Sending Timecode from Reaper to Titan on the same PC

This is an example of how to use Reaper - a much more powerful DAW (digital audio workstation) than Winamp - to send timecode to Titan, assuming both are installed on the same PC.

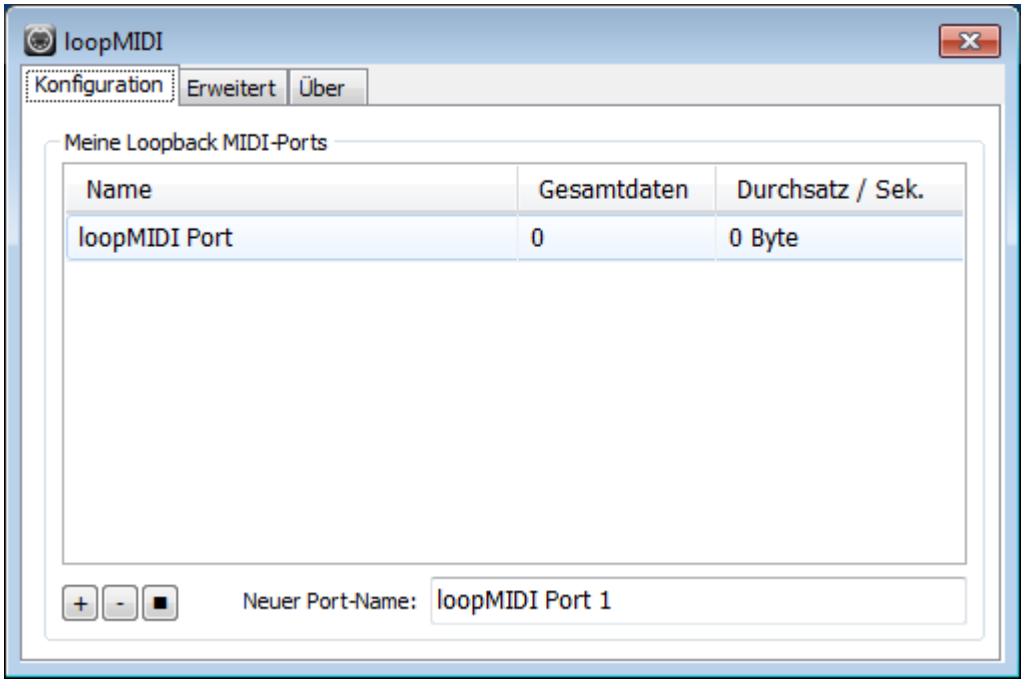
Prerequisites

1. Titan PC-Suite, from v12 on (AvoKey required)
2. loopMIDI (see Software List, to route the MIDI signal from one program to another
3. Reaper (see Software List)

Make it run

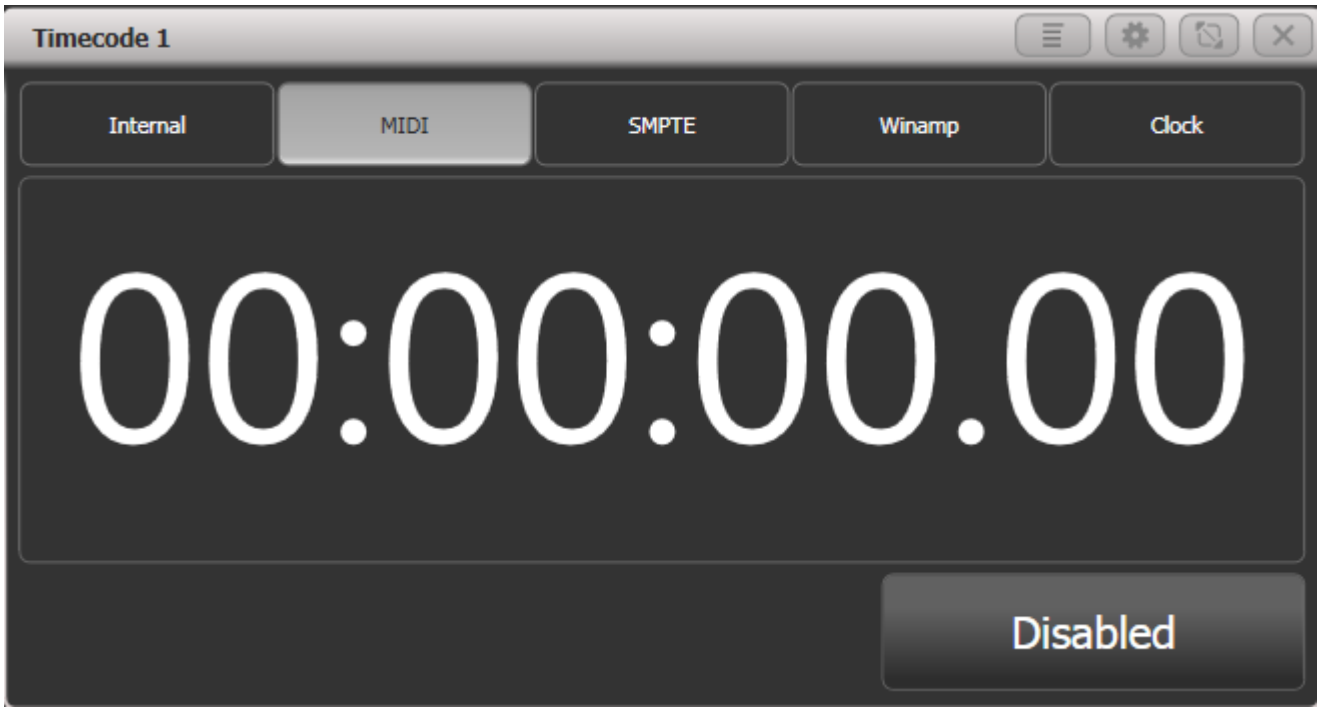
1. loopMIDI

This needs to be started (usually: automatically when Windows starts). By default it provides a virtual MIDI port named `loopMIDI Port`:



2. Titan PC Suite

In order to initially watch the timecode open a timecode workspace window (e.g. Timecode 1) and select MIDI as timecode source.

