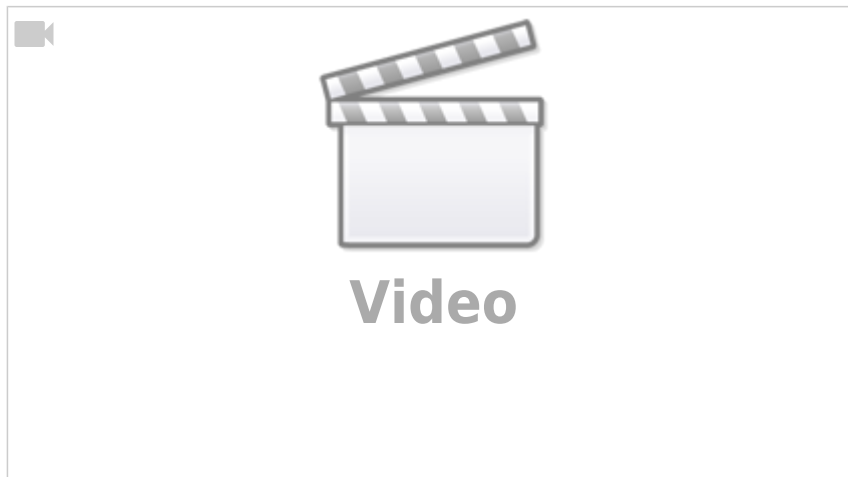


Sending Timecode from Reaper to Titan on another PC

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 two separate PCs. MIDI is being sent over network using rtpMIDI.



Prerequisites

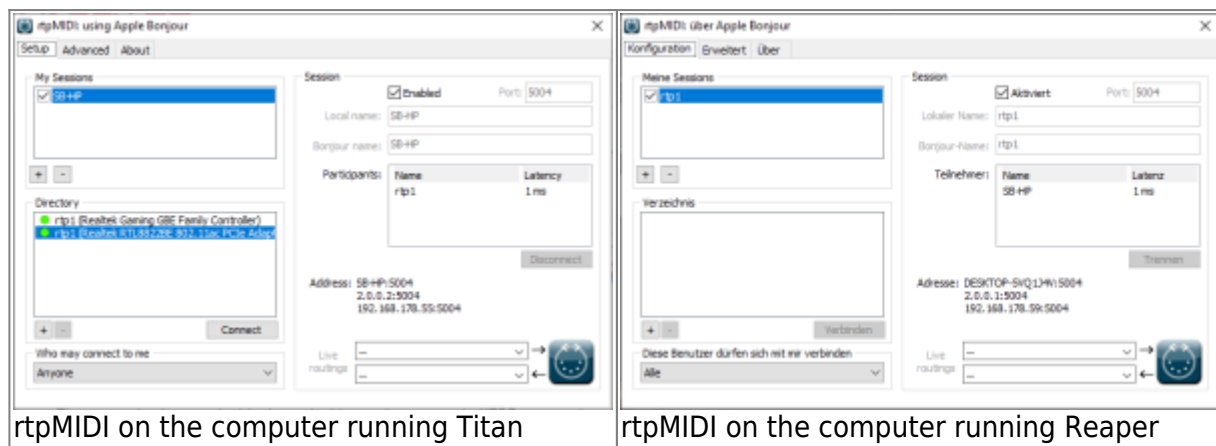
1. of course both computers need to be networked and configured properly (same network mask, correct IP addresses etc.)
2. Titan PC-Suite, from v12 on (External AvoKey or T2 required - T1 or Editor Avokey does not work)
3. rtpMIDI (see [Software List](#), to route the MIDI signal from one computer to the other)
4. Reaper (see [Software List](#))

Make it run

1. rtpMIDI

This needs to be installed on both machines. rtpMIDI provides a virtual MIDI port which is then being forwarded over the network to other participants of this session. There is a compact tutorial provided at the rtpMIDI website. Usually setting this up is as easy as checking the session is enabled in both machines, and both see each other.

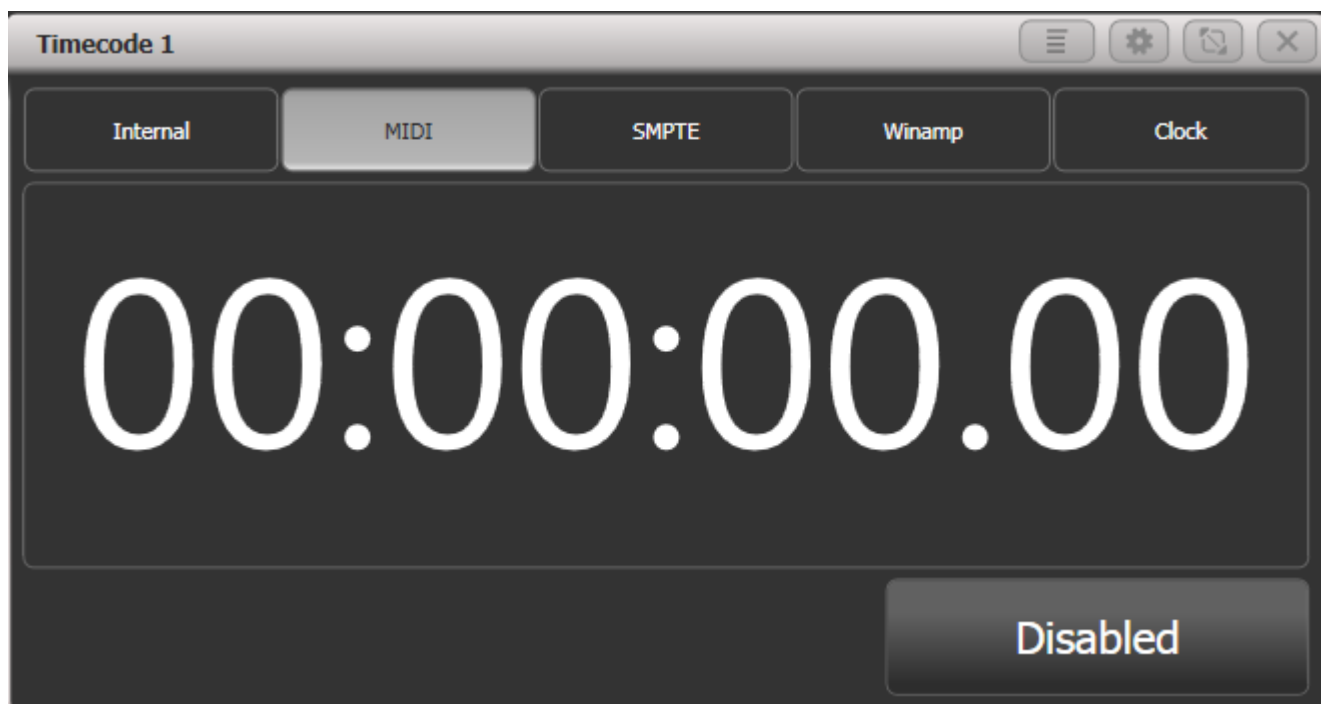
The two pictures show the setup which was used in the a.m. youtube video - SB-HP is the laptop running Titan while rtp1 is the session on the laptop running Reaper.



I found that Titan is allergic to MIDI ports being added or removed while Titan is running. The safest route is, after installing and configuring rtpMIDI, to completely restart the computer which runs Titan.

