

Synclavier

Synclavier® Touch

Version 1.0

January 31, 2017



Synclavier® Touch Quick Start

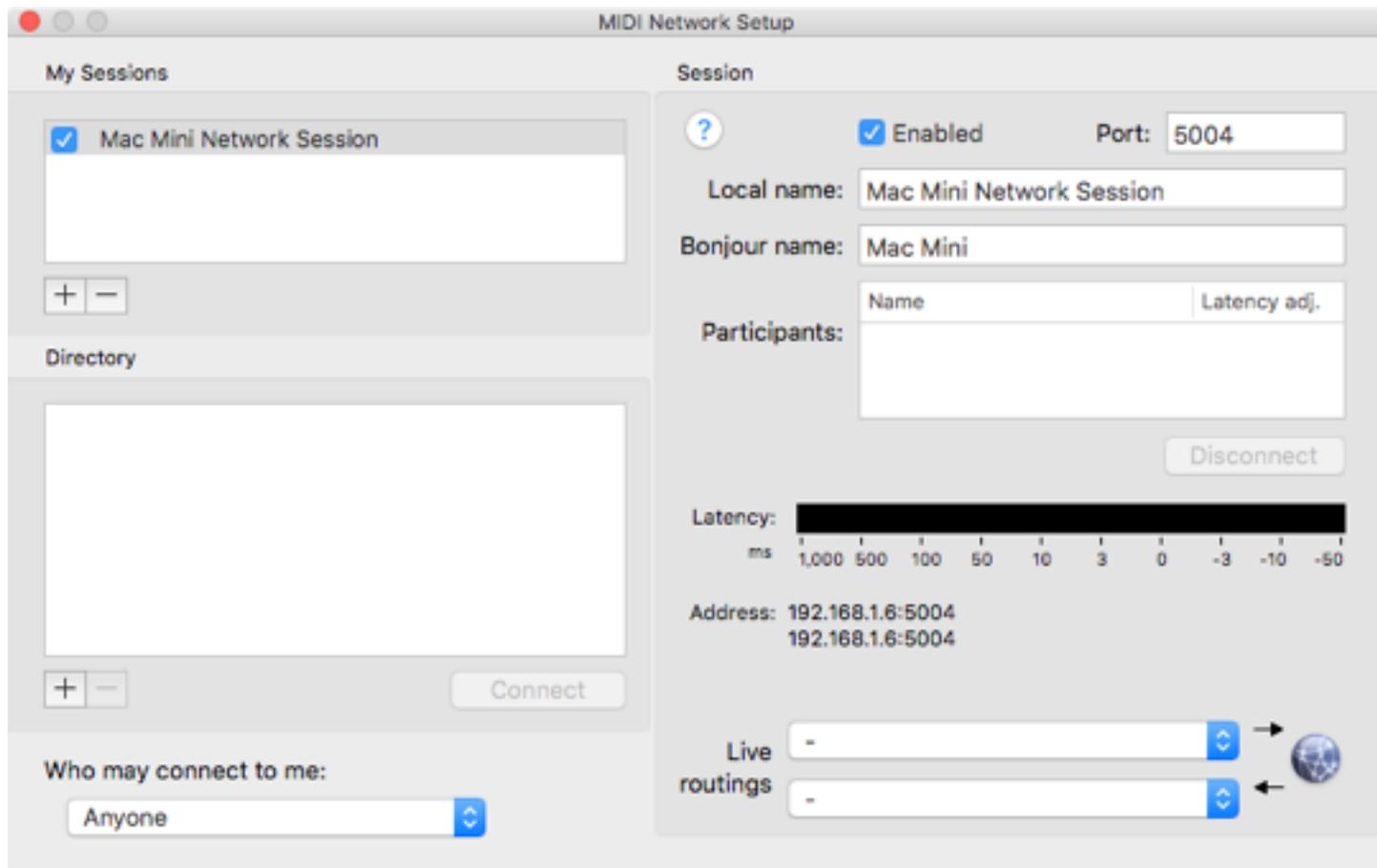
- Be sure to download and install the **latest Synclavier³ application** (1.0.36 or later) from synclavier.com. Synclavier® Touch does not operate with earlier releases of Synclavier³.
- On your Mac, use Audio MIDI Setup to **create a MIDI Network Session**. Be sure to **enable** the network session and set it so **Anyone** can connect. The **Bonjour** name assigned to the session is the name that will show up across your network.
- In Synclavier³, use the MIDI Patching Window to connect MIDI data **from** the network session you create **to** the Synclavier MIDI Control processor, and to connect MIDI data **from** the Synclavier MIDI Control processor **to** the network session. You have to patch **both directions**.
- On your iPad, make sure you have joined the **same WiFi network** your Mac is on.
- When you close the Welcome panel in Synclavier® Touch, the MIDI Connection Summary panel opens. Click the **Connect** link to connect your iPad to the MIDI Network Session.