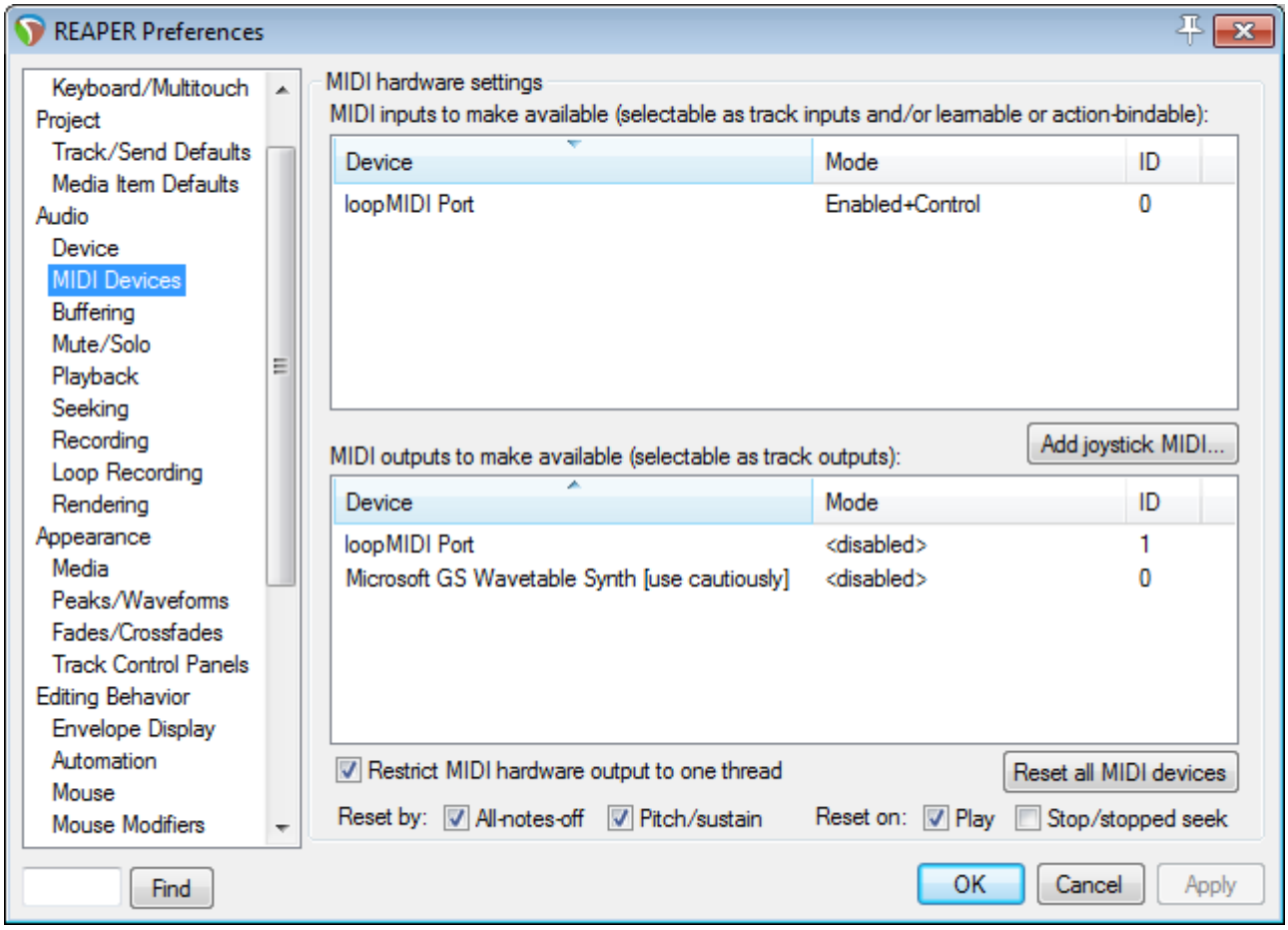


3. Reaper

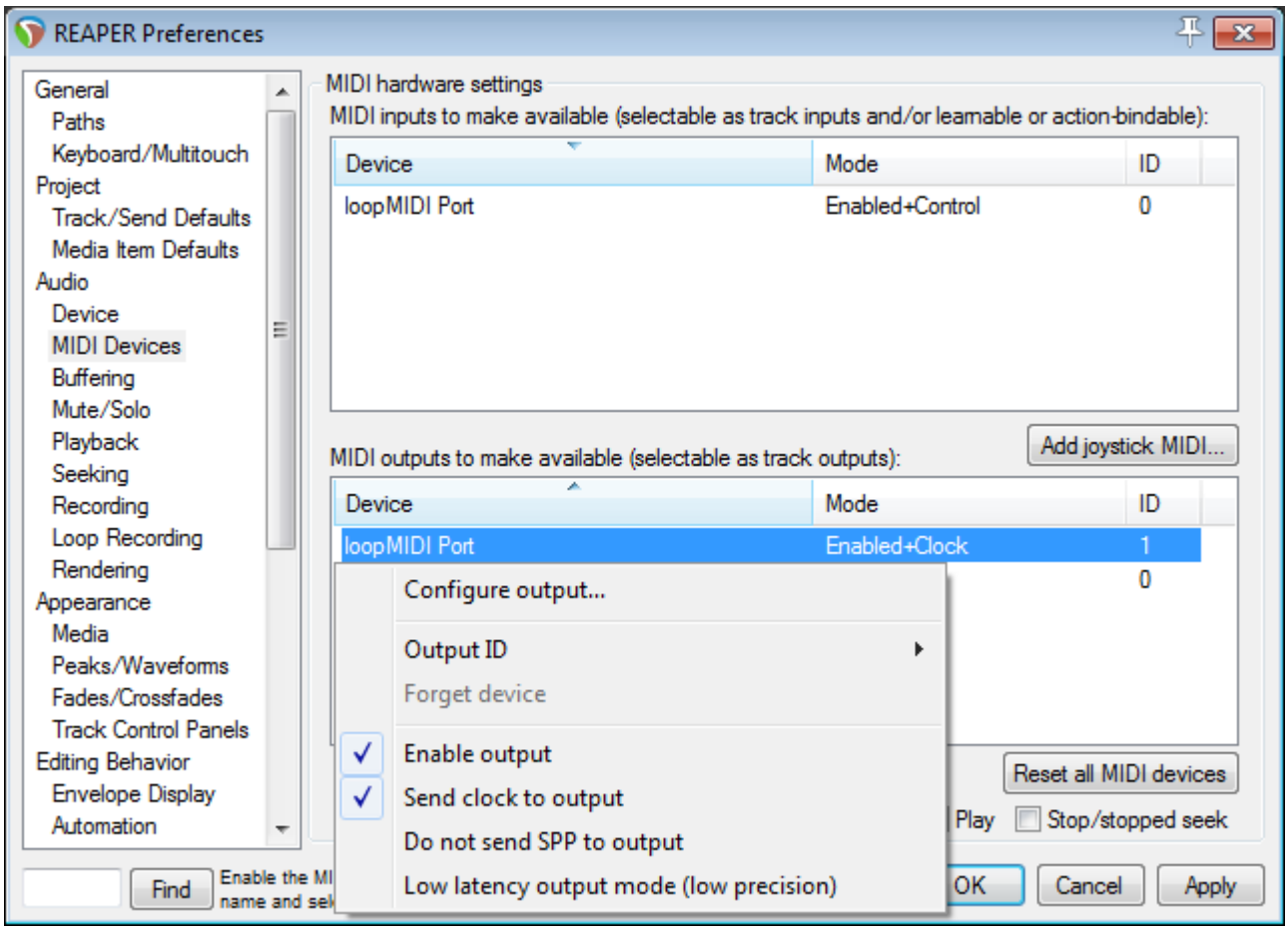
Launch Reaper. Load a track if you want (not required for this to function). However here are the steps to configure Reaper correctly:

3.1 Enable MIDI Output

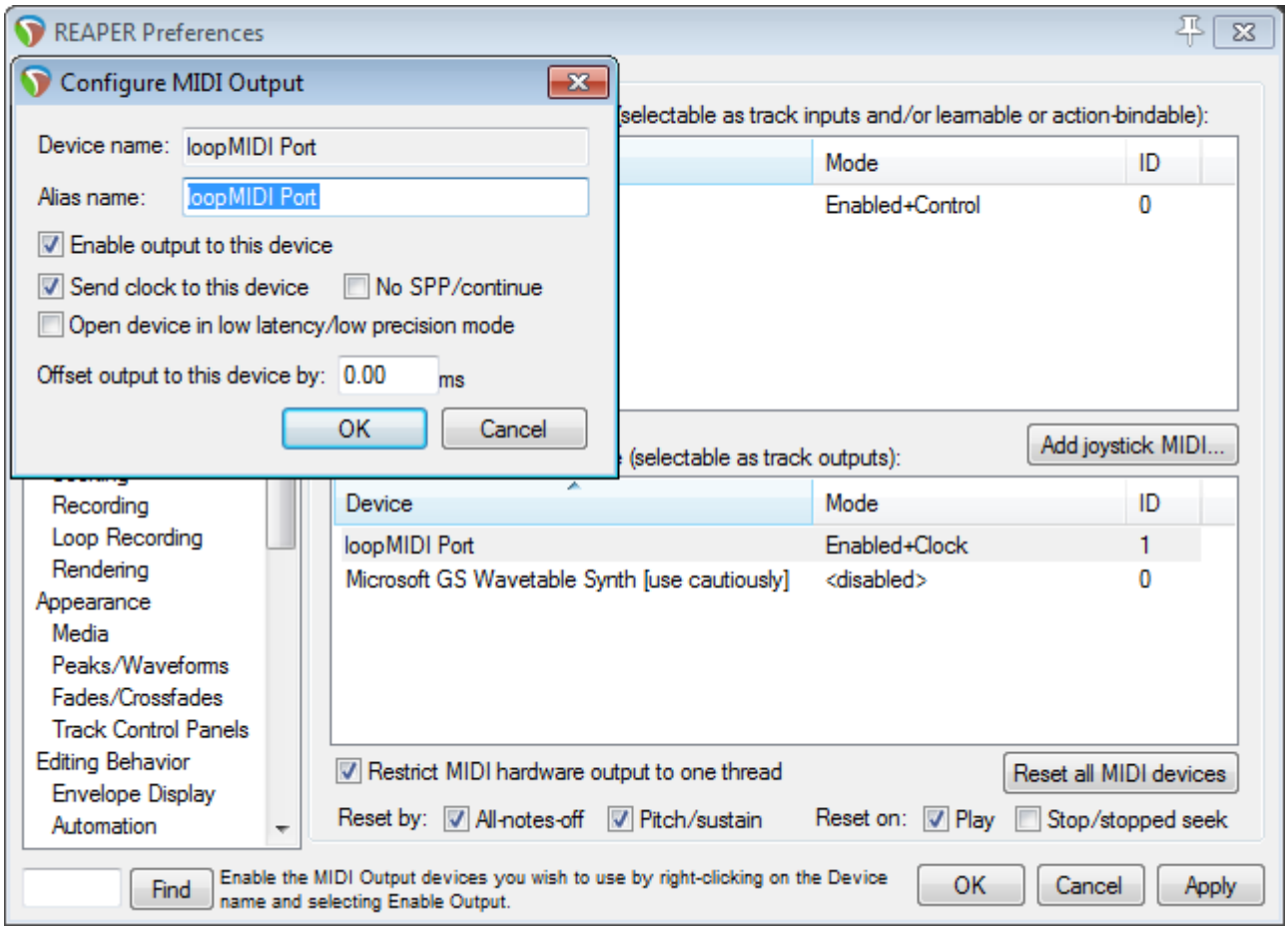
In the Options menu select Preferences - this opens the preferences window. Find `MIDI devices` in the Audio section. This should list `loopMIDI Port` as MIDI output:



Right-click on `loopMIDI Port` output and either enable output and `Send clock…` from the menu...



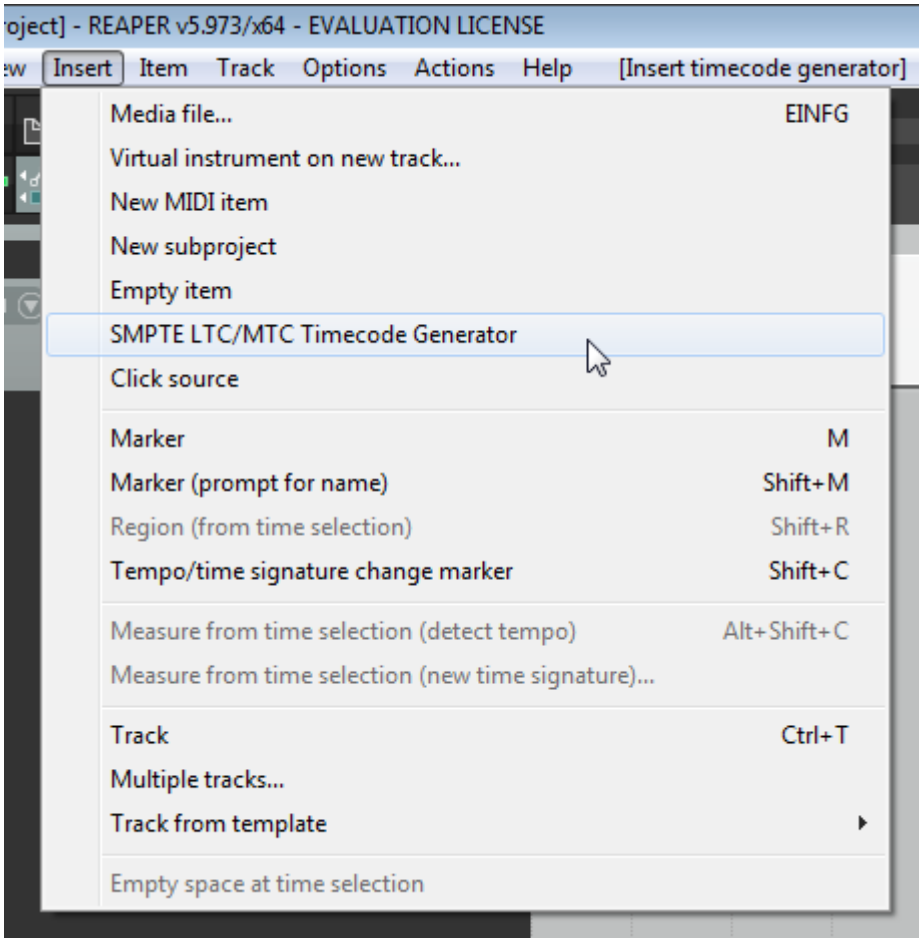
... or select `Configure output...` and make the settings there:



Confirm the settings with OK to close the preferences window.

