External Score Generators

There are 2 options to get an External Score into Reaper.
1. direct approach
2. with a support program called Midi Transfer
3. My Way

1. Direct

Set in Preferences → Media → Set Media Items OFFLINE
and
Media → MIDI → Import existing Midi Files → .MID file reference

When generating scores, it is imperative that the Midi Item in Reaper gets to get OFFLINE; only then can it get refreshed once Reaper is back in focus.
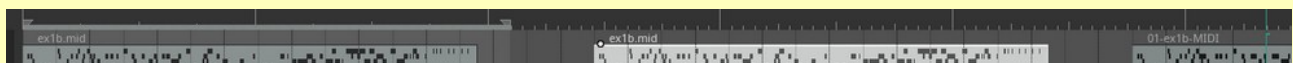
If you want to copy the Item and transform this copy:
set back Media → MIDI → Import existing Midi Files → MIDi Items in project
then select the notes inside the External Score
paste these notes in a newly created Midi Item.
It is only then that the Generated notes can get transformed.

A difference can be seen in the filenames above the Midi Items:

Here, the 1st Item ex1b.mid is the original External Score. The 2nd is a copy of this Midi file. The 3rd is a Midi Item that holds the pasted notes of the first. The 3rd one can be transformed. This 3rd Midi Item is only possible once the setting **MIDi Items in project** is chosen. This Item is independent of the original Midi file ex1b.mid.

Also, the naming of the Midi Item has changed, from *ex1b.mid* to *01-ex1b-MIDI*. This is an indication.

2. Using the script Midi Transfer

We are using Midi Transfer from Daniel Lumertz inside Reaper.
More information:
https://docs.google.com/document/d/1b0z6HQJBL4x7614b0SngNarXH__VO_ExzrAoxpOOoAI/edit?tab=t.0

Midi Transfer is used in a very basic way at the moment: the external Score Generator generates notes, and notes in the imported Midi Item are updated.
Nothing with multichannel yet- one midi channel for now.

In the Midi Transfer manual, it is well explained how to make the connections between External Score Generators, such as nGen and AthenaCL and others.

However, I found that Reaper Items were NOT going OFFLINE (as is needed) while playing the Midi Item when running an External Score Generator in a different window (terminal).
For this all to work, you have to stop the running playhead of Reaper, then do the score manipulations in the Score Generators.

Also, when running and updating the score with the External Score Generator, Reaper does indeed update the Midi Item- but this may confuse the Midi Editor when in OFFLINE mode.

No reason for alarm ; double-clicking the updated Midi Item, the Midi Editor gets updated as well and gets back to a normal state.
It all has to do with the Midi Item being OFFLINE.
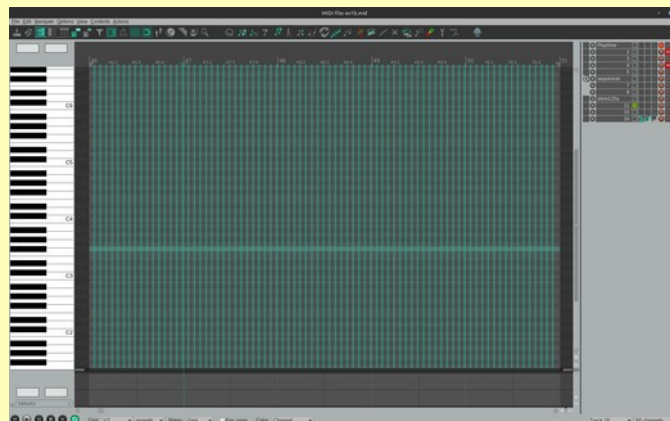
The updated Midi Item now looks like this:
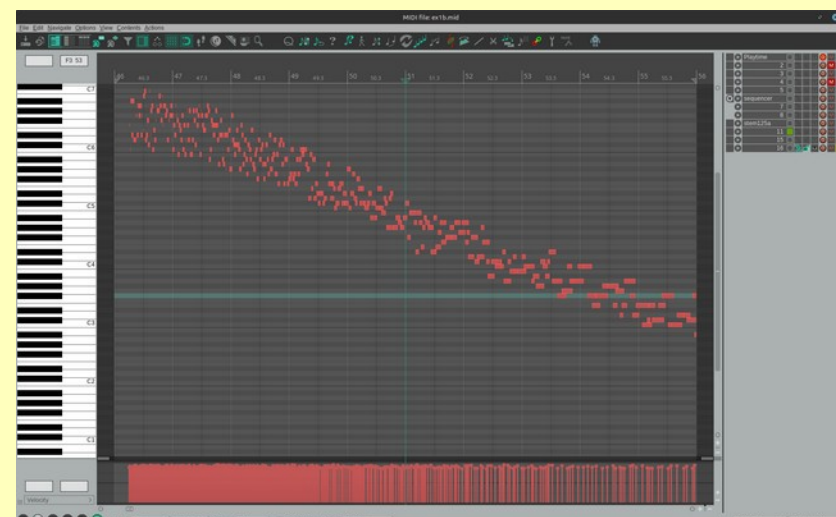
The program Midi Transfer has some options, but I do not know yet what they are as I am only using an External Score Generation in a simple way.