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.

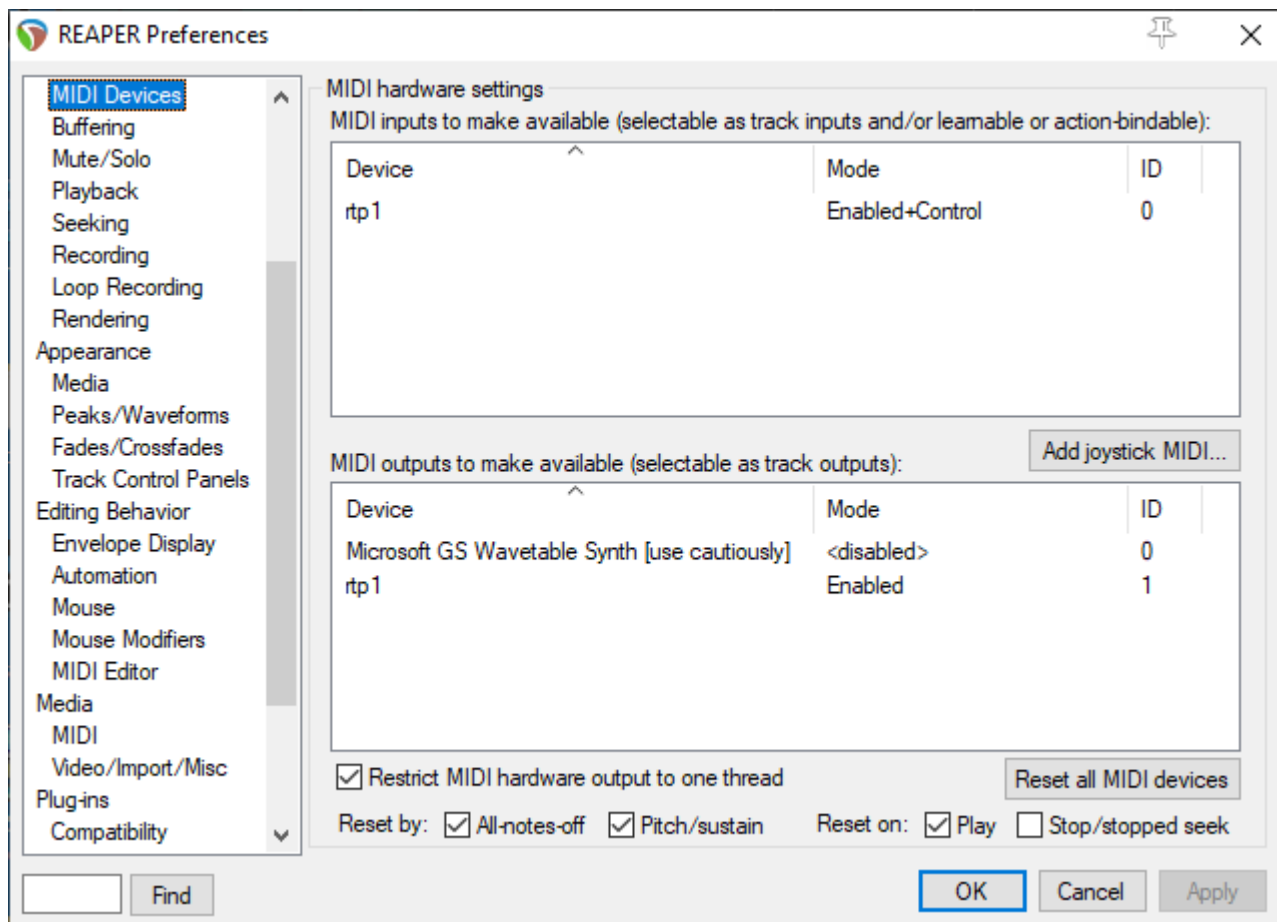


3. Reaper

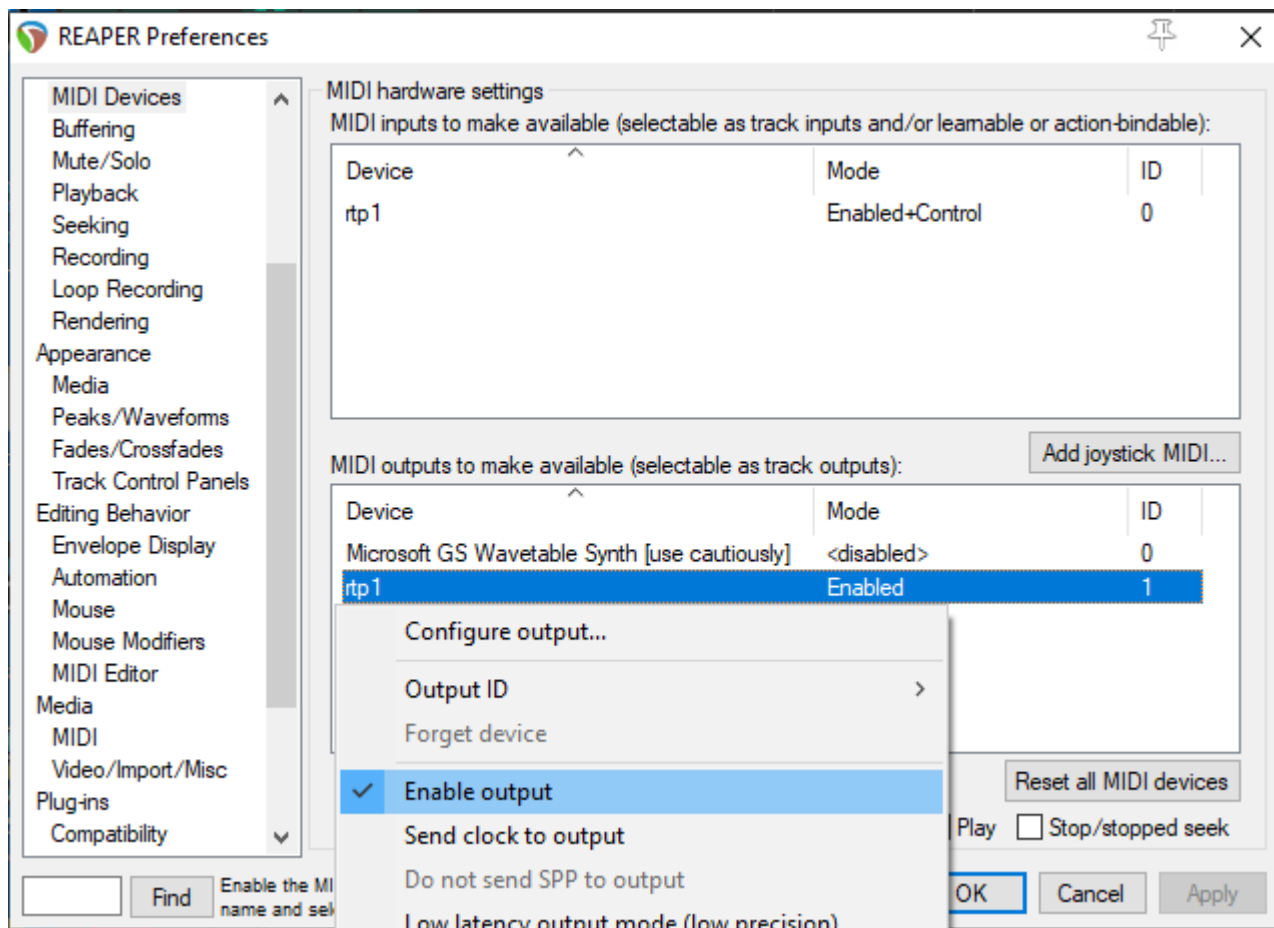
Launch Reaper. Load a track if you want (not required for this to function). However here are the steps to configure Reaper correctly:

3.1 Enable MIDI Output

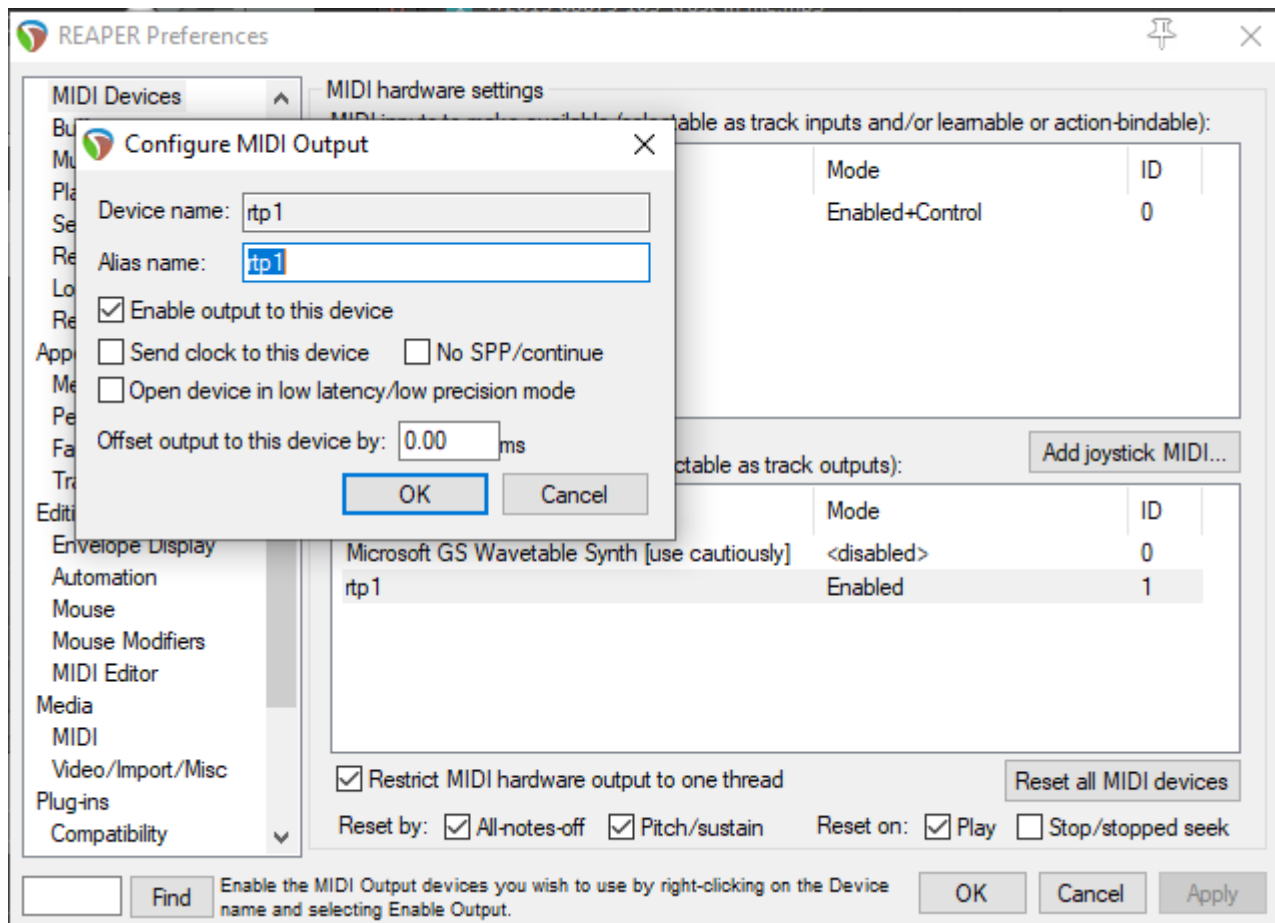
In the Options menu select Preferences - this opens the preferences window. Find MIDI devices in the Audio section. This should list the virtual MIDI port you created in rtpMIDI as MIDI output:



Right-click on the port in the output section and either tick **Enable** output from the menu...



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

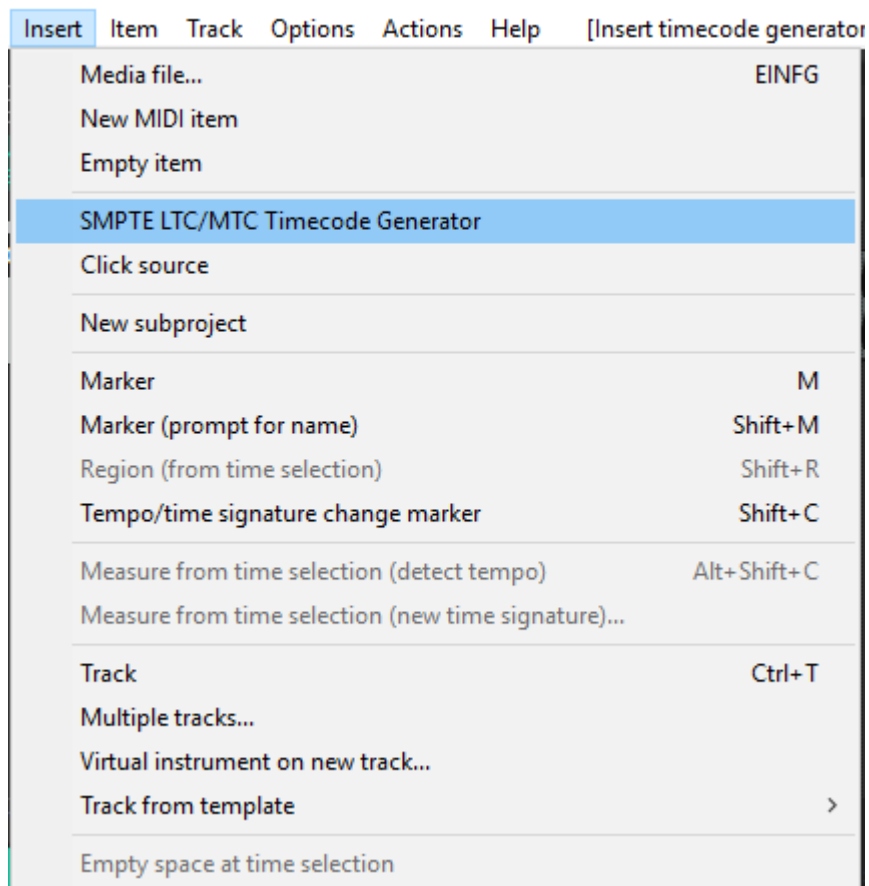


Confirm the settings with OK to close the preferences window.

