Maestro Frankenstein | User Guide

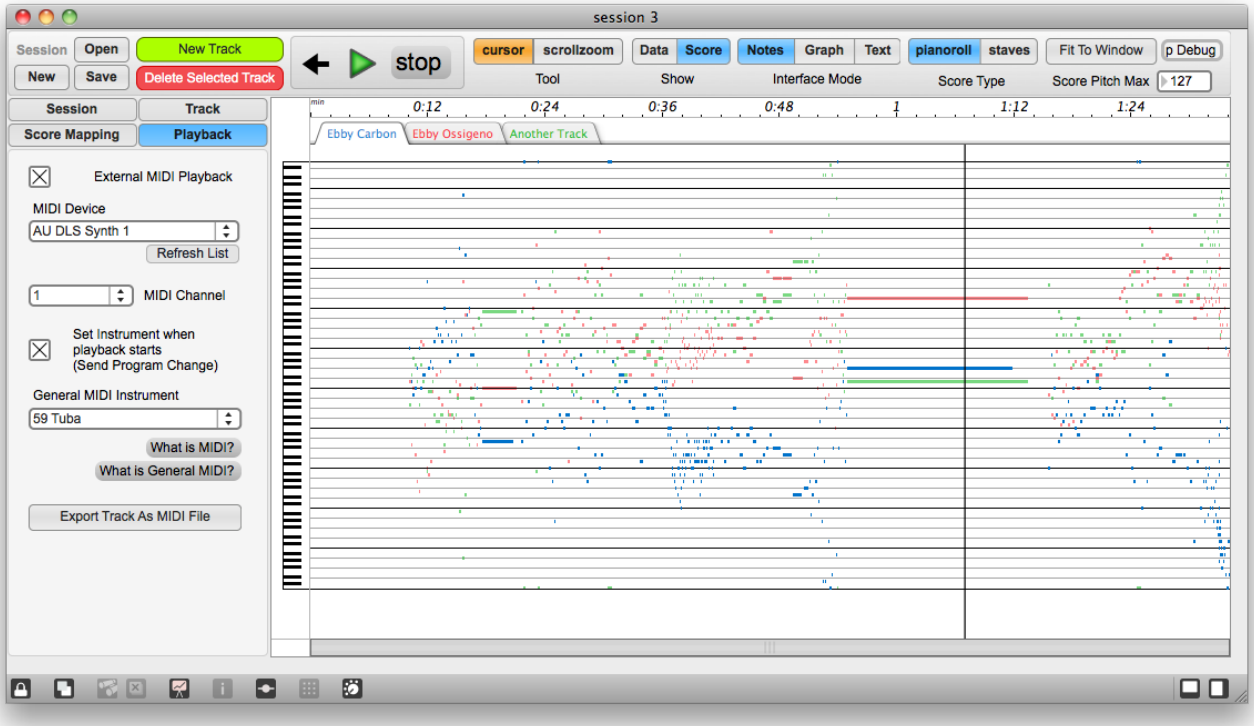
version 2.0 beta 2

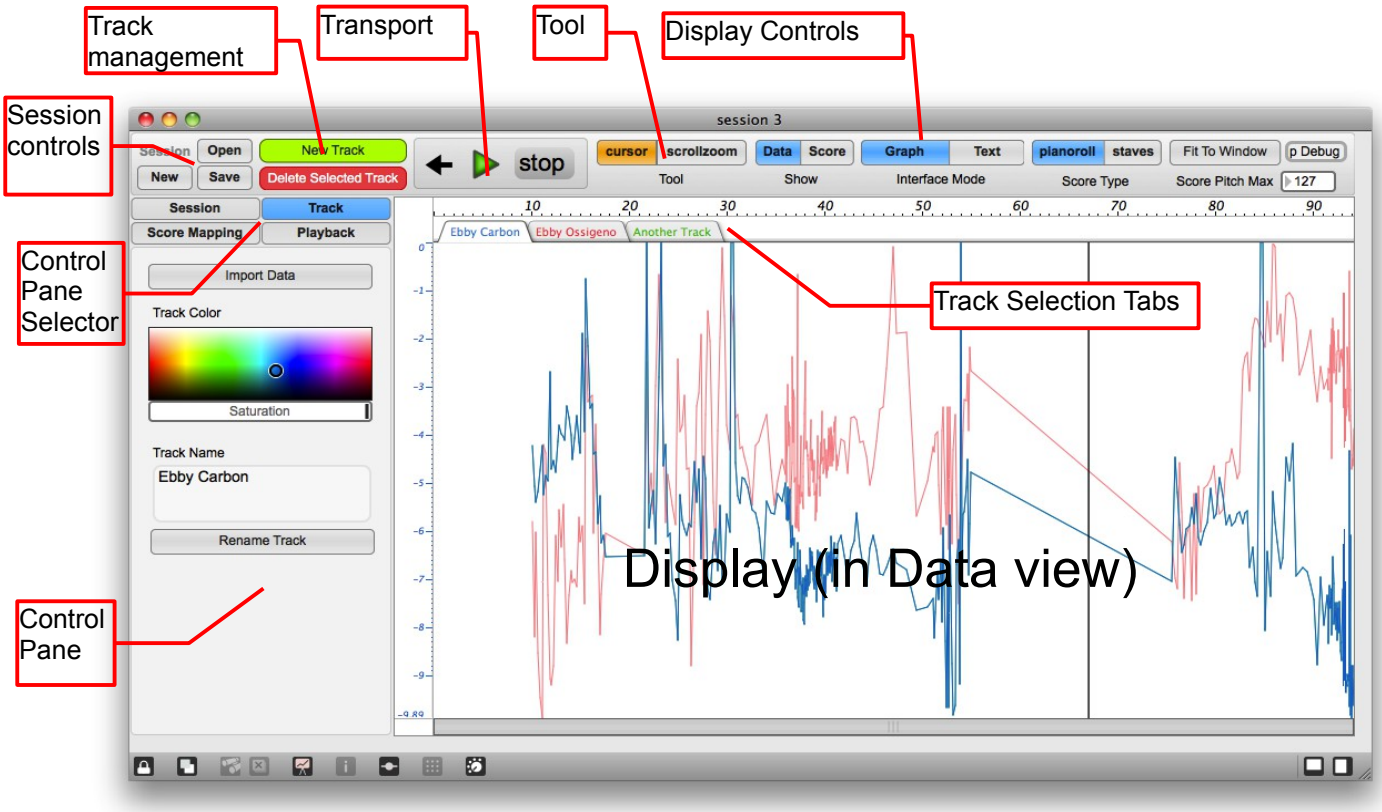
About

This is an early version of Maestro Frankenstein 2.0! It still probably has some bugs, and certainly has some inconsistencies in the interface still. It is also not feature-complete. But it should be good enough to play around with and make some geophonic music! Please let me know if anything is broken, if it crashes, or any other bugs you find.

Known Issues

- If you reverse score time, the data view does not reverse and therefore the cursor and domain (X) view bounds are linked improperly to the score – for instance, the cursor still moves forward instead of backward like it should, and it shows the wrong position. I'll fix this eventually.
- **If you quit the program, it will not yet ask you if you want to save your changes.**
- Menubar menus are still generic. Don't bother with them.
- On screens smaller than 1280×800 the UI may resize incorrectly.
- No Windows version yet.
- Probably lots of of unknown issues…





Interface

Main Window

This is the main window of Maestro Frankenstein. You can resize it in the lower right corner to enlarge the display.

Session Controls

- New: create a new session
- Open: open an existing session
- Save: save current session

Control Pane Selector

Choose which control pane to show. “Session” applies globally to the session. The other panes apply to the currently selected track.

Control Pane

Various controls for the session and tracks

Transport

Playback controls

- ← : Go to the beginning
- Play/Pause (also spacebar)
- Stop: in addition to stopping playback, this button takes you to the last place in the timeline that you started playback.

Tool

- Cursor: click on the display to set the playback start location.
- Scrollzoom: Drag anywhere in track display to scroll. Cmd-drag (Mac) or Ctrl-drag (Windows) to zoom. Hold Shift in addition to increase zoom or scroll rate.

