Santiago Barx
FILMSCORE

Graphical MIDI TOOLS

Version 2.1

Plug-in for Sibelius®

User's Manual

GMT version: 2.1

This manual release date: February 16, 2023

© Copyright 2018-2023 Santiago Barx Filmscore

www.SantiagoBarx.com

Special thanks to:

Joe M. Gomila - Composer

www.facebook.com/GomilaMusic

Windows® is a trademark of Microsoft Corporation. Mac®, Apple® and macOS® are trademarks of Apple Computer Inc. Sibelius® is a trademark of Avid Technology, Inc

Table of Contents

1 Welcome to GMT!

Congratulations on acquiring Graphical MIDI Tools (*GMT*). This plug-in combines Sibelius® scripting language *Manuscript* with a native/desktop application to create a **piano roll view window** of the score.

With GMT you can create more realistic MIDI mockups within Sibelius. Its interface will allow you to:

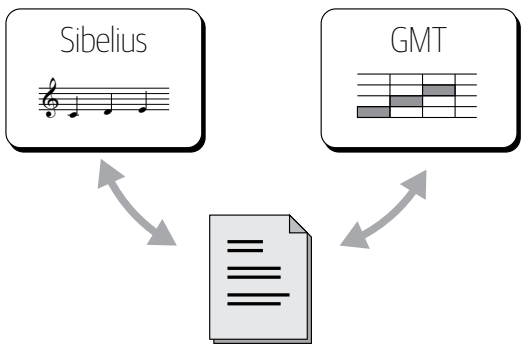
- Adjust the sound start and duration of notes.
- Edit note velocities.
- Draw your own automation curves for any MIDI continuous controller (CC) and pitch bend.
- Insert Phantom (hidden) notes that are performed on playback but do not alter the written score.

Behind the scenes: how it works

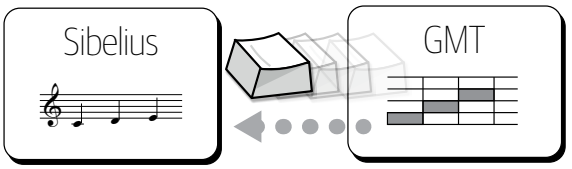
GMT uses Sibelius scripting language *Manuscript* to interact with a desktop application: the GMT's piano roll window.

By its nature, *Manuscript* can not communicate directly with an external application, but it can read/write text files.

The *Manuscript* plugin and GMT's piano roll use a text file to communicate with each other, sending and receiving messages (pretty much like in a chat).



When the GMT's piano roll wants to communicate back with Sibelius (to inform an edit has been done), it automatically sends a virtual key stroke (the key indicated as the plugin's shortcut key).



GMT simulates a keyboard stroke (the plugin's shortcut key) every time it needs to communicate with Sibelius.

This makes Sibelius trigger the *Manuscript* plugin, which reads the communication file and updates the score. All this process is done automatically and is transparent to the user, so you don't have to worry about it.

GMT online resources

We recommend you read this manual to get the most out of GMT. You can also find videos, additional resources, and the latest software updates in our official website.

www.graphicalmiditools.com

If you encounter any issues, please don't hesitate to contact support at:

support@graphicalmiditools.com

It's great to have you on board! We hope you enjoy using this plugin as much as we enjoyed creating it! So, without further ado, let's start graphical MIDI editing.

Santiago Barx
Composer and creator

2 Installation and Activation

Installing GMT involves two basic steps.

- First, **run the installer** which is included in the downloadable .dmg (on Mac) or .exe (on Windows)
- Next: assign a **keyboard shortcut** to the plugin

Step 1: Running the installer

Run the Graphical MIDI Tools 2 installer which comes with the downloaded .dmg (on Mac) or .zip (on Windows) file.

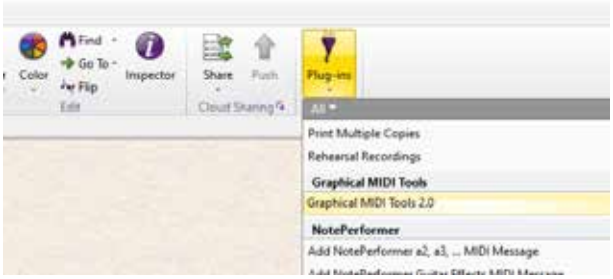
- **On Mac:** double click on the **Graphical MIDI Tools 2.x.pkg** to run the package installer.
- **On Windows/PC:** double click on **Graphical MIDI Tools 2.x installer.exe** to run the install wizard.

Complete the package installer (Mac) or setup wizard (PC):

The Graphical MIDI Tools 2 package Installer (Mac)

b. Once the installer process is completed, open Sibelius.

You should see the "Graphical MIDI Tools 2" option added to the "Plug-ins" menu (in the "Home" tab).



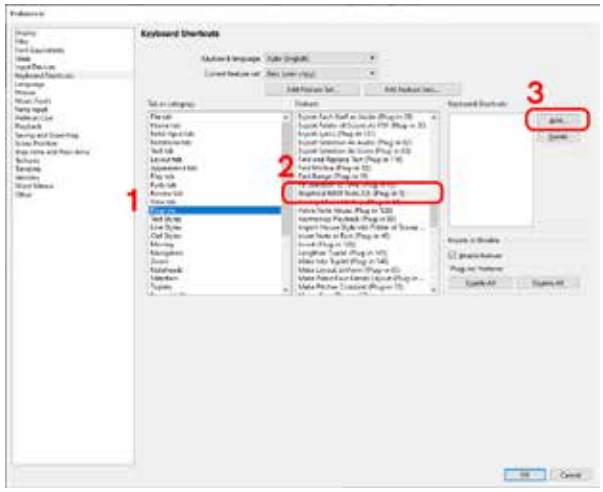
The Graphical MIDI Tools 2 Option in the Plug-ins menu

Step 2: Assign a keyboard shortcut

The next step is to assign a **keyboard shortcut** to the plugin. In order for GMT to work, it must be used through a keyboard shortcut (not from the menus).