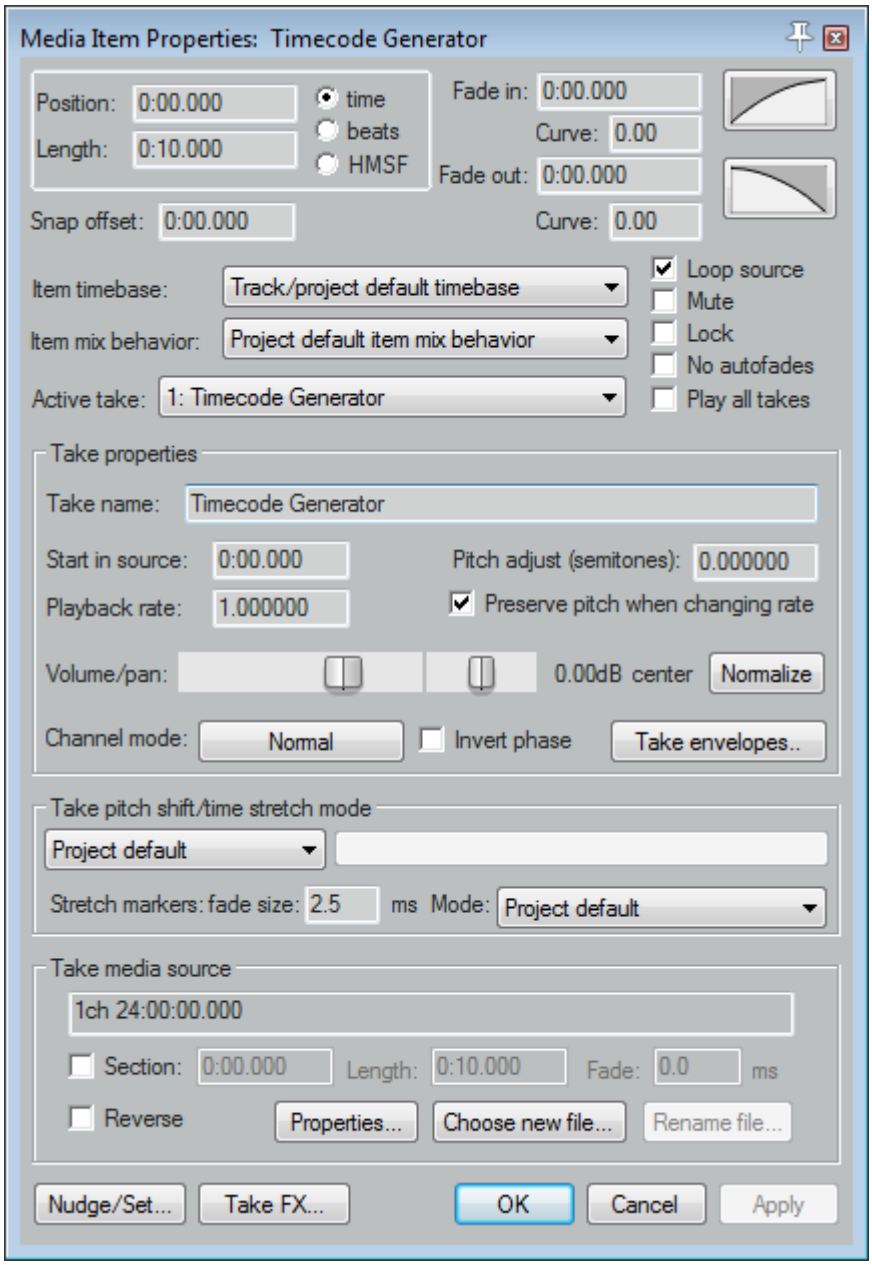
3.2 Insert Timecode Generator

Rewind the timeline to 0:00:00 (simply press <Pos 1>). From the Insert menu select `SMPTE LTC/MTC Timecode Generator`. This inserts this generator as new track.