Display Controls

- Show: Data or Score view.
- Interface Mode: different ways to look at your data or score
- Score Type: choose piano roll or pseudo-notation view for the score's notes view
- Fit To Window: fits all time (X) values within the visible display
- Score Pitch Max: highest score note that is displayed – will scroll score up and down. Useful mainly if viewing scores in juxtaposed layout on a smaller screen, otherwise leave at 127 (which is the highest note value available in Maestro Frankenstein).

Display

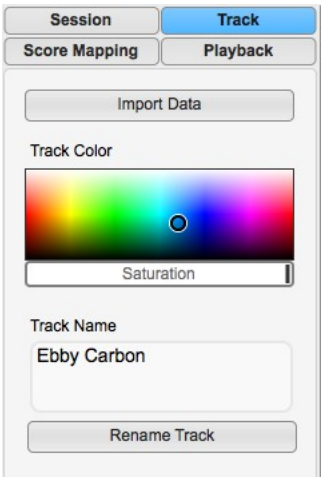
Shows the data or score.

- Click the tabs to select which track is active if you have more than one track open.
- X value/time is at the top.
- Scroll bar at the bottom. Cmd-drag (Mac) or Ctrl-drag (Windows) to zoom. Hold Shift in addition to increase zoom rate.

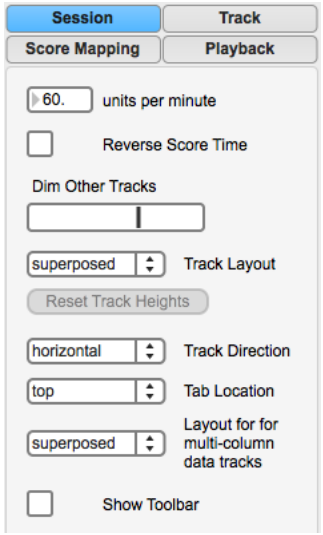
Tutorial

1. Get some data. You'll need to get it into Tab-delimited text format (not .CSV). Data must have two or more columns:
    - **Column 0:** Time or other independent variable. All values must be > 0 or the display will act strangely due to a bug in the FTM library beyond my control right now. If necessary, you could either add to a constant to your independent variable column, or multiply it by -1.
    - **Column 1:** Dependent variable
    - **Additional Columns:** Other dependent variables

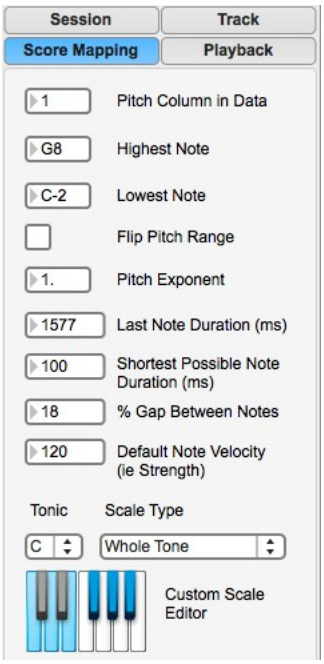
If your data is at a constant sampling rate and therefore only has one column, please use your software of choice to add a column of time values.



2. Open Maestro Frankenstein
3. Click “New Track”
4. You'll see the control pane on the left slide over to reveal the “Import Data” button. Click it and choose your data file.
5. The track will be named form the imported file name. To change the name, click “Rename Track”. You can also choose a color here for the graph/score to distinguish this track from others.
6. If you go to score view now, you will see a score! You can click to place the cursor and play some music. But it may not be what you want – so now we have to set up the parameters of data-to-score conversion.
7. Click the “Session tab” and set the units per minute you want you data to play back at and whether time should be reversed in the score (ie if your data is in Millions of Years Ago, you may want the resulting music to play back chronologically, rather than backwards through time).

