

# TcpMidi



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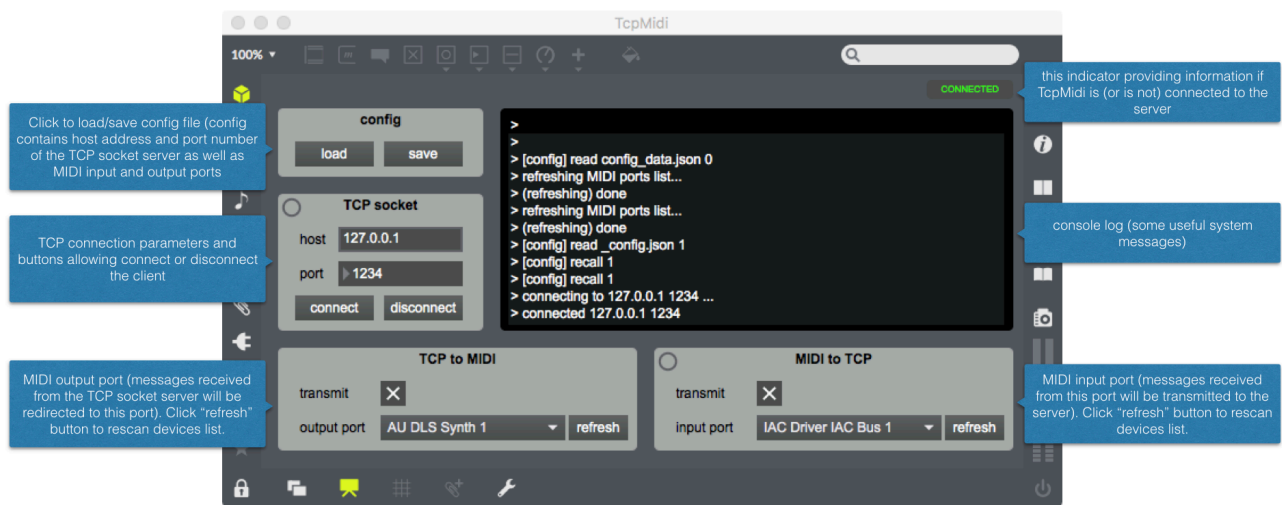
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## TcpMidi



TcpMidi is a simple tool created in MaxMSP (v. 7), that lets you send/receive MIDI messages over TCP socket (TcpMidi is a client which connects to the TCP socket server). The program can redirect MIDI messages from any MIDI input port (virtual or hardware) you choose to the TCP socket server and/or receive binary stream from the TCP socket server and direct it to any MIDI output port (virtual or hardware) you choose.

TcpMidi supports MIDI Running Status and System Exclusive (however, sysex data transmission depends on the speed and stability of data transfer through the socket and generally may not work for some devices). I tested the program on OSX, but it should work on Windows too.

I created TcpMidi as bridge between FS-UAE (Amiga computer emulator) and OSX MIDI environment to use MIDI software on the emulated Amiga in conjunction with MIDI hardware and software running on the OSX side. Due to the fact, that FS-UAE can handle, based on TCP socket, emulation of the Amiga serial port, and most of Amiga MIDI software assumes that the MIDI interface is connected to the serial port, so as a result, basic MIDI support may be reduced to sending data between the emulated serial port and the MIDI ports of the computer on which the FS-UAE instance works.

However, TcpMidi can be used in a different context, wherever we - for some reason - need to transmit MIDI data over TCP sockets, to/from TCP socket server (remember, that TcpMidi is a client).

Most important mechanism inside the program is based on Adam Syska's "sadam" library (a great collection of objects enhancing MaxMSP functionality). Actually, most parts of the TcpMidi are just a graphical interface for [sadam.tcpClient] object.

It is worth talking awhile about the precision of messaging and possible delays in transmission. Timing is especially important when working with MIDI and TcpMidi itself is fast enough to handle small MIDI traffic (for example messages from MIDI keyboard used to fill MIDI track in DAW or an simple MIDI arrangement). However program efficiency also depends on the speed of the TCP server to which it is connected and (especially when it's operating over network and not on localhost) general network connection conditions and lags.

## Installation

1) Download and unpack TcpMidi from this location:

<http://paweljanicki.jp/shared/tcpmidi.zip>

Put unpacked folder wherever you want (no installation required).

2) If you have no MaxMSP installed on your computer, download it and install from this location:

<http://cycling74.com/downloads/>

If you did not work with MaxMSP before you should know that you don't need a full commercial version of the environment - just download and install demo version (after demo mode expiration time it will still work as a "runtime" - fully functional except for the ability to save projects).

3) If you have no "sadam" library for MaxMSP installed download it and install from this location:

<https://cycling74.com/tools/the-sadam-library/>

If you didn't work with MaxMSP before and don't know how to deal with libraries:

If you are on OSX: go to the "mxo 6" folder inside the "sadamlib" folder, locate and copy "sadam.tcpClient.mxo" file, put it inside "TcpMidi" folder.

If you are on Windows: go to the "mxe 6" folder inside the "sadamlib" folder. If you downloaded 64bit version of MaxMSP go to the "x64" folder. Locate and copy "sadam.tcpClient.mxe" (or "sadam.tcpClient.mxe64" if you are working with 64bit MaxMSP) file, put it inside "TcpMidi" folder.

## Usage

Make sure your TCP socket server is running and your MIDI equipment is connected and ready.