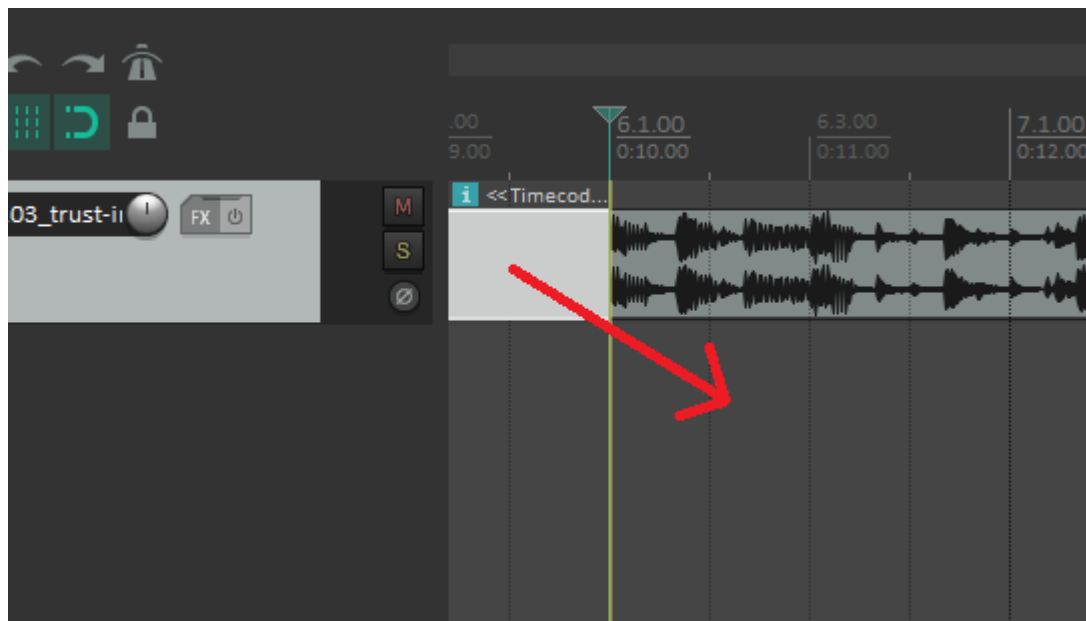
3.2 Insert Timecode Generator

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.

ect] - REAPER v6.08/x64 - Registered to Temporary License (Commercial license, e



If you had already inserted an audio track then probably the timecode track was inserted on the same track. Simply click, drag and drop it onto a new track:

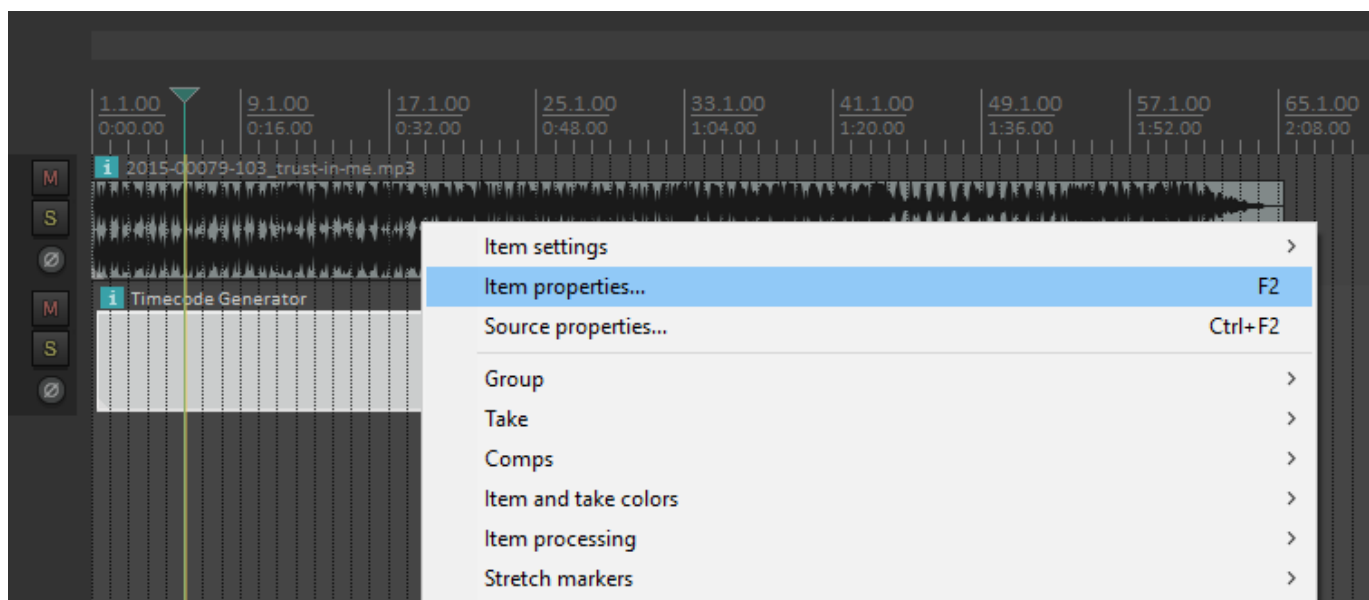


Also, it's a good idea to bring the timecode track (at least) to the same length like the music:



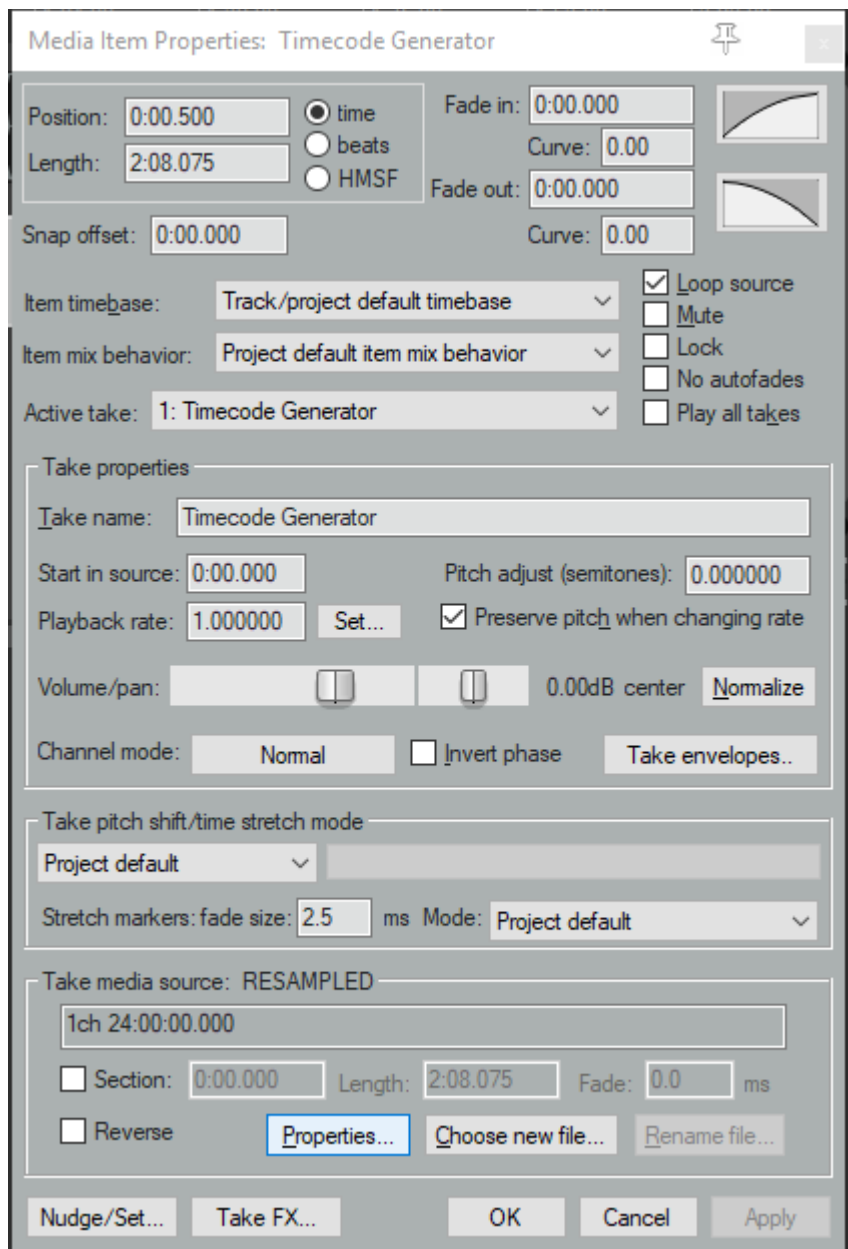
3.3 Adjust Timecode Generator

Right-click on the new timecode track, and from the context menu select Item properties:



(or, with the timecode track selected hit F2).

This opens the Media Item Properties window:



Media Item Properties: Timecode Generator

Position: 0:00.500 Length: 2:08.075 Snap offset: 0:00.000

☒ time ☐ beats ☐ HMSF

Fade in: 0:00.000 Curve: 0.00

Fade out: 0:00.000 Curve: 0.00

Item timebase: Track/project default timebase

Item mix behavior: Project default item mix behavior

Active take: 1: Timecode Generator

☒ Loop source ☐ Mute ☐ Lock ☐ No autofades ☐ Play all takes

Take properties

Take name: Timecode Generator

Start in source: 0:00.000 Pitch adjust (semitones): 0.000000

Playback rate: 1.000000 Set... ☒ Preserve pitch when changing rate

Volume/pan: 0.00dB center Normalize

Channel mode: Normal ☐ Invert phase Take envelopes...

Take pitch shift/time stretch mode

Project default

Stretch markers: fade size: 2.5 ms Mode: Project default

Take media source: RESAMPLED

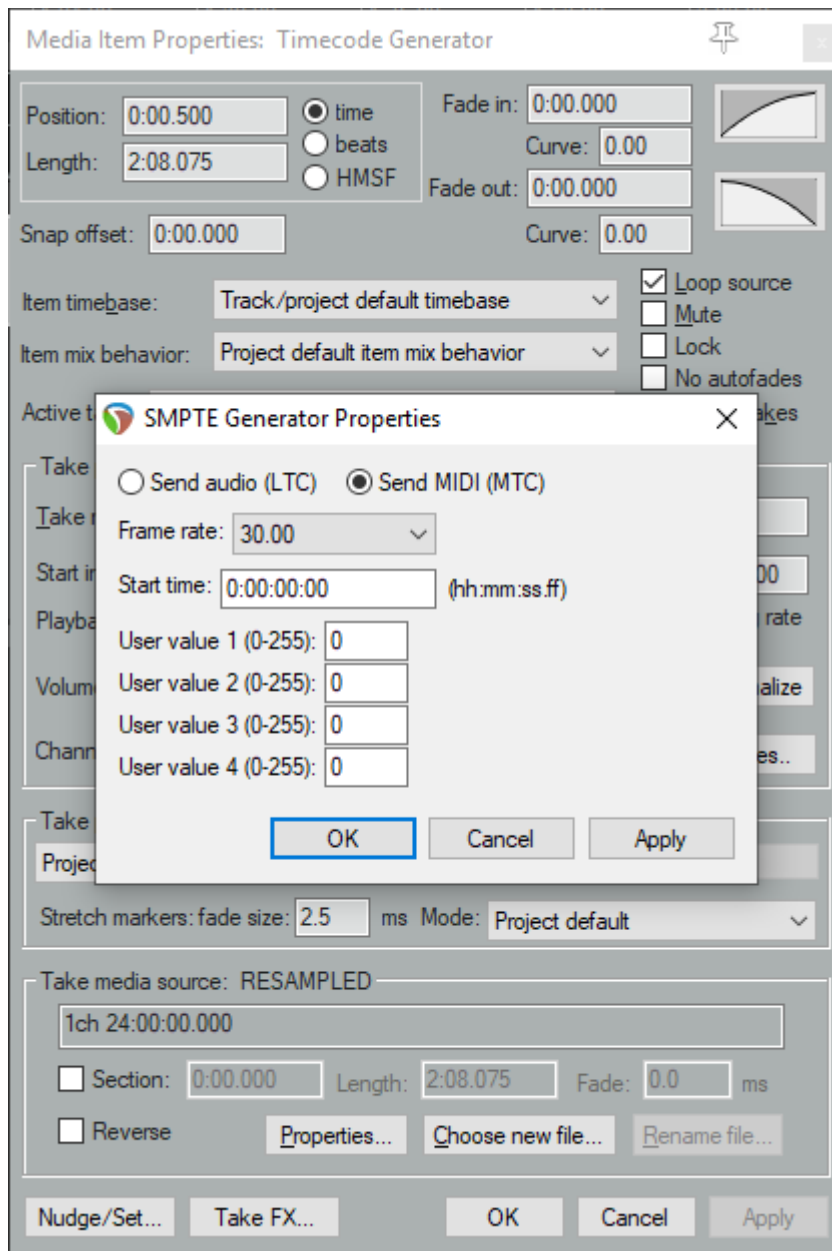
1ch 24:00:00.000

☐ Section: 0:00.000 Length: 2:08.075 Fade: 0.0 ms

☐ Reverse Properties... Choose new file... Rename file...