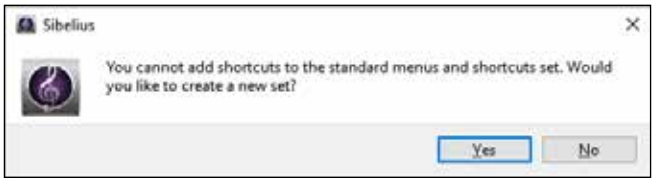
To do this:

a. In Sibelius, go to File > Preferences. From the left column select "Keyboard Shortcuts". You should see the following dialog:



- (1) In "Tab or Category" choose "Plug-ins".
- (2) In "Features" search for the option "Graphical MIDI Tools 2".
- (3) Click on the"Add..." button.

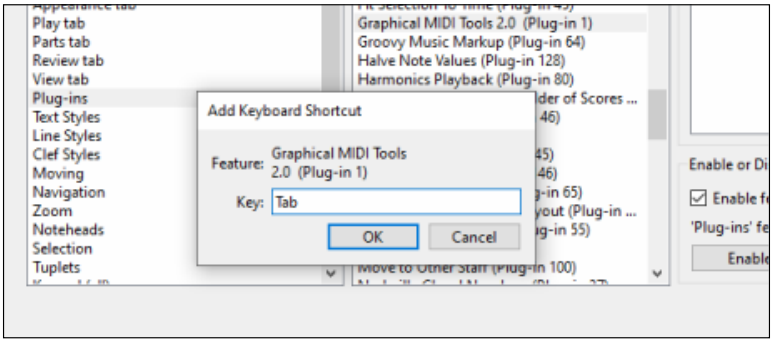
Notice: If this is the first keyboard shortcut you add, Sibelius will ask you to create a new "shortcuts set", since the "Standard" set cannot be overridden. Click "Yes" and indicate a name for the shortcut set (for example "My shortcuts")



b. Choose a shortcut key.

IMPORTANT: The shortcut key must be a single key and **not a combination**. Using modifiers (SHIFT, CONTROL or ALT) is not allowed, because these are reserved for GMT functionality.

In this example, we use the "Tab" key but you can choose the one that works best for you. Another good choice is for example the "U", which by default is unused by Sibelius.

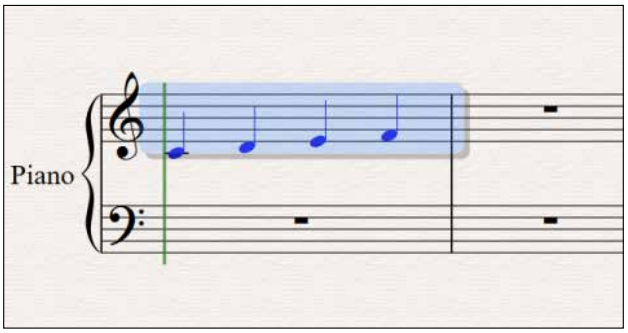


Using "Tab" as a shortcut key

First Run and Activation

Once you have assigned a keyboard shortcut, you are ready to run GMT.

GMT works on a bar basis. To start it up, first select one or more measures from a staff in the score.



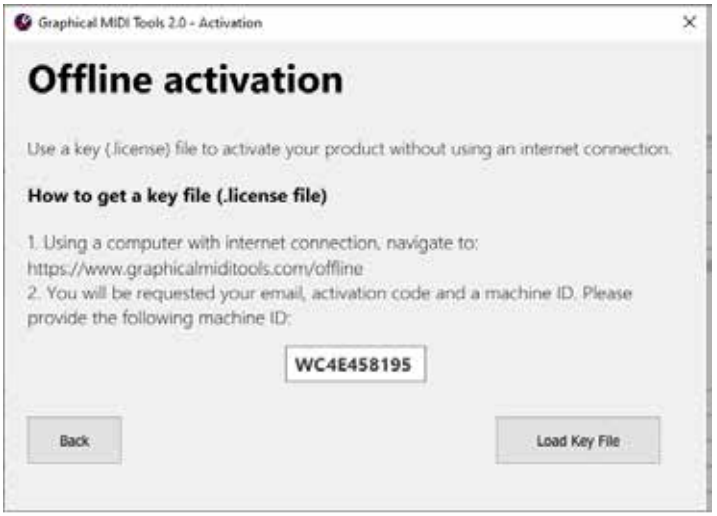
Press the plugin shortcut key (e.g. "Tab"). Since this is the first run, the **activation window** will appear, requesting your email and License Key (or free trial key).

Enter both credentials and click the "Activate" button. An internet connection is required to complete the product activation.

Offline Activation (optional)

Alternatively, you can use the offline activation option if your computer is not connected to the internet. Click on the "Offline Activation" button.

A **key file** (which contains your license information) will be required.



To obtain a key file follow these steps:

1. Using a computer with an internet connection visit:

www.graphicalmiditools.com/offline

2. Fill in your email and license/trial key.

3. Your machine ID will be requested too. This code is provided to you in the Offline Activation window.

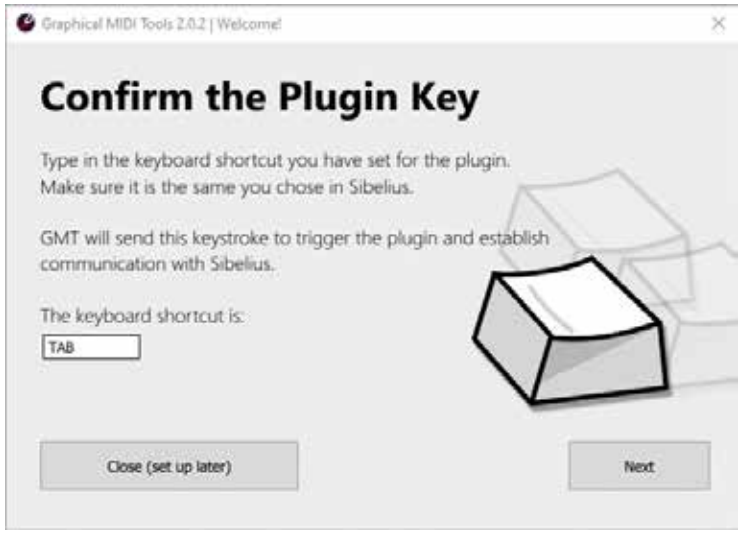
4. Download the file and save it in a portable storage (e.g USB drive) device.