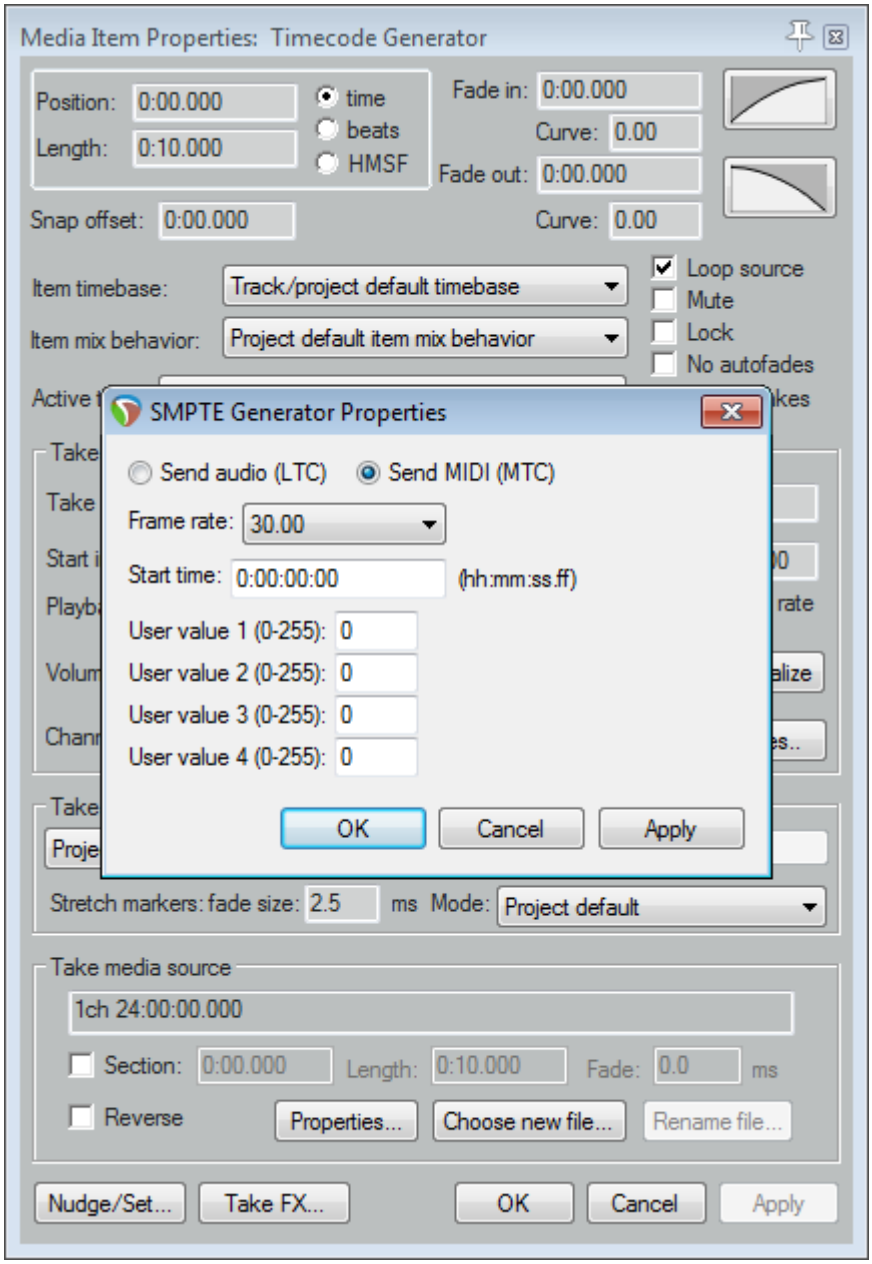


3.3 Adjust Timecode Generator

Right-click on the new timecode track, and from the context menu select Item properties. This opens the Media Item Properties window:



If you want then you can change length, position and other details. In any case you need to make sure it is MTC (MIDI timecode): click on the `Properties` button (at the bottom). In the new little window set the properties to `Send MIDI (MTC)`:



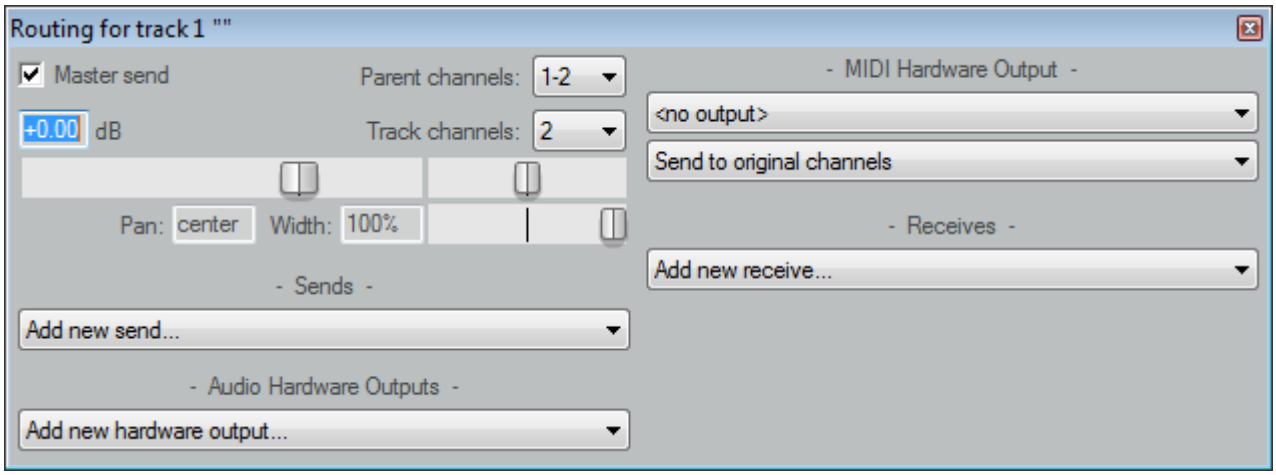
Confirm/close both windows by clicking OK.

3.4 Route the MTC signal

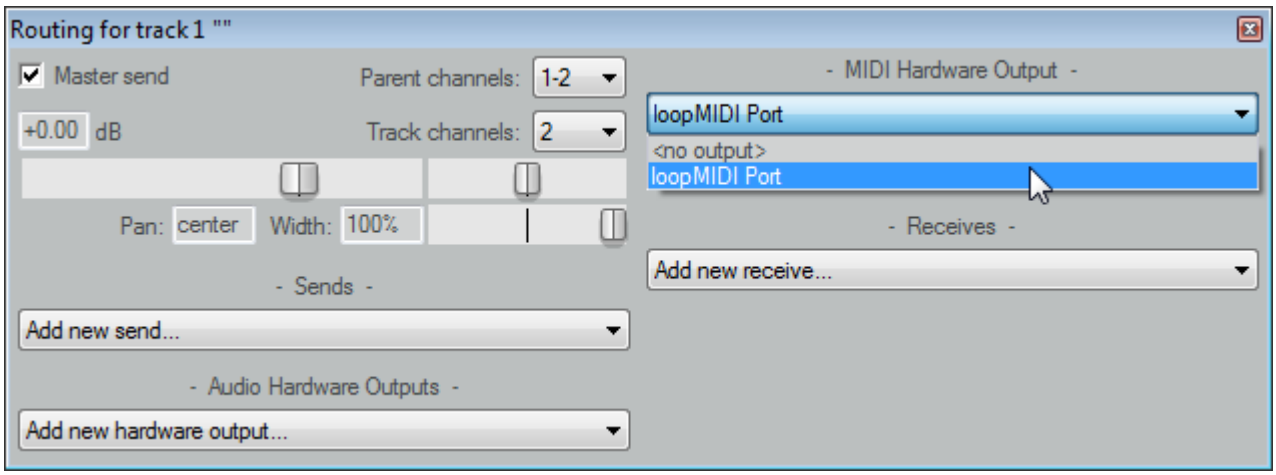
Click on the routing button in the track controls (left to the timecode track):



This opens the routing window for this track:



Under MIDI Hardware Output (top-right) select `loop MIDI Port`:

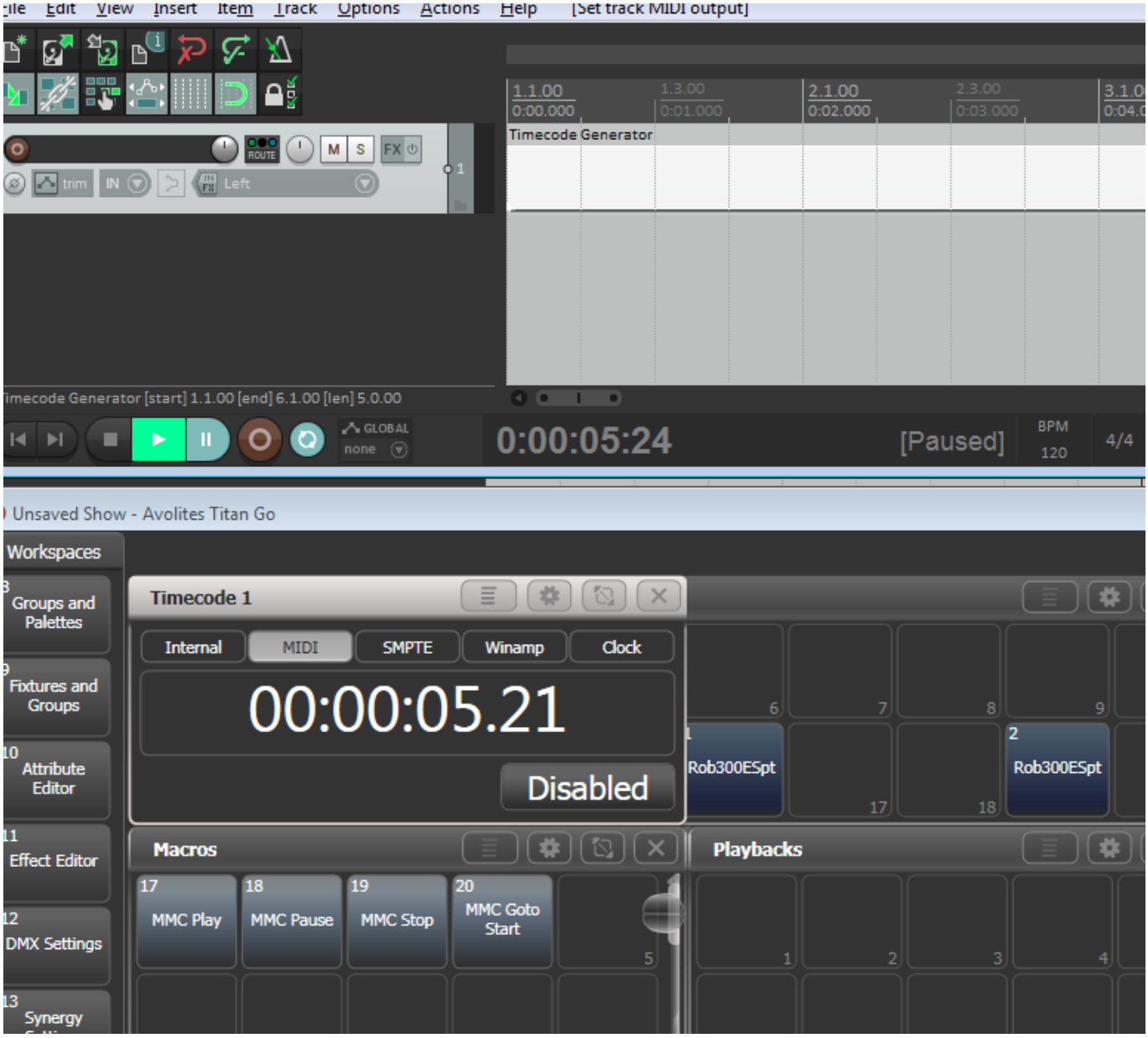


Close the routing window.

4. Try it out

Essentially this should work straight away: as soon as you hit `Play` in Reaper, the timecode value in Titan starts to run. It is advisable to change the time units in Reaper: right-click on the timeline or the displayed time, and from the context menu select `Hours:Minutes:Seconds:Frames`.

This also works together with Reaper being controlled by Titan via MMC, like described in Controlling Reaper from Titan on the same PC



You can now use this as timecode source to sync cuelists to music coming from Reaper.

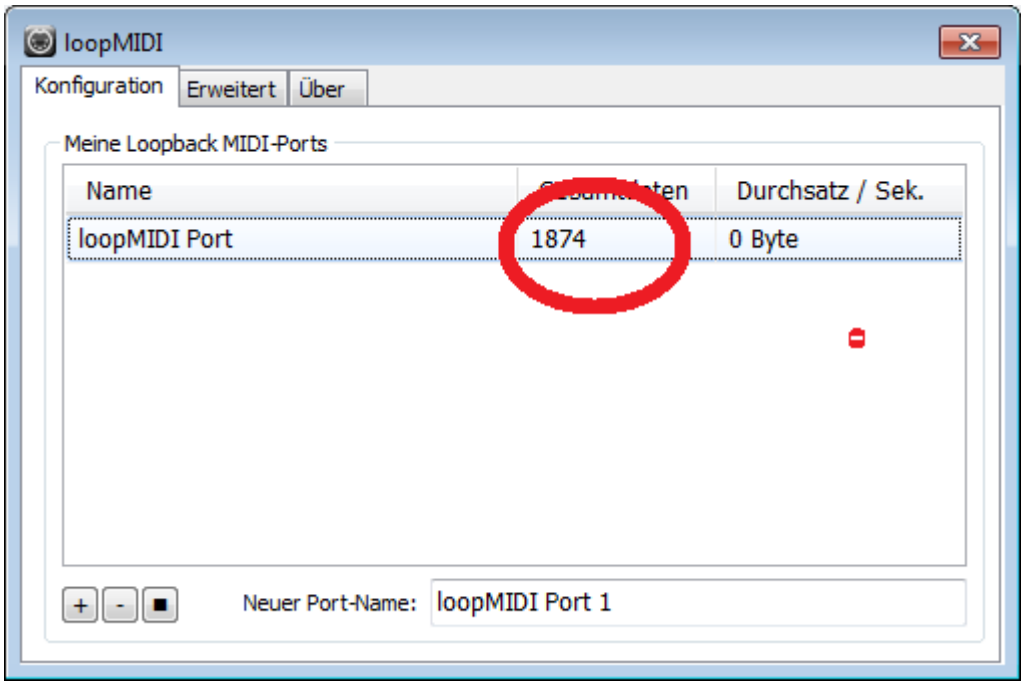
I noticed a gap between the timestamps in Reaper and in Titan. This seems to be due to both, Reaper, as well as Titan/USB Expert, and needs to be investigated further.