Nudge/Set... Take FX... OK Cancel Apply

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

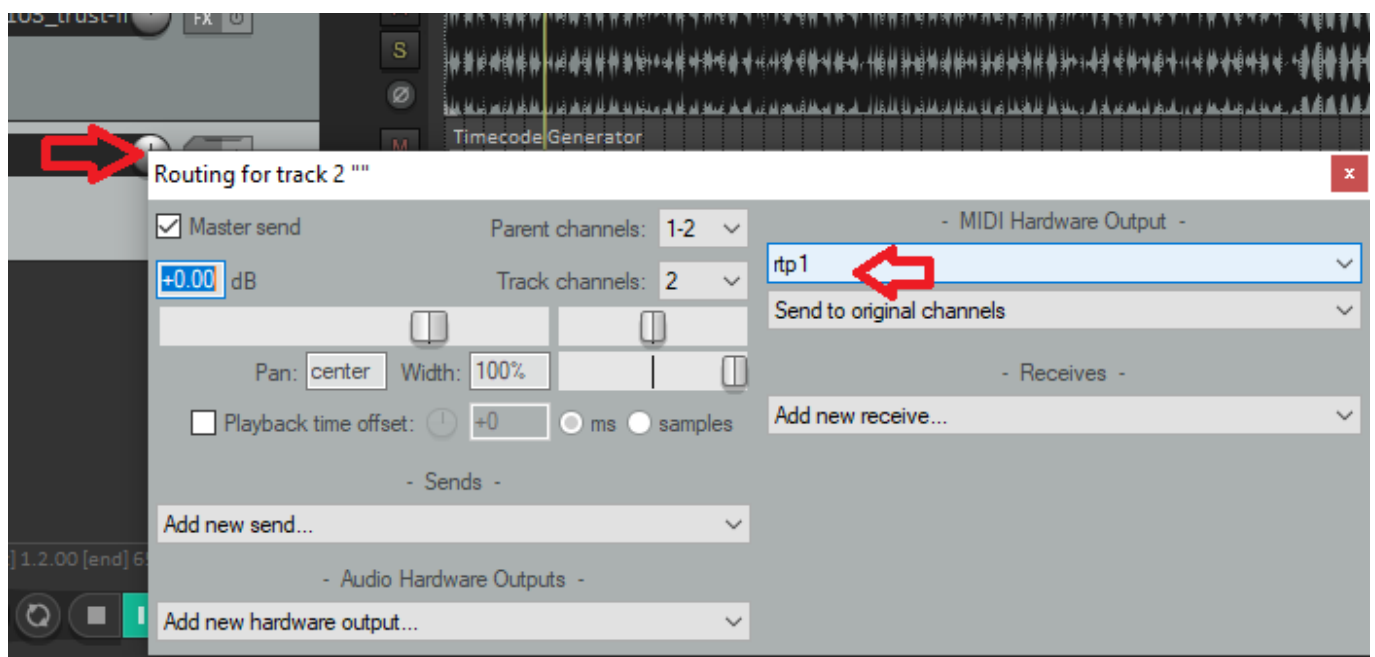
This button slightly depends from your reaper version:

In Reaper v5, click on the routing button in the track controls (left to the timecode track):



In Reaper v6, right-click on the volume knob of the timecode track.

This opens the routing window for this track. Under MIDI Hardware Output (top-right) select your virtual MIDI port:

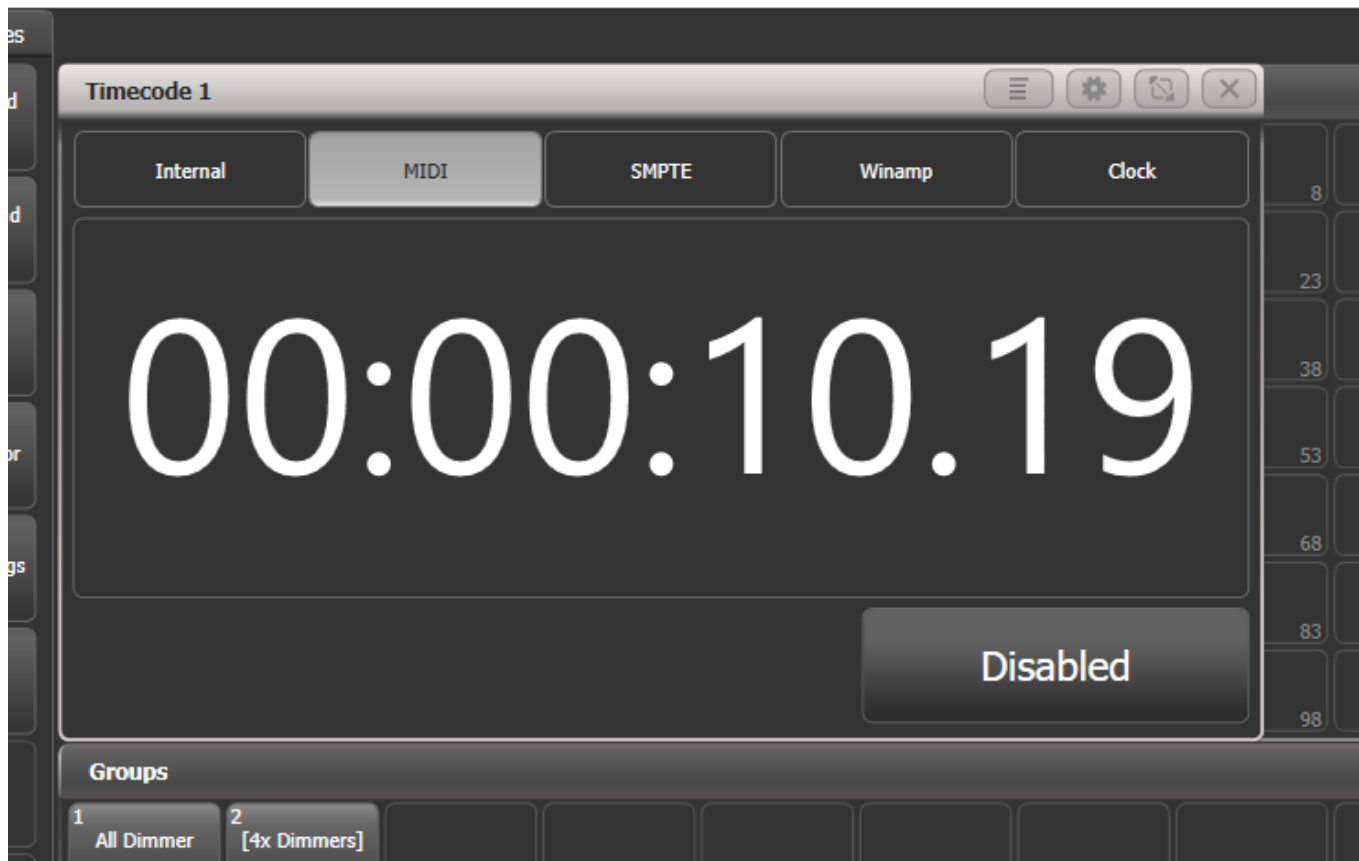


Close the routing window.

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.