5. Load the file with the "Load Key File" button.

The Welcome Window and shortcut key setup

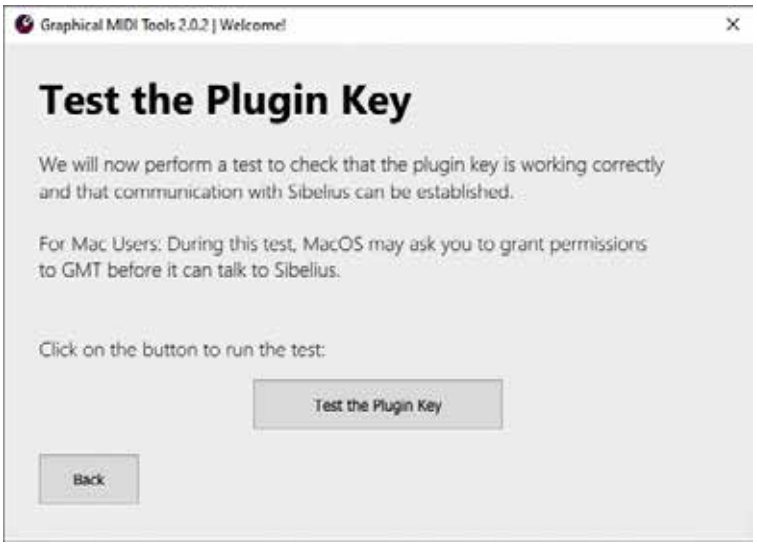
On Activation success, the GMT welcome window will appear. Press “continue”.

Next, GMT will ask you which shortcut key you are using for the plugin. Make sure you indicate the same shortcut key you created in Sibelius.



Press “Next”. GMT will ask you to perform a test to check that the plugin key is correctly set and commmunication with Sibelius can be established.

Press “Test the Plugin key” to start the test.

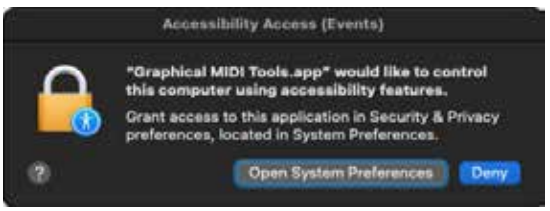


Understanding how GMT works

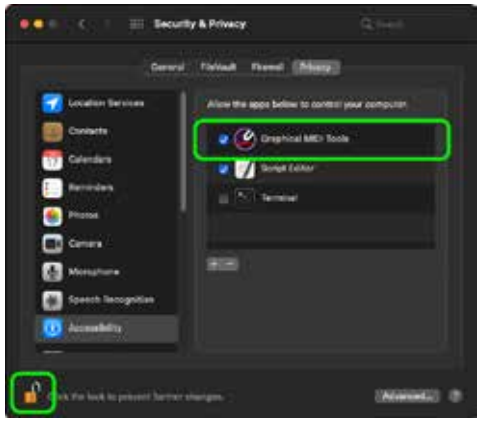
GMT simulates a key stroke and sends it to Sibelius every time it needs to connect with it (to send and receive information). By triggering the “Manuscript plugin” both applications can communicate between each other.
For more information about this, see the section “Behind the scenes: how it works” in the first chapter.

For Mac users: Granting permissions

If you are on MacOS version 10.15 (Catalina) or higher, a System Preferences dialog will appear asking you to grant permissions to the application. This is needed by GMT for the purpose of sending the virtual key event.



In the system preferences, click on the lock (at the bottom left), then check the "Graphical MIDI Tools" item in the list.



Then click on the "Try Again" button. The test should succeed.

That is all!

Once the plugin key is succesfully tested you are ready to use GMT. The piano Roll window should appear.

GMT's piano roll window

Issues while installing? Contact us!

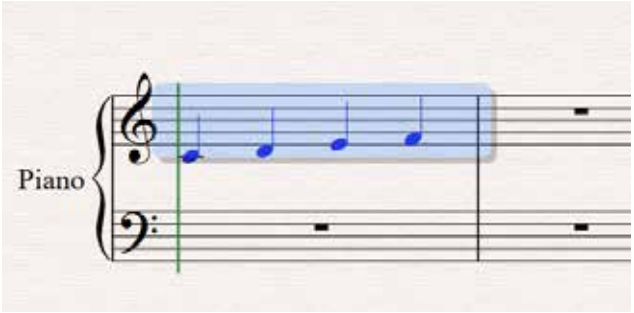
If you encounter any issues while setting the plugin key or installing GMT, please don't hesitate to contact our support team at:

support@graphicalmiditools.com

3 The Piano Roll Window

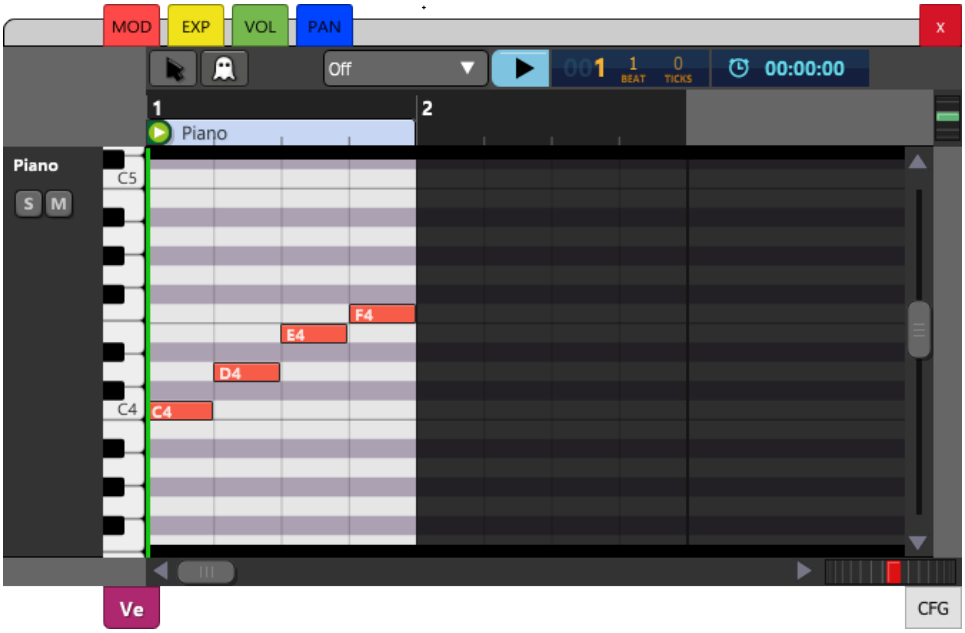
Opening the Piano Roll window

GMT works on a bar basis. To launch it, select one or more measures in Sibelius, then press the plugin's shortcut key.



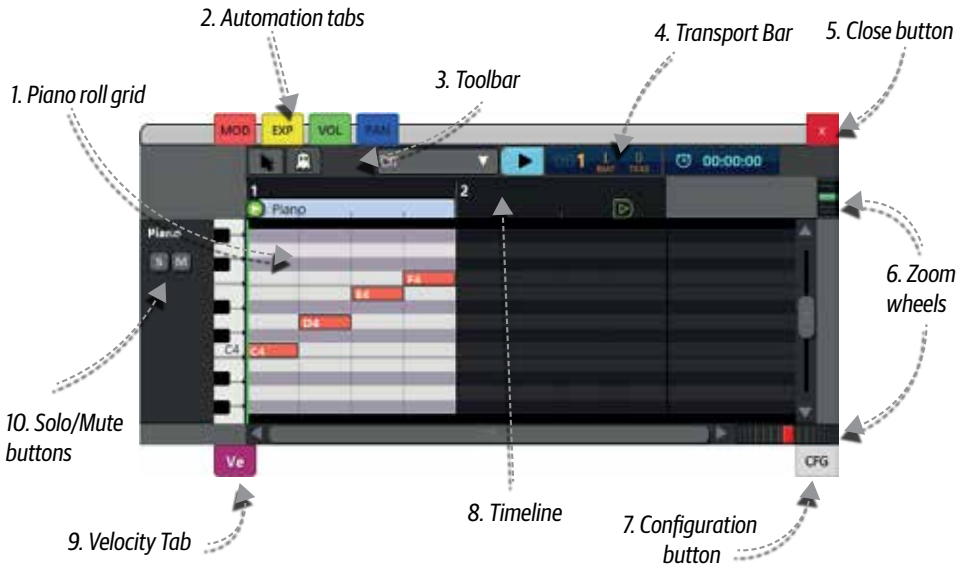
To open GMT select one ore more bars in the score and press the plugin's shortcut key

The piano roll window will open, showing the region you have selected.



Getting started with GMT's interface

These are the main areas of GMT's interface:



- **1. The piano roll grid:** Here you will be able to edit the sound start and duration of notes, or insert *phantom* (hidden) notes.
- **2. The automation color tabs**: These tabs open the automation lanes for the MIDI CC controller set in the configuration dialog
- **3. The toolbar**: Pick between the *Pointer* tool to modify written notes or the *Phantom* tool to add *phantom notes.* Here you can also set up the grid snapping value.
- **4. The transport bar**: A play button to start/stop playback. Two displays show the current bar/beat/tick and the minutes/seconds.
- **5. Close button:** Closes GMT's interface. To re-open select again one or more measures and press the plugin's shortcut key.
- **6. Zoom wheels:** Click and drag over them to zoom horizontally or vertically.
- **7. The Configuration CFG button:** Opens the configuration/preferences dialog.
- **8. The time line:** Displays the bar numbers and beat divisions of the region in the score. Click on its lower part to move Sibelius' playback line position.

In here you will also find the **play from button,** which is a handy alternative to to start playback from the desired position.

- **9. Velocity tab:** Click on it to show the *Velocity* lane and edit note velocities.
- **10. Solo/Mute buttons:** These will solo or mute the staff (similar to what is done in Sibelius mixer)

Expanding the selected region

It is possible to expand the selected region of the score once GMT is open (avoiding the need to close and re-select). To do this, click on any side of the roll grid.

You will notice that the bar to be added is highlighted in blue, and with an arrow pointing to the expand direction.

Click on the left or right side of the roll grid to expand the selection.

As you expand your selection, the window will auto-resize to fit the new contents, until the physical limits of the screen are reached.

Moving and resizing the window

To move the window:

To reposition the window on the screen click over the top gray bar and move the mouse while holding down the left mouse button ("drag").

To resize the window:

You can resize GMT's window to your needs. Click and drag on any border of the window.

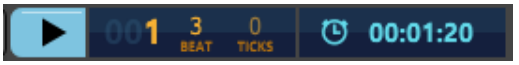
Zooming in and out

In GMT, you can zoom in or out using several methods.

- 1. Click and drag the mouse over the "zoom wheel" controls.
- 2. Use the mouse physical scroll wheel to zoom in vertically.
- 3. Alternatively, you can click on the upper part of the time line (the dark one displaying the bar numbers) and drag up or down to zoom horizontally.

Click and drag over the timeline to zoom in / out horizontally

The Transport Bar and the Play Button



The transport bar includes a Play Button which triggers playback from the current playline position.

You can also start/stop playback using the SPACE bar while GMT window is open

The current playline position

Two different displays show the current playline position. The first in musical units (bar, beat, and MIDI tick).

