for a track

Each channel shows the MIDI channel number, the number of notes detected in the channel (based on MIDI **Note On**/**Note Off** event information), and whether or not the specific channel is selected for inclusion during the Koreogrpahy Track export process.

You may specify how the MIDI Converter converts MIDI note information to Koreography Events on a per-channel basis. To do so, click the **Selected** checkbox and then dropdown (▶) to the left of the channel you would like to export.



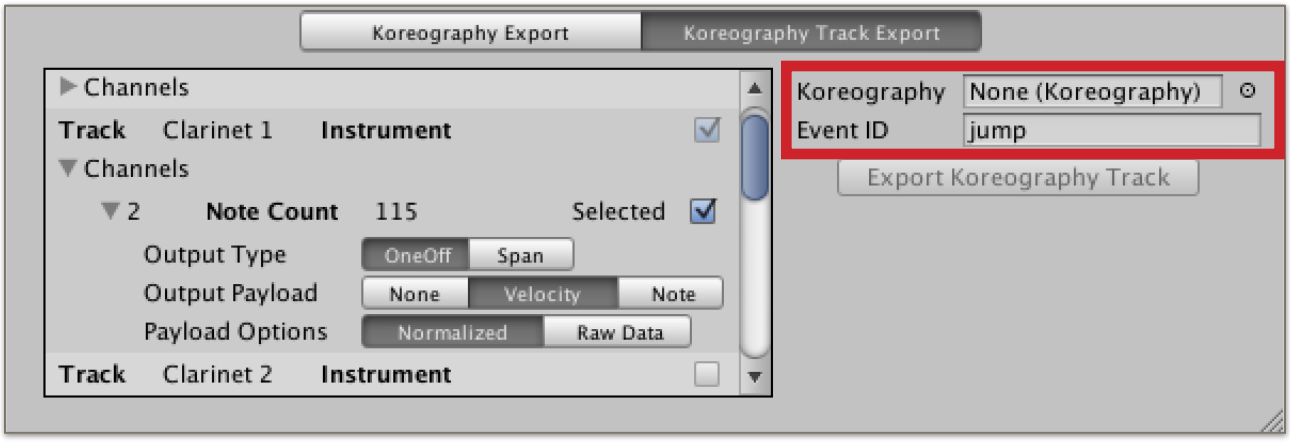
Per-Channel note conversion settings

There are three separate settings that you can adjust for event conversion:

1. **Output Type:** Whether events will be converted to *OneOff* or *Span* Koreography Events.
2. **Output Payload:** Whether or not to include a payload and, if so, which MIDI information to include (*Velocity* or *Note*).
3. **Payload Options:** Options available depend on the *Output Payload* settings.

Note: The **Payload Options** row will be empty when the **Output Payload** option *None* is specified.

The final configurable fields are **Koreography** and **Event ID**.



Event ID, Start Offset, and the Export button

Specifying the required **Koreography** object provides the MIDI Converter with enough information to generate the correct audio timings for Koreography Events on export. The MIDI Converter accesses the *frequency* (sample rate) setting of the AudioClip referenced in the specified Koreography. Further, the Koreography Track generated by the Export process will automatically be added to this Koreography.

Event ID is required and sets the Event ID of the generated Koreography Track. Event IDs must be unique within a single Koreography. If the specified Event ID already exists within the specified Koreography, the field will turn yellow and a warning message will appear to indicate that the Koreography Track reference within the Koreography with the specified Event ID will be overwritten with the new data upon export (the exported track will “take the spot” of the pre-existing one; no data will be destroyed).

Once the **Koreography** and **Event ID** fields are specified, and *at least one channel selected*, the **Export Koreography Track** button will activate. To export a Koreography Track with the given settings:

1. Click the **Export Koreography Track** button.
2. Specify a name and location for the new asset.
3. Click the **Save** button.

You may now open the **Koreography Editor**, load the new Koreography Track into Koreography or the specified Koreography itself, and inspect and modify the exported Koreography Events.

MIDI Data Usage

The MIDI Converter currently uses the following MIDI Messages and Events to generate Koreography:

- **Messages**
  - Note On/Note Off
- **Meta Events**
  - Sequence/Track Name
  - Instrument Name
  - Set Tempo
  - Time Signature

This list is likely to expand in the future based on user feedback.