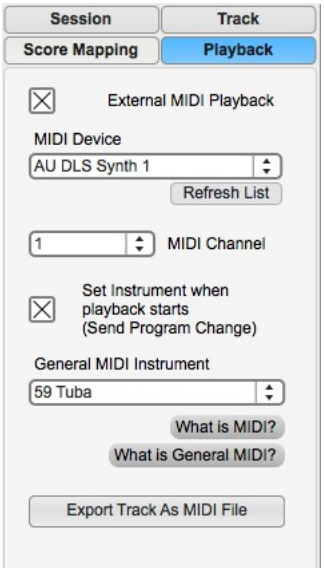


8. Click the “Score Mapping” tab to set how you want your data's Y values mapped to notes in the score. Set your desired note range, whether the data is inverted, duration parameters and musical scale. (You can even create your own scale by clicking on the piano keys). If the display is set to score view, you'll be able to see the score update as you make changes.
9. Click the “Playback” tab to set playback parameters. Right now only external MIDI playback is available.



   - Choose a device to send the notes to: If you're not sure what to do here, just leave it as “AU DLS Synth 1” in Mac. This will give you the standard assortment of General MIDI instruments. Maestro Frankenstein doesn't make sound itself – instead it sends MIDI note commands to another synthesizer. The default is the synth built into your operating system.
     If you want more sophisticated software instruments, there are many options – I suggest Apple's MainStage, which is now only $30 on the App Store. It has all the software instruments and effects from Logic, takes MIDI input from other software such as Maestro Frankenstein, and can record its own output.
     But the simplest (and cheapest) option on Mac is to simply export each track individually as a MIDI (.mid) file and drag and drop each one into a separate track in a Garageband session.

- Choose a MIDI channel: this will generally be done for you, but if you make more than 16 tracks (including ones you have deleted) you'll need to start managing this manually, since there are only 16 MIDI channels available for any given device. Additionally, if you are using the AU DLS Synth or any other General MIDI device, channel 10 will only playback drums, no matter what instrument you tell it to use. Don't ask me why they did that, but its in the MIDI spec.
- If you are using the AU DLS Synth or another general MIDI device, choose an instrument from the list. Otherwise, you may want to turn off “Set instrument when playback starts” if you are using a non-standard software synth.



10. Place your cursor in the score window and press play (or just hit spacebar). Be amazed at what you have just created!
11. You can create as many tracks as you like and import different data into them. If you want the data sets to play together they must, of course, overlap in independent variable (X) values so they will overlap in time in the music.

More Stuff

How to use Maestro Frankenstein's number boxes

The number boxes that Maestro Frankenstein inherits from the Max environment are pretty neat. To set the value of number or note name boxes you can either drag up or down on them, or click on them, type a value, then hit tab or return. For floating point number boxes (decimal numbers), the digit you click and drag on determines the speed of the dragging action – so if you start at the left, it will increment by integers and at the right by 10ths, 100ths or 1000ths, etc.

The Session Pane

Reverse Score Time

Note: at the moment, this renders the playback cursor location nonsensical in data view. It will still be correct in score view.

Track Layout, etc

The display is very flexible – play with these options.

The (Phantom) Toolbar

The toolbar is for advanced users only. The toolbar is a set of generic tools that will allow you to view and EDIT your data in various ways. Be careful - if you don't know what you're doing, you could accidentally be changing your original numerical data when using tools other than

the cursor or scrollzoom. But if this is your intention – have at it. Additionally, some of the data view types available in the toolbar will not make sense with the data in Maestro Frankenstein.

The Score Mapping Pane

Pitch Column in Data

Sets which column in the data file to use for note pitch, counting from 0.

Pitch Exponent

Distribute more notes to the upper or lower register of your pitch range. Values > 1 result in more low notes and values < 1 result in more high notes. 1 (the default) is linear mapping.

Last Note Duration

The duration of the last note is undefined, because there is no data point after it. So you get to set this manually.

Custom Scale

You can create your own custom musical scale by clicking on the piano keys. The scale will be transposed from C to the key set as Tonic, even though the piano keys shown are in the key of C. In other words, you can either 1) create a scale as if it were in the key of C, then choose your tonic to adjust the scale up by that many half-steps, or 2) create a scale as you want it and leave the tonic set to C so there is no transposition.