Voila! Synclavier® Touch should now be online!

Apple, App Store, Airport Extreme, Macintosh and iPad are trademarks of Apple Inc., registered in the U.S. and other countries. Pro Tools is a trademark of Avid Technology, Inc., registered in the U.S. and other countries. Synclavier and Webclavier are trademark of Synclavier Digital registered in the U.S. and other countries.

Quick Start - MIDI Network Session (Mac)

On your Mac, use Audio MIDI Setup to **create a MIDI Network Session**. Be sure to **enable** the network session and set it so **Anyone** can connect. The **Bonjour** name assigned to the session is the name that will show up across your network.



Quick Start - MIDI Patching Window (Mac)

In Synclavier³, use the MIDI Patching Window to connect MIDI data **from** the network session you create **to** the Synclavier MIDI Control processor, and to connect MIDI data **from** the Synclavier MIDI Control processor **to** the network session.

Synclavier³ MIDI Patching

Synclavier³

Each Synclavier³ MIDI output can be patched to a real hardware or a networked MIDI port. Additionally, each Synclavier³ MIDI input can receive data directly from a real hardware or network MIDI port.

These settings control the flow of MIDI data between Synclavier³ and real hardware or networked MIDI ports connected to your computer. To exchange MIDI data with other applications running on your computer, look for a MIDI Setup menu within that application.

MIDI From Synclavier³ MIDI To Synclavier³

You can choose a real hardware or a networked MIDI port to patch to each Synclavier³ MIDI Input. The Synclavier³ Keyboard typically listens to all MIDI channels; each Sequencer Track monitors only one specific MIDI channel.

(None)	To Keyboard
(None)	To MIDI Time Code
(None)	To MIDI Clock
(None)	To Tracks 1-16
(None)	To Tracks 17-32
(None)	To Tracks 33-48
(None)	To Tracks 49-64
(None)	To Tracks 65-80
(None)	To Tracks 81-96
(None)	To Tracks 97-112
(None)	To Tracks 113-128
(None)	To Tracks 129-144
(None)	To Tracks 145-160
(None)	To Tracks 161-176
(None)	To Tracks 177-192
(None)	To Tracks 193-200

The Synclavier³ MIDI Control input receives MIDI data from your SynclavierIP™ iPad Button Panels. You normally use a Network MIDI Session to connect to tablet devices.

Network Mac Mini Network Session	To Synclavier ³ MIDI Control
----------------------------------	---

You have to patch **both** **MIDI From Synclavier³** and **MIDI To Synclavier³**.

Synclavier³ MIDI Patching

Synclavier³

Each Synclavier³ MIDI output can be patched to a real hardware or a networked MIDI port. Additionally, each Synclavier³ MIDI input can receive data directly from a real hardware or network MIDI port.

These settings control the flow of MIDI data between Synclavier³ and real hardware or networked MIDI ports connected to your computer. To exchange MIDI data with other applications running on your computer, look for a MIDI Setup menu within that application.

MIDI From Synclavier³ **MIDI To Synclavier³**

Each Synclavier³ MIDI output can be patched directly to a real hardware or a networked MIDI port. You must set the corresponding MIDI Routing Display ("J" page) output routing to "OMS" for these output patchings to be effective.

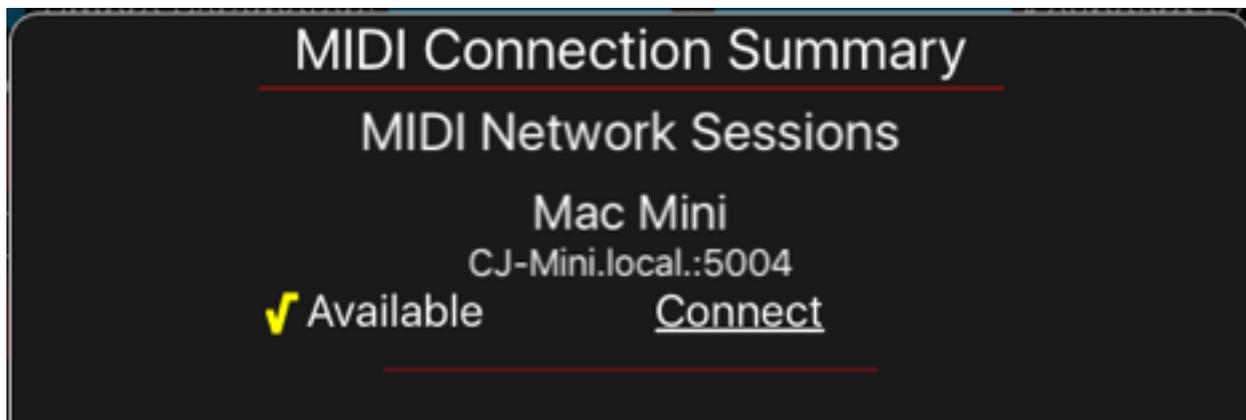
Keyboard	To	(None)	⌵
MIDI Time Code	To	(None)	⌵
MIDI Clock	To	(None)	⌵
Tracks 1-16	To	(None)	⌵
Tracks 17-32	To	(None)	⌵
Tracks 33-48	To	(None)	⌵
Tracks 49-64	To	(None)	⌵
Tracks 65-80	To	(None)	⌵
Tracks 81-96	To	(None)	⌵
Tracks 97-112	To	(None)	⌵
Tracks 113-128	To	(None)	⌵
Tracks 129-144	To	(None)	⌵
Tracks 145-160	To	(None)	⌵
Tracks 161-176	To	(None)	⌵
Tracks 177-192	To	(None)	⌵
Tracks 193-200	To	(None)	⌵