5. How to debug

If things do not work as expected then there are some tools which help finding the fault:

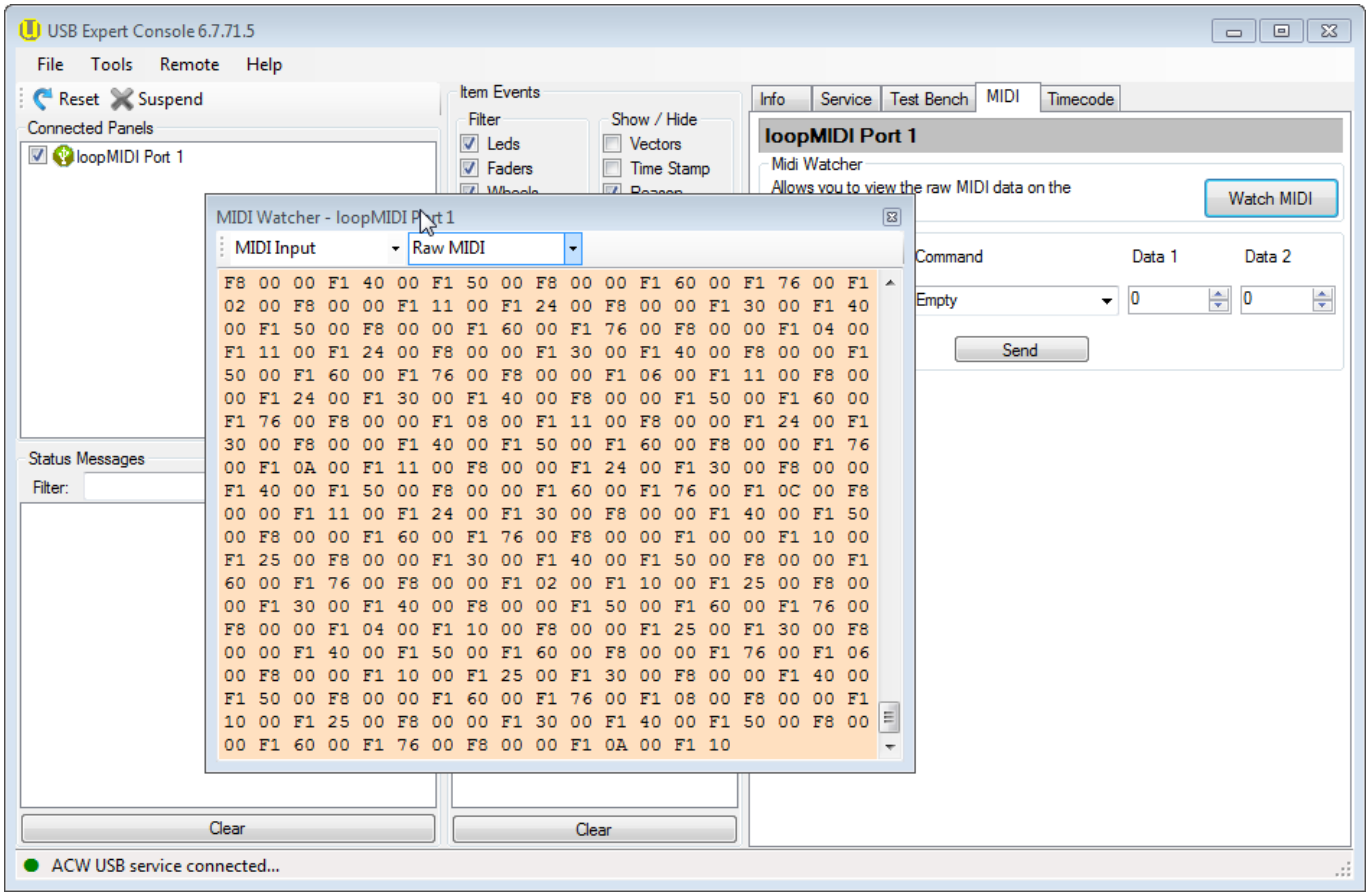
5.1 loopMIDI

loopMIDI shows the number of transmitted data. This number increases with every command, note or message. With timecode, this number increases continuously and rather fast.

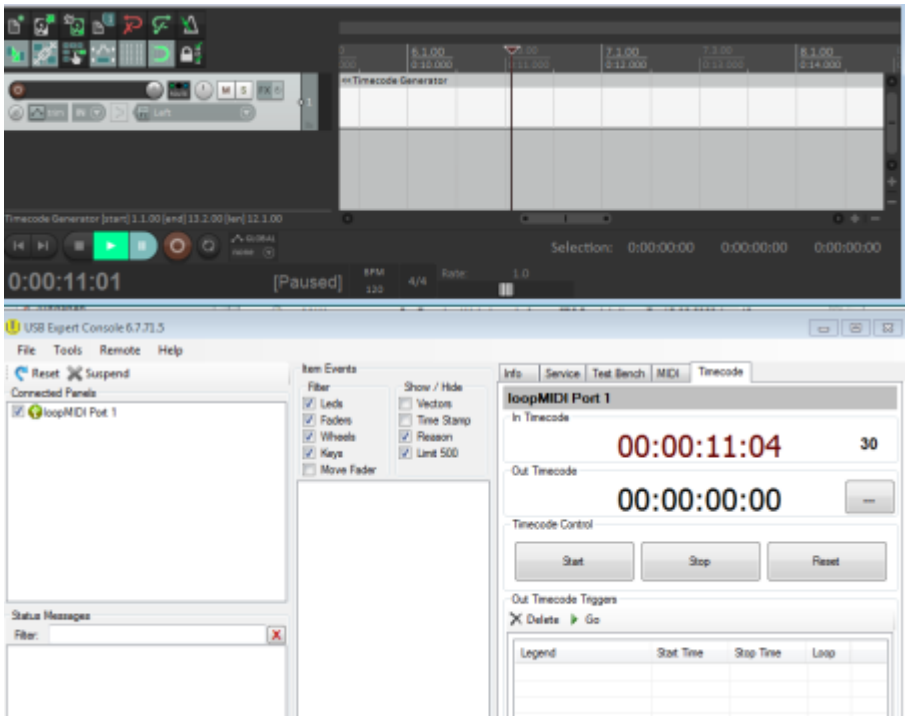


5.2 USB Expert Console

Open the USB Expert Console. This must show loopMIDI Port 1 as connected panel (top-left). Select the `MIDI` tab top-right, click `Watch MIDI`, in the MIDI watcher window select MIDI Input and Raw MIDI. Now, as you send a command, it is shown in the MIDI watcher, with continuously incoming data like this:

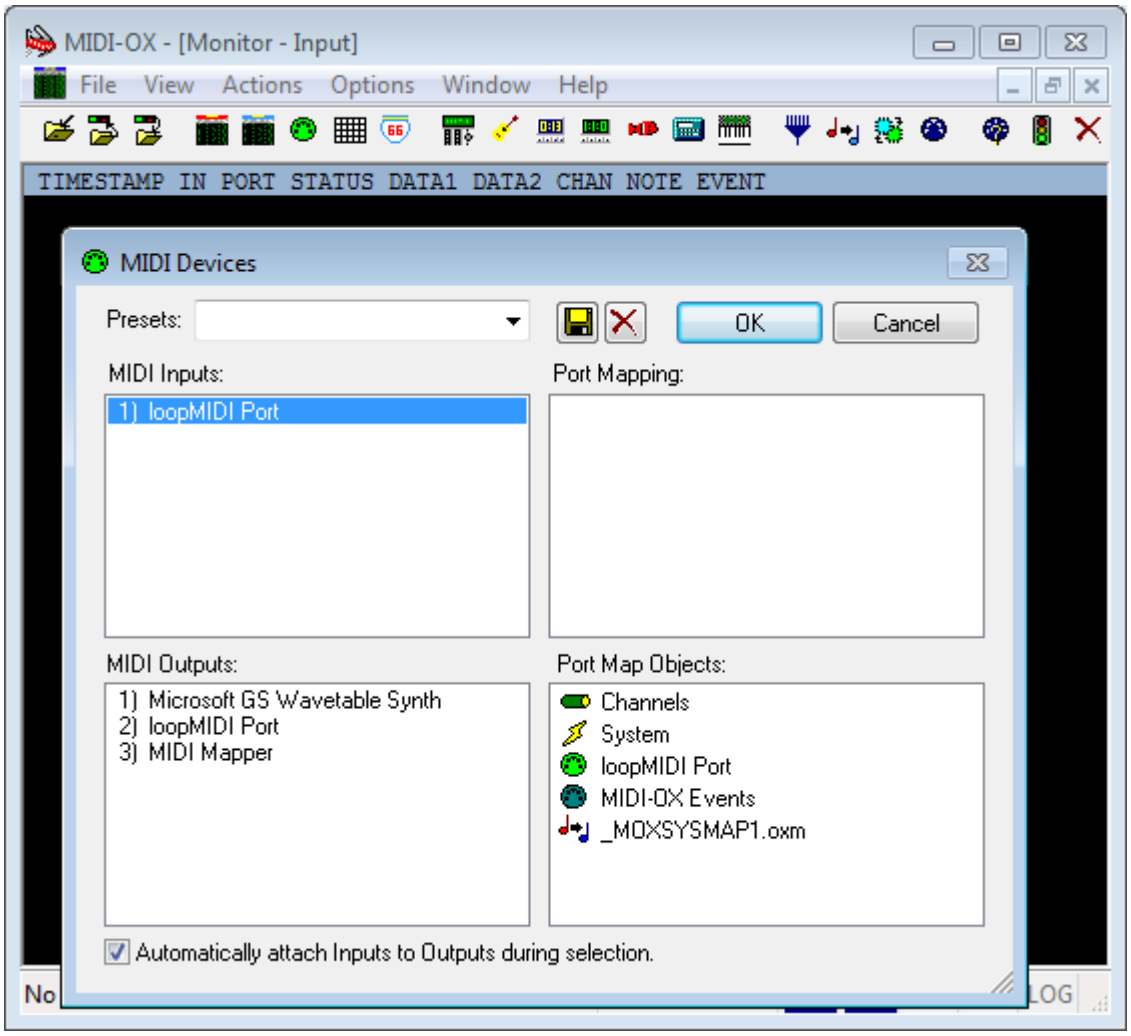


Additionally, on the Timecode tab (top-right), you should see the real timecode values running:

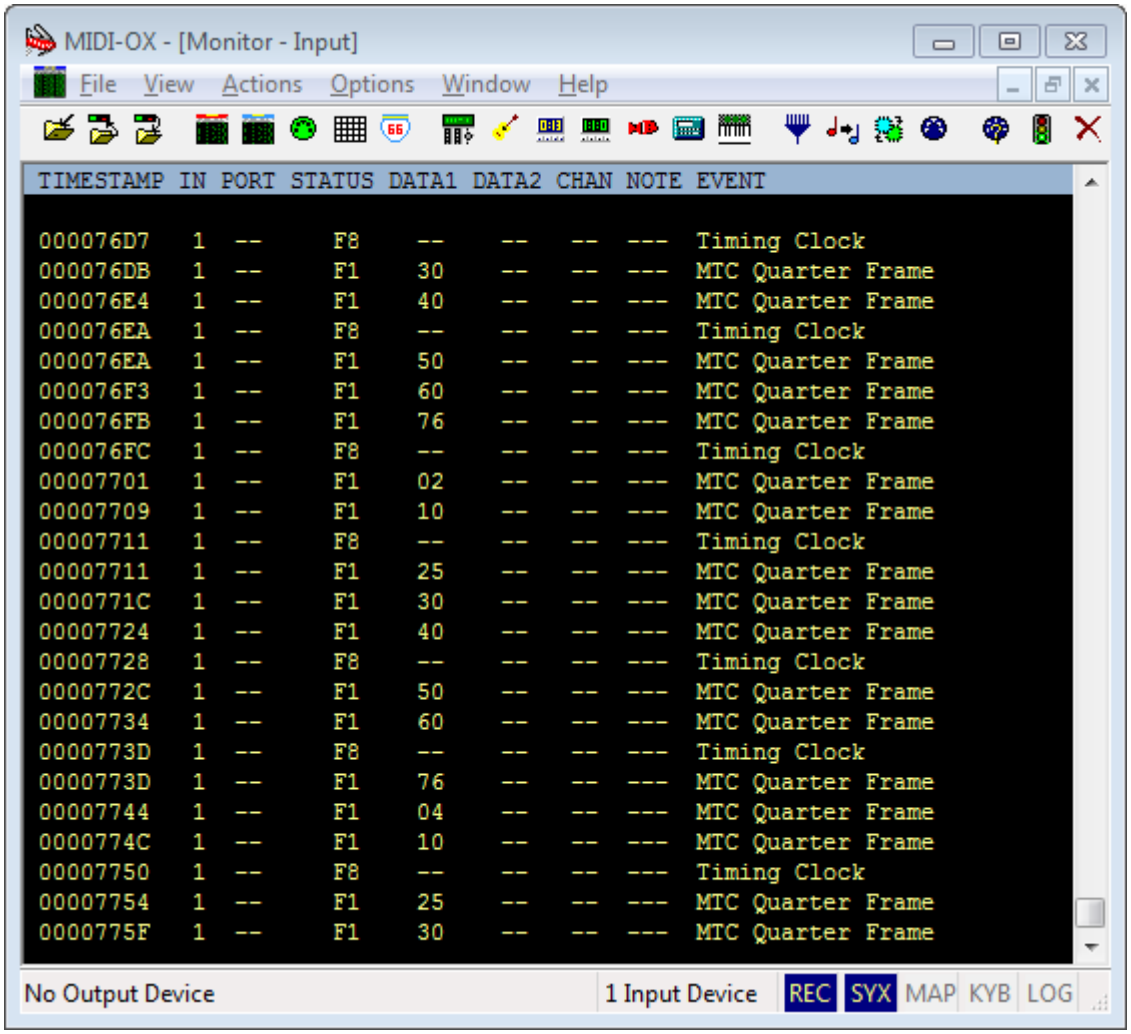


5.3 MIDI-OX

Install and launch MIDI-OX (see Software List. From the Options menu select `MIDI Devices`. Make sure loopMIDI Port is listed as MIDI Input but isn't mapped to any output (yes, you can create a feedback loop, and yes, you do not want to do this...)



From the View menu select `Input Monitor…`. In this window, all incoming MIDI data are shown. You will see the cpntinuous stream of MTC Quarter Freame messages:



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