The Playback Pane

Mute

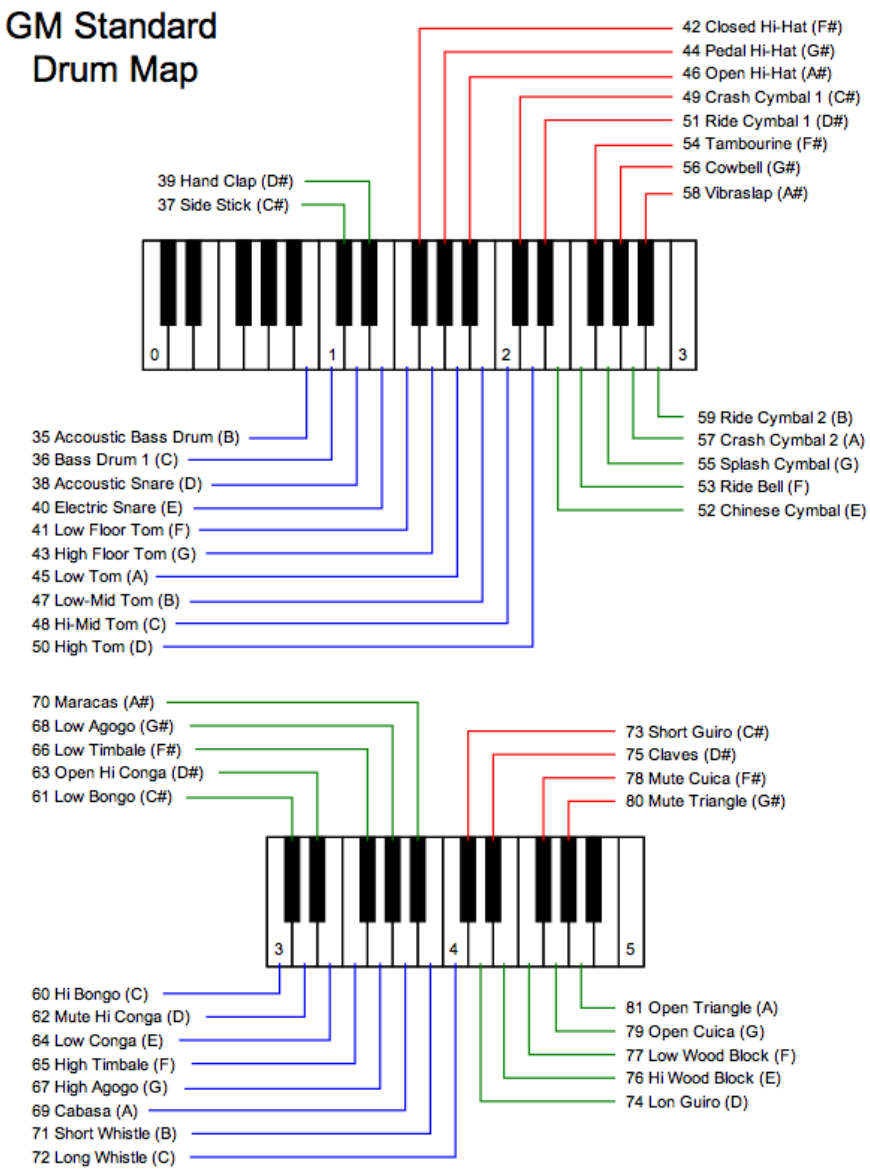
If you want to mute a track, simply de-select “External MIDI Playback” and the track will not play.

MIDI Export

If you have audio software such as Logic, Garageband, Pro Tools, DP or Cubase and want to work on your composition in a more serious environment, choose “Export Track as MIDI File” for each track. This button Exports the score of the selected track as a MIDI file, allowing it to be imported into any sequencer. A single note of the lowest possible pitch will be placed at the beginning of the MIDI file to assure that sequencers such as Logic do not remove any time before the beginning of the first actual note, so that multiple tracks you have exported will remain in sync when placed in your sequencer. You should delete these notes once your MIDI files are all imported and properly synchronized.

MIDI Channel 10

MIDI Channel 10 is drums only. Here is the mapping:



Display

Note that the Graph in Score view is different from that in Data view, because Y values are quantized to pitches in the scale you chose.

p Debug

If you are a curious, advanced user, you can double click this button, then click the button beginning with “set…” at the top of the resulting window to look at much of Maestro Frankenstein's internal memory, including all the session data. Just don't change anything unless we're troubleshooting and I tell you to :)