How to copypaste

When copypasting the (updated) Item to do some new work on the Item, you have to know that this copied Item will get updated as it is still referencing the original MIDI file.
If you want to make a copy and change something in the copy, first set this option back:

Import existing MIDI files as: ⊙ MIDI items (in project, recommended)   ○ .MID file reference

and then copy the Midi Item. Only then it is independent as it now part of Reapers' Midi system, and not the original Midi file that was created by the External Score Generator.

Appendix

Both nGen and AthenaCL are capable of generating Midi scores. This means that these Midi files can be imported in Reaper. And that they can make use of the direct transfer options of both the direct approach and via Midi Transfer. And they they both show the result right away once the Midi file in Reaper has gone offline and are refreshed.
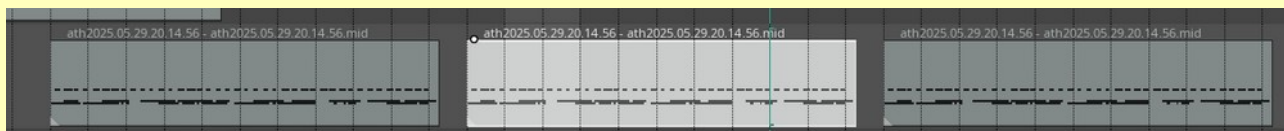
There are 2 actions of importance:
1. Convert active take MIDI to .mid file reference
2. Convert active take MIDI to in-project MIDI source data

The 2nd turns the imported Midi file into in-project MIDI source data *that can be edited further.*

nGen

AthenaCL

The 1st = original
The 2nd = copy
The 3rd = copy but after the action *Convert active take MIDI to in-project MIDI source data.*

The Midi Items that are referencing the Midi file itself (and thus are changed when new data is written to that same Midi file with that name), can be recognized when you go outside of Reaper and click another window or program:
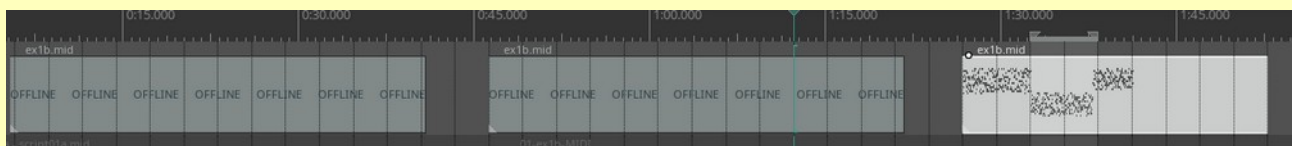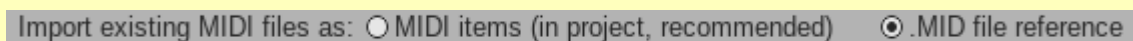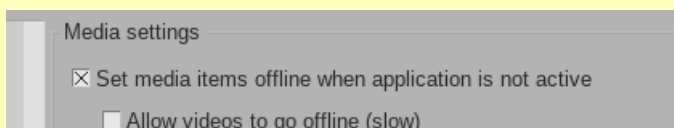
OFFLINE is referencing to the original Midi file, even if it is a copy of that Item.

3. My Way

There may be a caveat, but I did not find an issue so far, we'll see….
First, be sure to have made the 2 correct settings in Preferences:

When you want to run nGen or AthenaCL (see below for more details) or any other external Score Generator, activate the terminal and a text editor by pressing this button:


Create the scores and import them in Reaper via Media Explorer.

All the time you are working in the Terminal and Text editor to set the Score Generator up and generate a score, the Midi Item in Reaper will be OFFLINE- also a copied one:
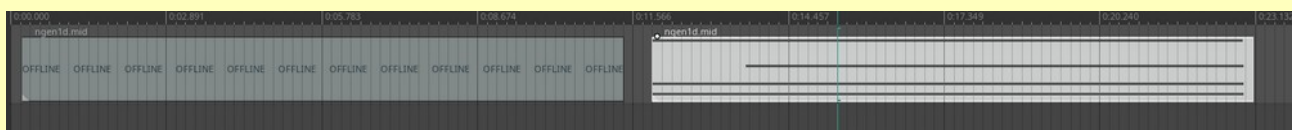

Here, you see the original Midi file on the left and a copy is on the right. Each time you change something in one of these, all changes are reflected on all original and copied Items as they are linked internally. They are as one….