The second one shows the current hour/minute/second. This can be quite useful, for example, when scoring to picture.

The Playback Line and the *Play-From* Button

One handy feature of GMT is controlling Sibelius playback line position from the timeline.

Click on the blue area to position the playback line wherever you want.

Click on the time-line's lower part to position the playback line.

The *Play-From* button

At the top of the playback line (when playback is stopped) you will find the *Play-From* button. You can click on it to start playback from a specific position in the timeline.

The Play-From button allows you to quickly play a passage from a specific score position.

GMT and playback control

As playback progresses you will see the green line moving horizontally across the piano roll.

> **Note:** This behaviour is possible if using GMT's own control buttons. If you start playback from Sibelius' play button, you will listen to the score with all your edits, but the GMT's playback line will not progress.

4 Editing start and duration of a note's sound

With GMT it is possible to change the sound start and duration of a note in the score. These modifications **do not affect the written score,** but only the playback.

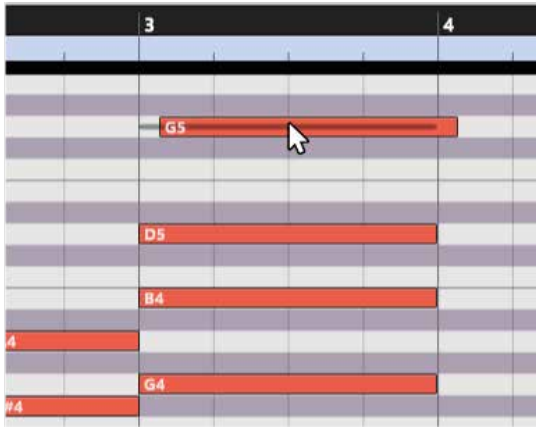
Fine adjusting where a written note sound should start (or its duration) allows you to create more realistic/human-like MIDI mockups.

You can, for example, produce a slight arpeggio over a written block chord, emulate a *rubato* passage, or tailor performances where strict note values are not desired.

Using the Pointer Tool

In the toolbar, make sure the *Pointer* tool (little arrow) is selected.

To change the position of a sound, click and drag over a note in the piano roll.



Click and drag over a note's to reposition it's sound

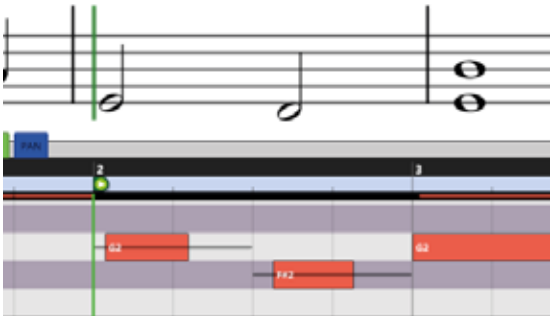
You can also modify the start and/or duration only, by clicking and dragging over

the note edges.

The gray line represents the written note

You will see that a gray line appears striking through the note's rectangle. This line indicates the real position and duration of the written note.

Notice that the line is shown only when the sound position or duration has been modified from the original/written one.



The gray lines represent the written note position and duration.

Selecting multiple notes: the *lasso* tool

To edit multiple notes at the same time, click and drag on an empty area of the piano roll. The **lasso tool** will be activated, allowing you to select multiple notes. The selected notes are highlighted in blue.

Selecting multiple notes with the lasso tool

You can then edit the sound parameters for all the group just as you do with a single note.

Resetting the sound: the *eraser* tool

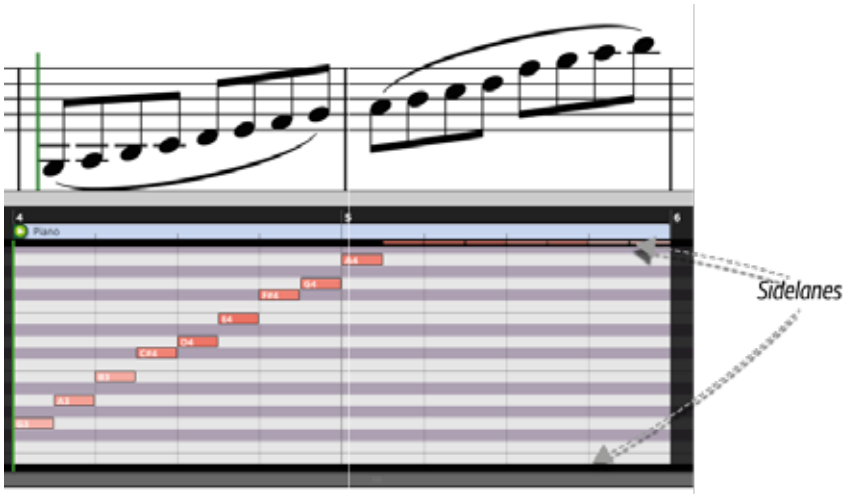
To reset the sound of a note to its original start position and duration (i.e. the exact written one), use the right mouse button. The **eraser tool** will be activated. Then drag over the notes you want to reset.

Introducing *Sidelanes*

If you are familiar with piano rolls, you may notice that GMT incorporated a special characteristic.

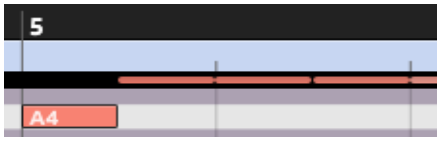
When a note goes off view (because it belongs to a pitch that is outside the vertical visible range), it doesn't disappear completely. Instead, it is shown with a thin colored line at the top or bottom of the roll grid.

We named these borders at the sides of the grid *sidelane*s.



Sidelanes inform you of notes that belong to the measure but are out of the visible range.

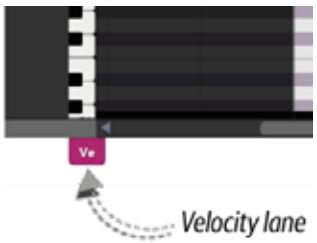
With *sidelanes* you can have a bird's eye view of all the contents within a measure, avoiding the need to scroll up or down.