The Synclavier® MIDI Control Output is patched to your SynclavierIP™ iPad Button Panels. You normally use a Network MIDI Session to connect to tablet devices.

Synclavier® MIDI Control To Network Mac Mini Network Session ⌵

Quick Start - MIDI Connection Summary (iPad)

When you close the Welcome panel in Synclavier® Touch, the MIDI Connection Summary panel opens. Click the **Connect** link to connect your iPad to the MIDI Network Session.



Voila! Synclavier® Touch should now be online!

Synclavier® Touch uses MIDI messages to communicate with Synclavier³. You can use a utility such as [MIDI Monitor](#) to verify your network midi messages.

The screenshot shows a window titled "Untitled" with a menu bar containing "Sources" and "Filter". Below the menu bar, there is a text field "Remember up to" with a value of "1000" and a "Clear" button. Below this is a table with the following data:

Time	Source	Message	Chan	Data
10:53:17.179	From Mac Mini Network Session	SysEx		Unknown Manufacturer 26 bytes
10:53:19.162	From Mac Mini Network Session	SysEx		Unknown Manufacturer 26 bytes
10:53:21.169	From Mac Mini Network Session	SysEx		Unknown Manufacturer 26 bytes
10:53:23.080	From Mac Mini Network Session	SysEx		Unknown Manufacturer 26 bytes

Quick Start - Test Mode

When Synclavier® Touch is not controlling a Synclavier³ installation, pressing buttons or turning the wheel will bring up a test display.