Start the program by double clicking on the "Main" file (located inside the "TcpMidi" folder). Wait until the program starts.

Type correct host address and port number in the "TCP socket" section, click "connect" button. If you provided correct host and port and the TCP socket server is running TcpMidi should connect to the server.

Set MIDI input and output ports (be aware of the possibility of coupling if the same port is used as input and output).

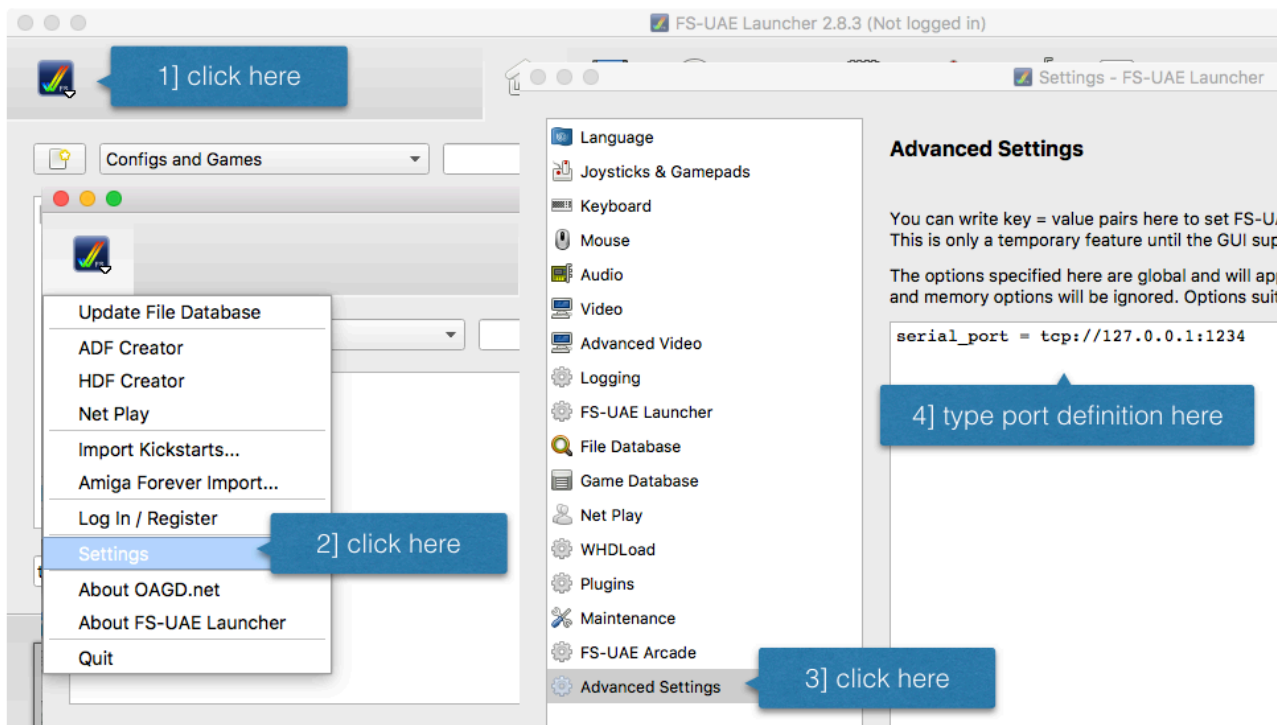
From now on, data should flow between MIDI ports and TCP connection.

Program configuration (TCP connection parameters, MIDI ports) can be remembered by clicking the "save" button in the "config" section. On load TcpMidi is automatically loading last saved config file and trying to establish TCP connection using remembered address and route messages to/from remembered MIDI ports.

Sometimes - especially on Windows - you may expect alerts from your antivirus software when TcpMidi is connecting to the server - make sure it is not blocked by your security settings.

## TcpMidi and FS-UAE

Run FS-UAE launcher. Make sure you configured your emulator to use TCP serial port (here is detailed instruction: <https://fs-uae.net/docs/serial-port> - see also image below).



I assume that you use port number 1234 and localhost (IP 127.0.0.1) for serial port emulation - but if you prefer different addresses you can, of course, type them later in TcpMidi settings. Start the emulation, wait until it starts.

Make sure your MIDI equipment is connected and ready.

Start TcpMidi by double clicking on the "Main" file (located inside the "TcpMidi" folder). Wait until the program starts.

The program should automatically connect to the TCP socket server handling emulated Amiga serial port. If that did not happen and you know, that your emulated serial port is using port number and/or host address different to the assumed (host: 127.0.0.1, port: 1234) type correct host address and port number in the "TCP socket" section and click "connect" button. If you provided correct host and port and the TCP socket server is running TcpMidi should connect to the server.

Set MIDI input and output ports (be aware of the possibility of coupling if the same port is used as input and output).

From now on, data should flow between MIDI ports and TCP connection. Run your preferred MIDI software on emulated Amiga and try to generate some MIDI messages. You may also send some MIDI messages (especially Note On/Off) to the sequencer to check if the connection is bidirectional.

Program configuration (TCP connection parameters, MIDI ports) can be remembered by clicking the "save" button in the "config" section. On load TcpMidi is automatically loading last saved config file and trying to establish TCP connection using remembered address and route messages to/from remembered MIDI ports.

Sometimes - especially on Windows - you may expect alerts from your antivirus software when TcpMidi is connecting to the server - make sure it is not blocked by your security settings.

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