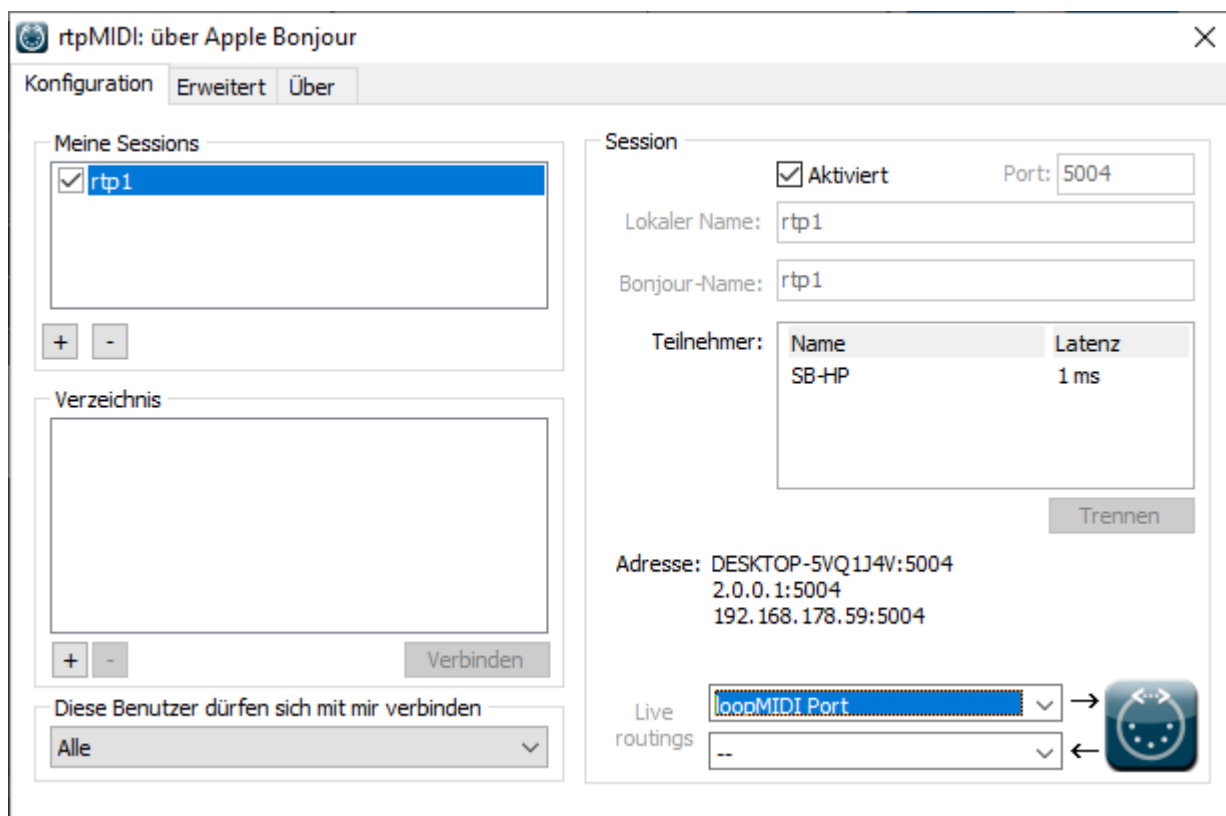
5. How to debug

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

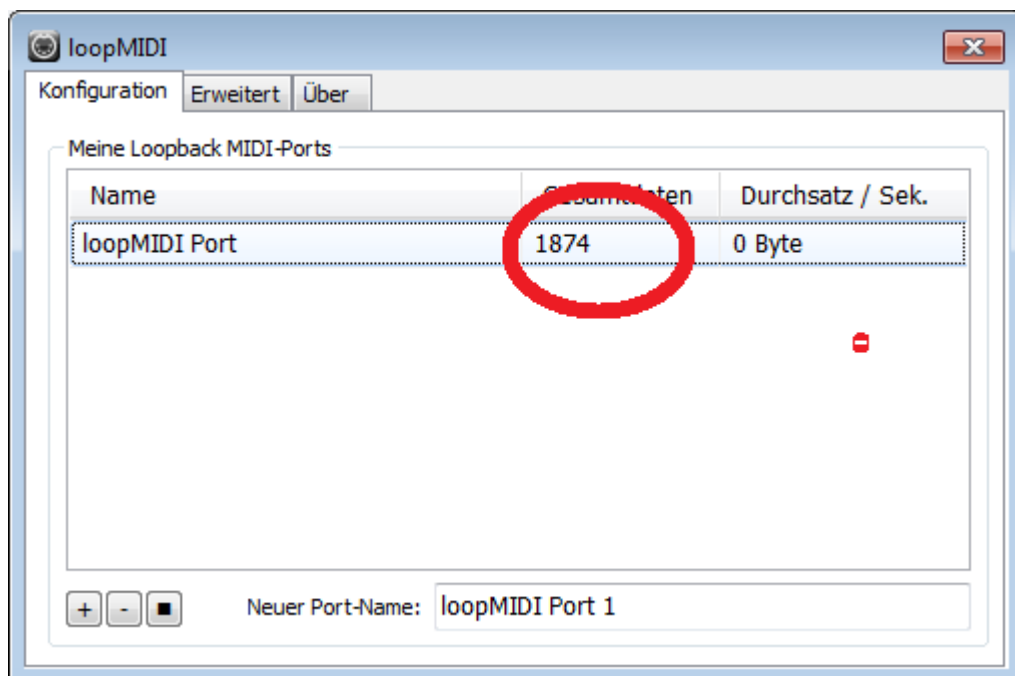
5.1 loopMIDI

You may route the signal via loopMIDI as explained in [Sending Timecode from Reaper to Titan on the same PC](#). Please install loopMIDI and apply the correct settings in Reaper.

Also, in this case rtpMIDI needs to be told to take its input from loopMIDI:

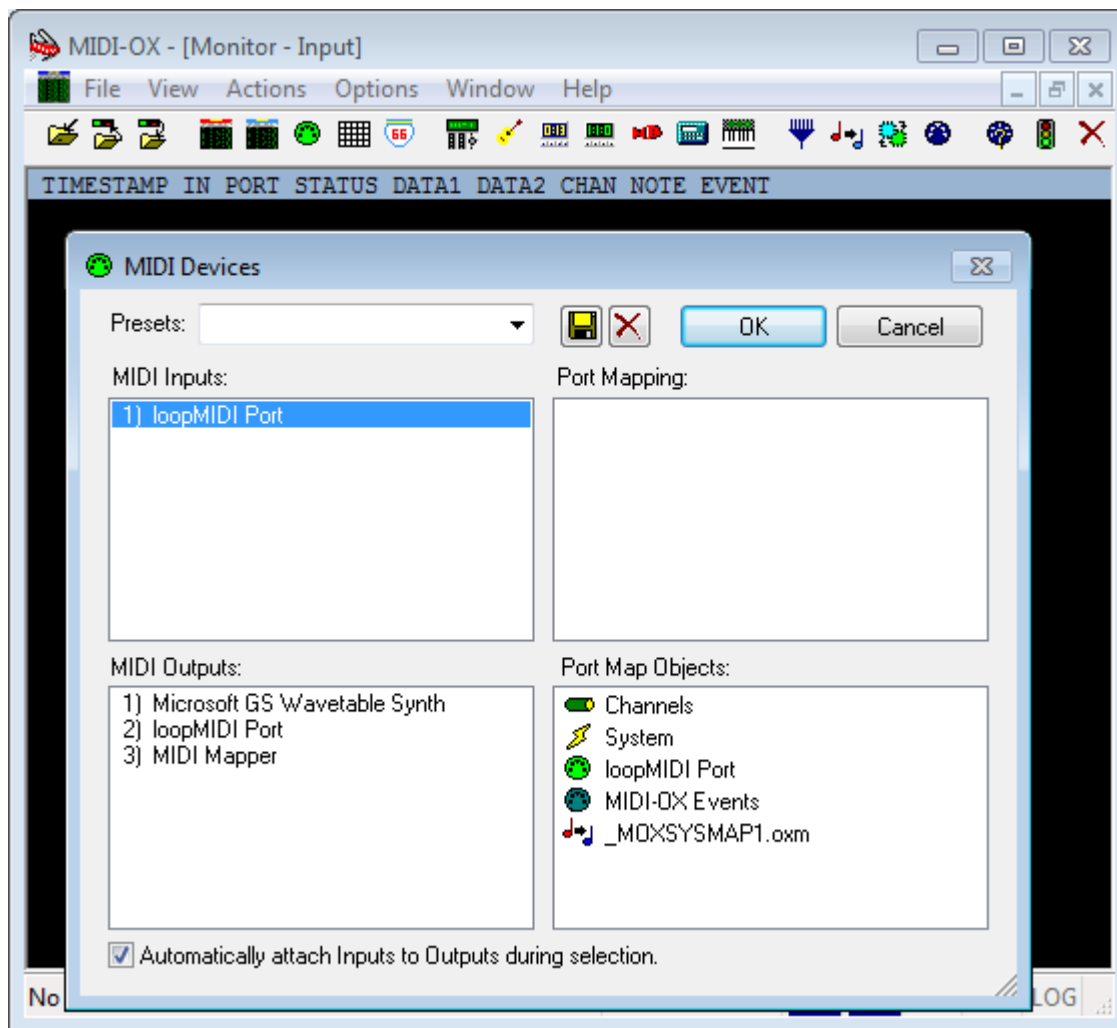


loopMIDI shows the number of transmitted data. This number increases with every command, note or message. With timecode, this number increases continuously and rather fast.