You can unlink by pressing this button:
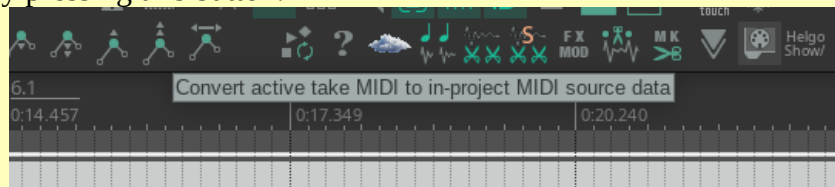
This converts the Item so that it becomes independent of the original.

You can verify this when going to the external program; the linked Midi file will go OFFLINE, while the copied Midi file does not as it is now independent. And thus can be edited further.

nGen

This Score Generator needs 2 things to work: nGen and the terminal.
Run nGen: *ngen -m xx.gen xx.mid*

Using this command ensures that a Midi file with this name *xx.mid* will be created. In turn, this will with the options in Reaper set as stated above, replace the Midi Item notes with the newly generated score.

AthenaCL

AthenaCL creates a midi file, each time with a different name. So it is not possible to simply replace the score as can be done with nGen.

Two options are available to get the Midi file into Reaper:
1. via terminal and import the latest created Midi file with the Media Explorer: run the python script from the terminal, activated with the Terminal button from the Toolbar. Then drag the generated score onto the Timeline.
2. run the Python script from the Action list.
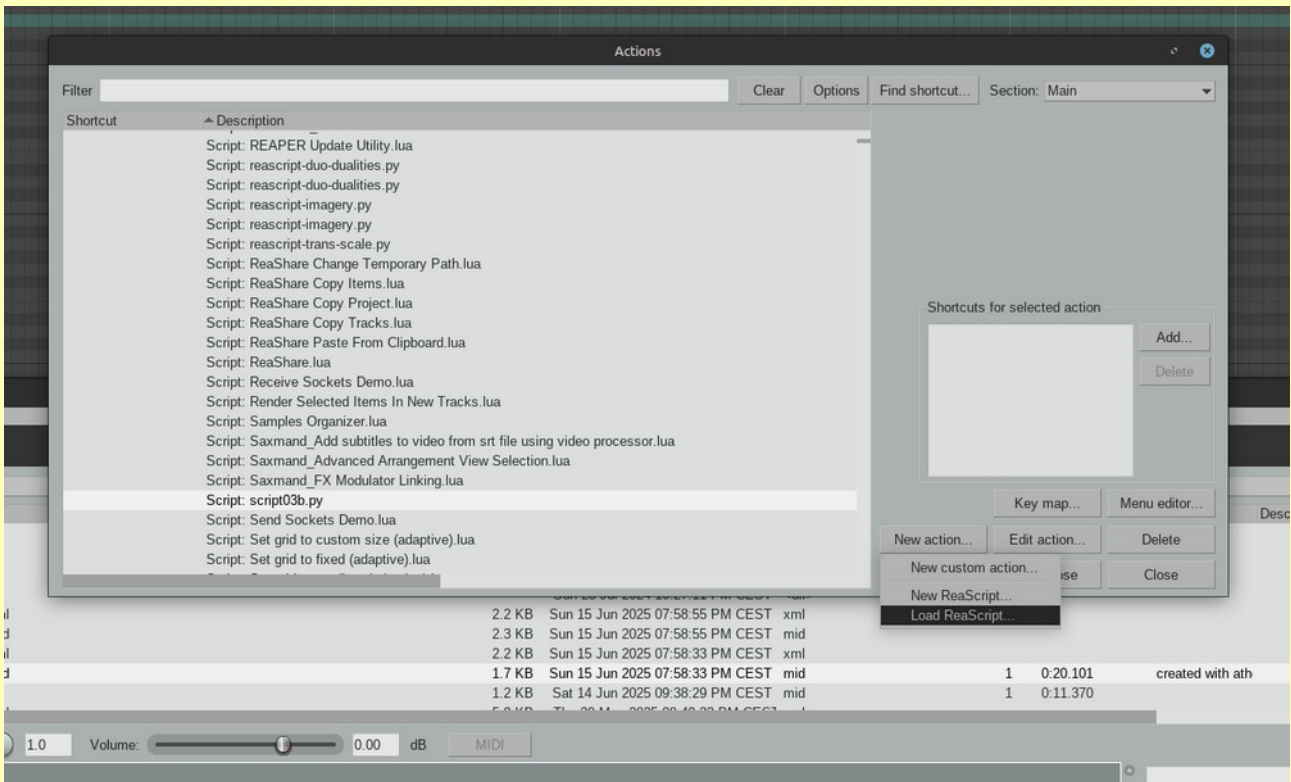
The Midi File can be imported from the Media Explorer.
Do not forget to convert the Midi File to in-project Midi source data (see above).

Reaper saves all settings like in the terminal and text editor.

The big difference between handling nGen and AthenaCL is: with nGen you create a midi file with the same name (overwrite it), whereas AthenaCL every time it creates a midifile, the naming will be a bit different as it adds a datestamp.

CAVEAT
In a crash, all Midi Items that are NOT in- project, will be lost. The original Midi files must get imported manually.