Detailed view of the sidelane.

5 Editing Note Velocities

With GMT you can edit **notes velocities** in a graphical way. To open the **Velocity lane**, click on the lower tab button labeled *Ve.*



The Velocity lane will show up at the bottom of the piano roll.

The Velocity lane. The gray dashed lines mean that no velocity has been specified by the user.

Initially, you will see **gray dashed lines** below the notes. These indicate that no velocity has been specified by the user yet, so Sibelius will decide which velocity to apply (according to the current expression marking and sound library configuration).

Writing your own velocities

To specify your own velocities click and hold the mouse over the velocity lane.

Writing note velocities.

Notice how GMT paints the louder notes with a dark color, and the softer ones with a lighter one.

Erasing velocities

To restore the velocities to their defaults, use the **right mouse button**. The **eraser** tool will be activated.

As you remove your velocities, you will see the dashed lines come back again, indicating that no user velocity has been specified for the notes (i.e. let Sibelius decide which ones to use).

6 The CC Automation Module

With GMT it is possible to draw your custom **automation curves** for any MIDI continuous controller (CC) or pitch bend.

Opening the automation lanes

The automation lanes are activated through the color tabs in the upper part of the window.

The upper color tabs are configurable

Each tab corresponds to a specific MIDI controller. These can be set in the configuration dialog (more on this later). By default GMT comes with these factory settings:

- **MOD:** (MIDI CC #1) Modulation wheel
- **EXP:** (CC #11) Expression control
- **VOL:** (CC#7) Volume control
- **PAN:** (CC#64) Panning

Drawing your custom curves

To draw a curve, press and hold the left mouse button over the automation lane.

As you move the mouse, the corresponding **nodes** will be inserted, sculpting the automation curve.

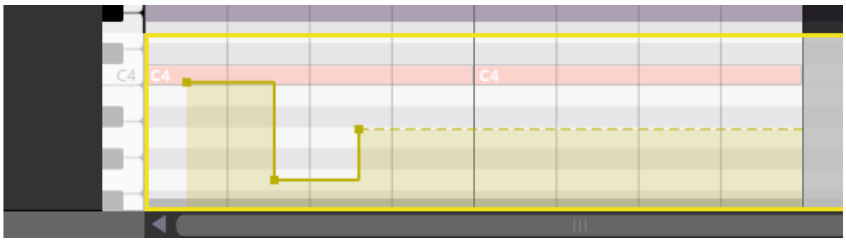
A custom automation curve for the expression (#11) controller.

The nodes are connected through ramps, producing a smooth transition between

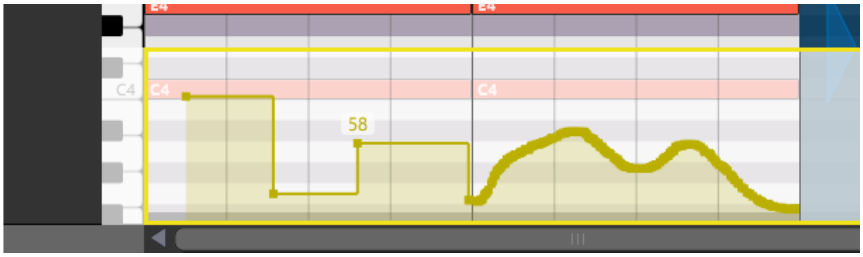
each other.

Using the SHIFT key to draw *jump* nodes and disable the grid

Pressing the SHIFT key while drawing will insert *jump nodes*. In contrast to ramp nodes, jump nodes change the value of the curve on the spot, without creating a smooth transition between the previous one.



The SHIFT key will also disable the 16th note grid on which the ramp nodes are tied. This allows you to draw curves using Sibelius' maximum MIDI resolution.



Pressing the SHIFT key while drawing inserts "jump" nodes, and it also disables the grid, allowing you to draw freely.

About Sibelius and MIDI Resolution

Sibelius has a maximum MIDI resolution of 256 ticks per quarter note. This means that you can insert events with up to a 1/256 quarter note precision. This is more than sufficient for everyday applications. GMT works with such resolution when using either jump nodes or ramp nodes. With ramp nodes, the transitions between them are done with this level of detail.

Editing the node manually

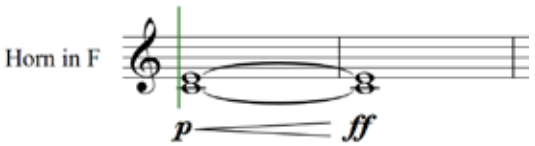
To edit a node properties manually, hover the mouse over the numeric value and click on it.

The *Edit Node* panel will appear:

You can the enter the node value (0-127) manually, or change the node's type (*ramp* or *jump*). When you are done, press ENTER to close the panel.

Warning! GMT vs. Sibelius dynamic markings

Sibelius sends MIDI commands to the playback engine whenever it encounters an expression/dynamics marking (like *p*, *f*, or a hairpin) to simulate a live performance. Normally, these correspond to the MIDI CC #11 (expression).

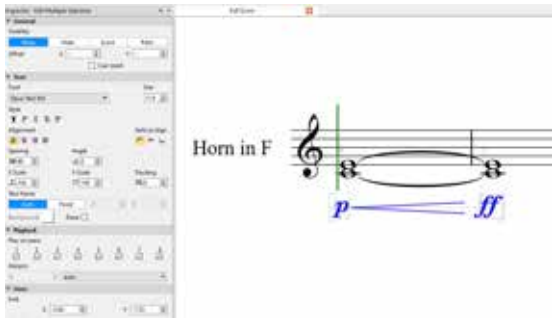


If you write your own custom automation curves for the expression controller over a passage that has dynamics markings (*p*, *f*, or a hairpin), the playback engine will receive two instructions, not knowing which one to follow, with unpredictable results.