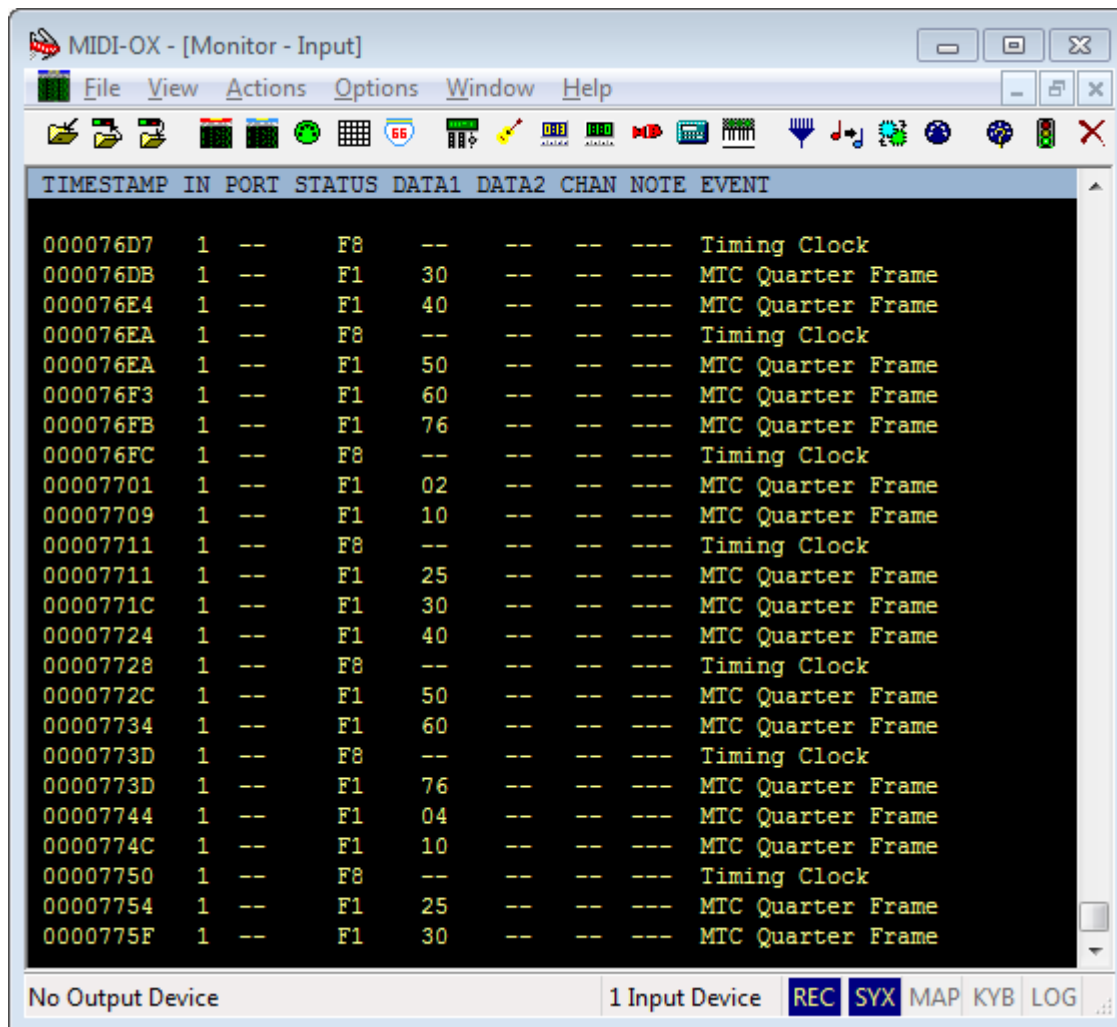


5.2 USB Expert Console

Open the USB Expert Console. This must show your virtual MIDI port 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



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



The screenshot shows the MIDI-OX application window. The title bar reads "MIDI-OX - [Monitor - Input]". The menu bar includes "File", "View", "Actions", "Options", "Window", and "Help". The toolbar contains various icons for file operations, MIDI settings, and system functions. The main display area is a table with the following columns: "TIMESTAMP", "IN", "PORT", "STATUS", "DATA1", "DATA2", "CHAN", "NOTE", and "EVENT". The table lists 24 MIDI events, including "Timing Clock" and "MTC Quarter Frame" messages. The status bar at the bottom shows "No Output Device", "1 Input Device", and buttons for "REC", "SYX", "MAP", "KYB", and "LOG".

TIMESTAMP	IN	PORT	STATUS	DATA1	DATA2	CHAN	NOTE	EVENT
000076D7	1	--	F8	--	--	--	---	Timing Clock
000076DB	1	--	F1	30	--	--	---	MTC Quarter Frame
000076E4	1	--	F1	40	--	--	---	MTC Quarter Frame
000076EA	1	--	F8	--	--	--	---	Timing Clock
000076EA	1	--	F1	50	--	--	---	MTC Quarter Frame
000076F3	1	--	F1	60	--	--	---	MTC Quarter Frame
000076FB	1	--	F1	76	--	--	---	MTC Quarter Frame
000076FC	1	--	F8	--	--	--	---	Timing Clock
00007701	1	--	F1	02	--	--	---	MTC Quarter Frame
00007709	1	--	F1	10	--	--	---	MTC Quarter Frame
00007711	1	--	F8	--	--	--	---	Timing Clock
00007711	1	--	F1	25	--	--	---	MTC Quarter Frame
0000771C	1	--	F1	30	--	--	---	MTC Quarter Frame
00007724	1	--	F1	40	--	--	---	MTC Quarter Frame
00007728	1	--	F8	--	--	--	---	Timing Clock
0000772C	1	--	F1	50	--	--	---	MTC Quarter Frame
00007734	1	--	F1	60	--	--	---	MTC Quarter Frame
0000773D	1	--	F8	--	--	--	---	Timing Clock
0000773D	1	--	F1	76	--	--	---	MTC Quarter Frame
00007744	1	--	F1	04	--	--	---	MTC Quarter Frame
0000774C	1	--	F1	10	--	--	---	MTC Quarter Frame
00007750	1	--	F8	--	--	--	---	Timing Clock
00007754	1	--	F1	25	--	--	---	MTC Quarter Frame
0000775F	1	--	F1	30	--	--	---	MTC Quarter Frame

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https://avosupport.de/wiki/external/examples/reaper_timecode_on_other_pc?rev=1588143736

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