Disabling the dynamics markings playback

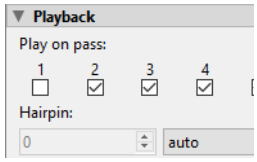
To avoid this, you can disable the dynamics markings from being played at all. In Sibelius, open the **inspector panel**: go to the **View** tab, and select the **Inspector** op-

tion, or press CTRL + SHIFT + i



Sibelius' Inspector panel at the left of the screen.

Select the markings you want to disable and, within the inspector, uncheck the first (or more) box in the Playback section.



The advantage of using GMT curves: they linger on

Aside from giving you the flexibility of drawing your custom shapes, GMT automation curves have a major advantage over expression markings: they are part of the score (commands are hidden texts over the staff) and most importantly, they are **carried over to the MIDI file** when using Sibelius export function .

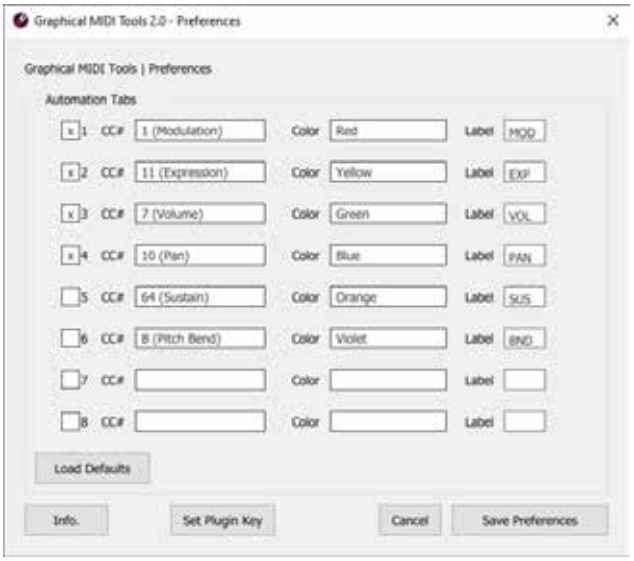
> Sibelius expression markings are not stored as MIDI information in the score. They are interpreted in real-time by the playback engine. When exporting to a MIDI file, any expression marking information will be lost, but GMT's curves will be preserved.

Configuring the automation color tabs

The upper color tabs are fully configurable. To do so, open the configuration dialog with the CFG button in the lower right part of GMT's window.

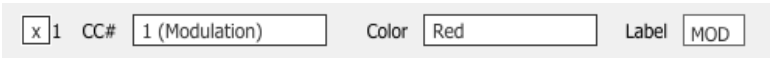
The configuration "CFG" button in the lower right of GMT's window

The configuration dialog will show up:



GMT's configuration/preferences dialog

Up to eight (8) tabs can be enabled at the same time. Each row in the form sets the properties for a given tab:



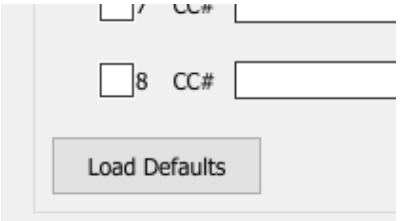
Tab properties inside the configuration dialog

For each tab you can set up:

- **Enable/disable:** Use this checkbox to show/hide the tab.
- **MIDI CC controller:** Choose which MIDI continuous controller
- **Color:** Pick a color between the nine possibilities
- **Label:** Use a three letter text which will be displayed as label for the tab.

Loading Factory defaults

At any time you can go back to GMT's factory default settings. Click on the Load Defaults button in the lower left of the configuration dialog.

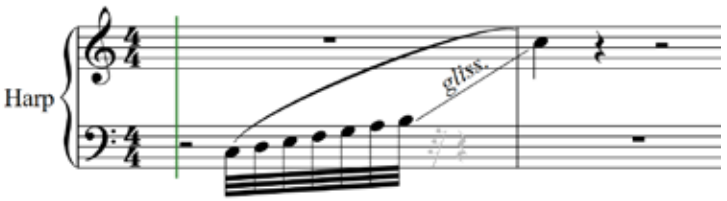


7 Working with Phantom Notes

With GMT, you can insert *Phantom* or "hidden" notes. Phantom notes are MIDI command based, and they are performed by the playback engine, but **do not affect the written score at all**.

Filling performance gaps

With Phantom notes, it is possible to fill in passages where notation may not be fully explicit. For example, in a harp glissando, it is customary to write only the first notes, and hint the rest with a line.



The playback engine will normally consider only the written notes in the score, missing out the interpretation of the glissando line.

With phantom notes, it is possible to add these notes. The written score (i.e. the spacing and layout) will not be affected at all.

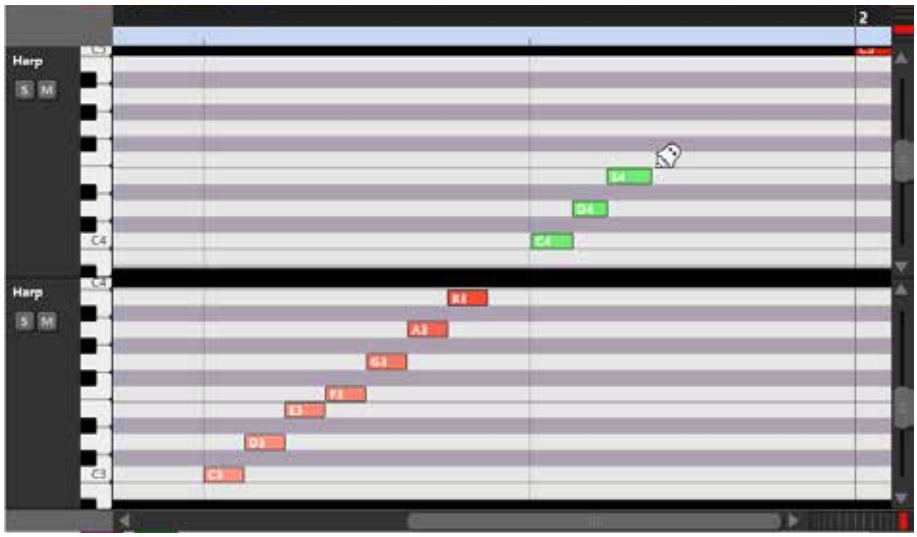
To activate the **Phantom notes tool**, click the phantom (ghost) icon on the toolbar.

Click the Phantom tool to insert phantom notes

Now you can insert phantom notes. Click and drag over the piano roll grid to insert notes.

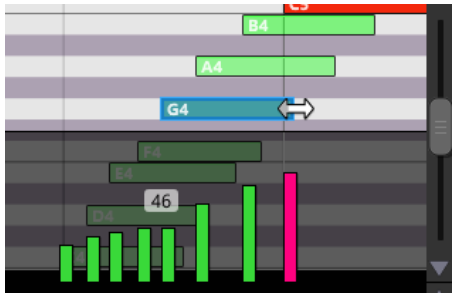
The phantom tool inserts phantom notes

You can now complete the performance; notice how phantom notes are shown in green, and written notes in red.



Modifying phantom notes

You can manipulate the length and position of phantom notes just as you do with the sound of written notes. It is also possible to edit their velocities (using the velocity lane).



Erasing Phantom notes

Use the mouse right button to activate the eraser. Drag over a phantom note and it will be removed.

Using Phantom notes as key switches

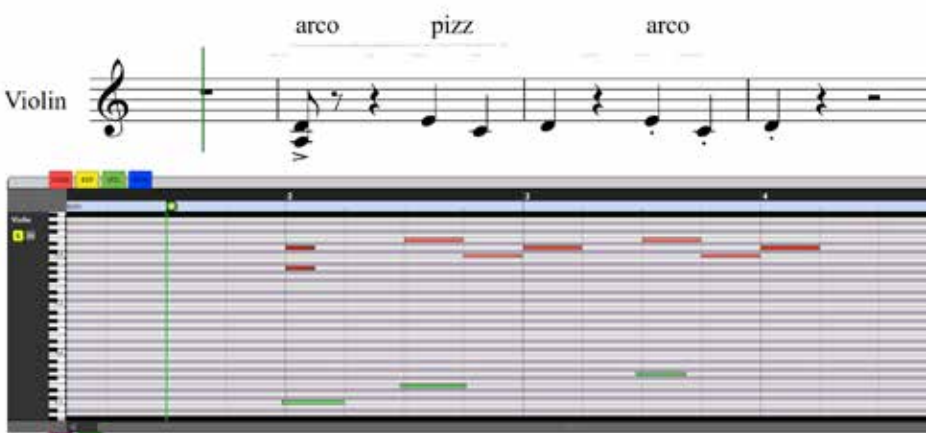
Another use for phantom notes is **to trigger key switches**. Some libraries reserve certain notes to change the sound / articulation of the current patch.

With phantom notes you can hit these notes without affecting the written score at all.

In the following example, we use key switches to change the articulation sound of the violin. In this case, the patch comes with these key switches (among others):

Note name	MIDI number	Articulation
C1	#24	Short sforzato
E1	#28	Pizzicato
G1	#31	Staccato

We insert the corresponding phantom notes right before the notes whose sound we want to change.



Using phantom notes as key switches

About MIDI octave numbering

Be careful when looking for key switches specifications in your sound library manual. There are two main conventions for numbering the octaves in the MIDI world: calling Middle C "C3" or "C4".

In both cases middle C is always MIDI note number #60.

Sibelius calls middle C "C4". Many sequencers/DAWs utilize the "C3" convention, as is in the early days of MIDI. So watch out for the octave numbering system. If your library says "D0"(D-zero) for legato, you will probably need to add one octave to make it work in Sibelius/GMT. Write the key switch on "D1" (D-one).

8 Known limitations and tips

Though we are committed to make our best efforts in order to provide you with the best user experience, there are some GMT limitations we want you to know, which are present in the current version (2.0).

Here are some tips as well, so you can make the most out of the plugin:

1. Prefer GMT's playback button

GMT provides feedback for the playback line position while Sibelius is playing. This is technically possible only **if playback is started from GMT's play button**.

If you start playback from Sibelius, you will hear all your GMT edits, but you won't see the GMT's playback line moving.

2. Editing/Soloing while in playback

While Sibelius is playing, edits can actually be done in GMT and they will be stored in the score! But changes will not be heard until playback is stopped and restarted.

Muting and Soloing a staff while in playback behave in the same way. They will not take effect until the next play.

3. Changing the score from Sibelius while GMT is open

If you change notes, or delete MIDI commands from within the score (i.e. using Sibelius interface) while GMT is open, you will find that those edits are not reflected automatically in the piano roll, until you re-open it.

The "live refresh" is a feature we are working on, but in the meantime, we recommend closing GMT's window while going back to notation editing.

4. Working with large passages

The GMT plugin sends all information in the selected region to the piano roll window before showing it on screen. This process is generally fast, especially if you are working with one or two staves and passages below a hundred (100) measures long.

As more instruments and measures are added, you will experience a certain delay before the piano roll appears. The waiting time will depend on the complexity of the score (more notes, more information) and your computer processing power.

5. Opening many staves at the same time

Although GMT has no technical limit in the amount of staves it can handle at the same time, you will find that its interface is designed (and works better) if used only with a few of them at a time. A maximum of four or five staves is recommended.

From there up, it will depend on your screen resolution and your input device skills.

Remember you can always edit as many staves as you want if you open them in groups.

(this page intentionally left blank)

Visit:

www.GraphicalMidiTools.com

Santiago Barx
FILMSCORE

www.SantiagoBarx.com

Copyright © by Santiago Barx Filmscore. Windows® is a trademark of Microsoft Corporation.
Mac®, Apple® and macOS® are trademarks of Apple Computer Inc. Sibelius® is a trademark
of Avid Technology, Inc