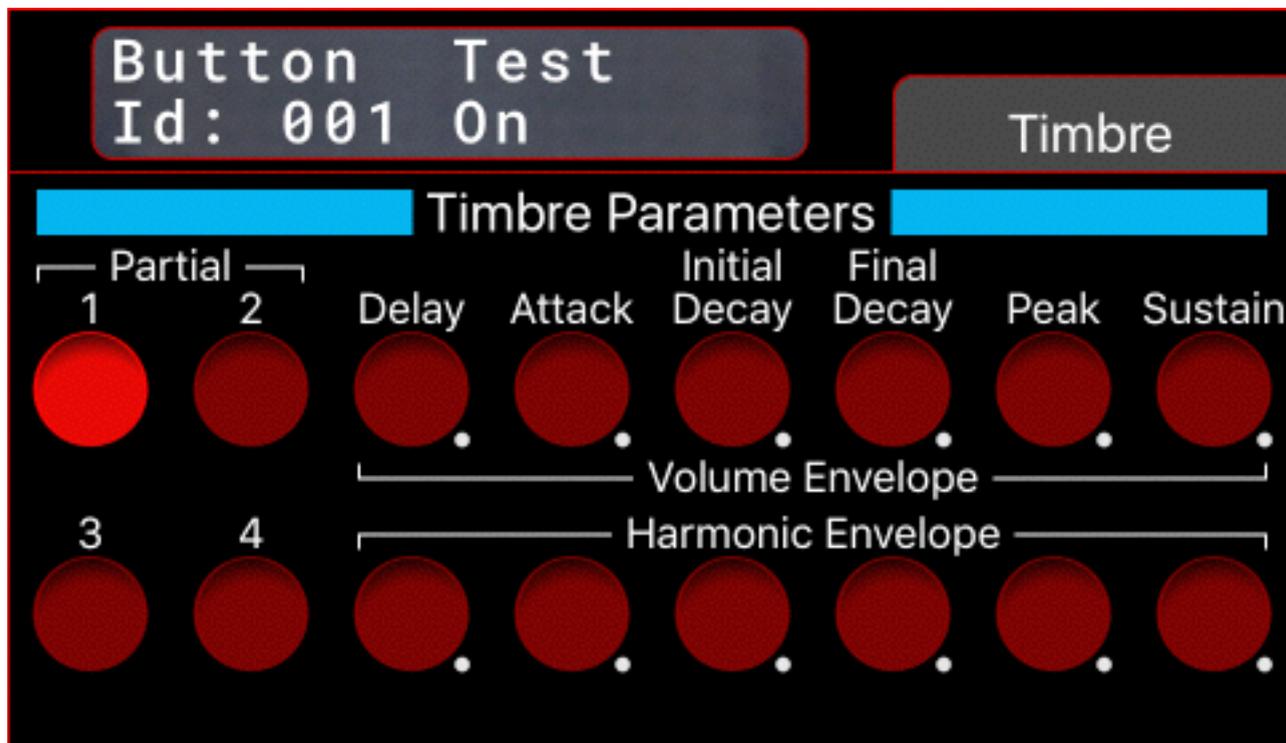


Table Of Contents

Synclavier® Touch Quick Start	2
Quick Start - MIDI Network Session (Mac)	3
Quick Start - MIDI Patching Window (Mac)	4
Quick Start - MIDI Connection Summary (iPad)	6
Quick Start - Test Mode	7
Introduction - What Is Synclavier® Touch?	9
What is the future for Synclavier® Touch?	9
MIDI Setup for Synclavier® Touch	10
MIDI Over Wifi	11
Setting Up a MIDI Network Session	12
Using Synclavier® Touch with Wired MIDI Ports	16
MIDI Patching Window in Synclavier ³	17
MIDI Network Troubleshooting	19
Synclavier® Touch Settings Panel	21

Introduction - What Is Synclavier® Touch?

Synclavier® Touch is an iPad app that faithfully recreates the original Synclavier® Velocity-Pressure Keyboard button interface using modern touch-screen technology.



Synclavier® Touch communicates with your Synclavier³ installation using custom MIDI messages. The integration with the Synclavier® hardware is complete - touching a button on the iPad lights the button on the VK for example.

The VK buttons are organized in two panels - one for Timbre design, one for controlling the Digital Memory Recorder. Two or more iPads can be used simultaneously to set up multiple remote control stations within your studio..

What is the future for Synclavier® Touch?

This first release of Synclavier® Touch provides remote control of your Synclavier³ application running on your Mac. It does not yet provide any control over other recording engines such as Pro Tools or other software plugins such as Synclavier V by Arturia.

Use your imagination and [watch our web site](#) for continuing updates on this exciting new technology!



MIDI Setup for Synclavier® Touch

Synclavier® Touch uses custom MIDI system-exclusive messages (“Synclavier® MIDI Control”) to communicate with the Synclavier³ application running on your Mac. Typically a **MIDI Network Session** is set up on your Mac using the Audio MIDI Setup utility. Synclavier® Touch includes a setup panel that lets your iPad choose and join a MIDI Network Session over WiFi.



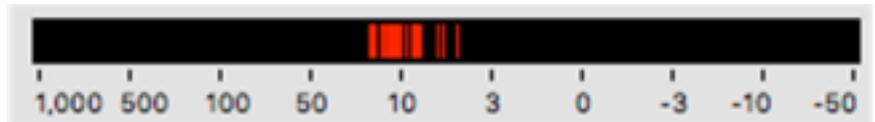
Wired MIDI solutions are also available, depending on your iPad model, with iOS MIDI Interfaces such as [iRig MIDI 2](#), [iConnect MIDI 2](#), and the Griffin [StudioConnect](#). Not all wired MIDI solutions provide power to your iPad, so check carefully. Also, some wired MIDI solutions use the “lightning” connector and others use the 30-pin iPod/iPad connector..

Within the Synclavier³ application, the MIDI Patching Window is used to route MIDI from your MIDI Network Session or hardware interface to Synclavier³.

Wired-MIDI vs. WiFi-MIDI:

During testing I moved millions of button presses back and forth across both Wired-MIDI and WiFi-MIDI setups. WiFi-MIDI consistently processed button presses faster and with less delay than either of the Wired-MIDI products I tested.

The following pages show several screen shots from a typical setup.



MIDI Over Wifi

Sending MIDI over WiFi will work well if you follow several good practices.

First of all, your iPad needs a strong WiFi signal with as little interference as possible. This generally means that your WiFi base station should be in the same room as your iPad. You can expect network dropouts and button delays if your base station is down the hall and you have neighbors above and below blasting you with their own WiFi setup. Moving the WiFi base station closer to your iPad is the first line of defense against MIDI over WiFi problems.

Secondly, not all base stations are the same. A modern base station where you can control the channels offers more possibilities for interference avoidance. Older non-Apple base stations have greater difficulty talking to the newer Apple products.

WiFi Base Stations:

As part of a recent office move, upgrading to the newest Apple Airport Extreme WiFi base station with 802.11ac WiFi standard provided much faster gigabit speeds over WiFi. The two frequency bands share the same IP addresses so setup was a breeze.

MIDI Over WiFi Checklist:

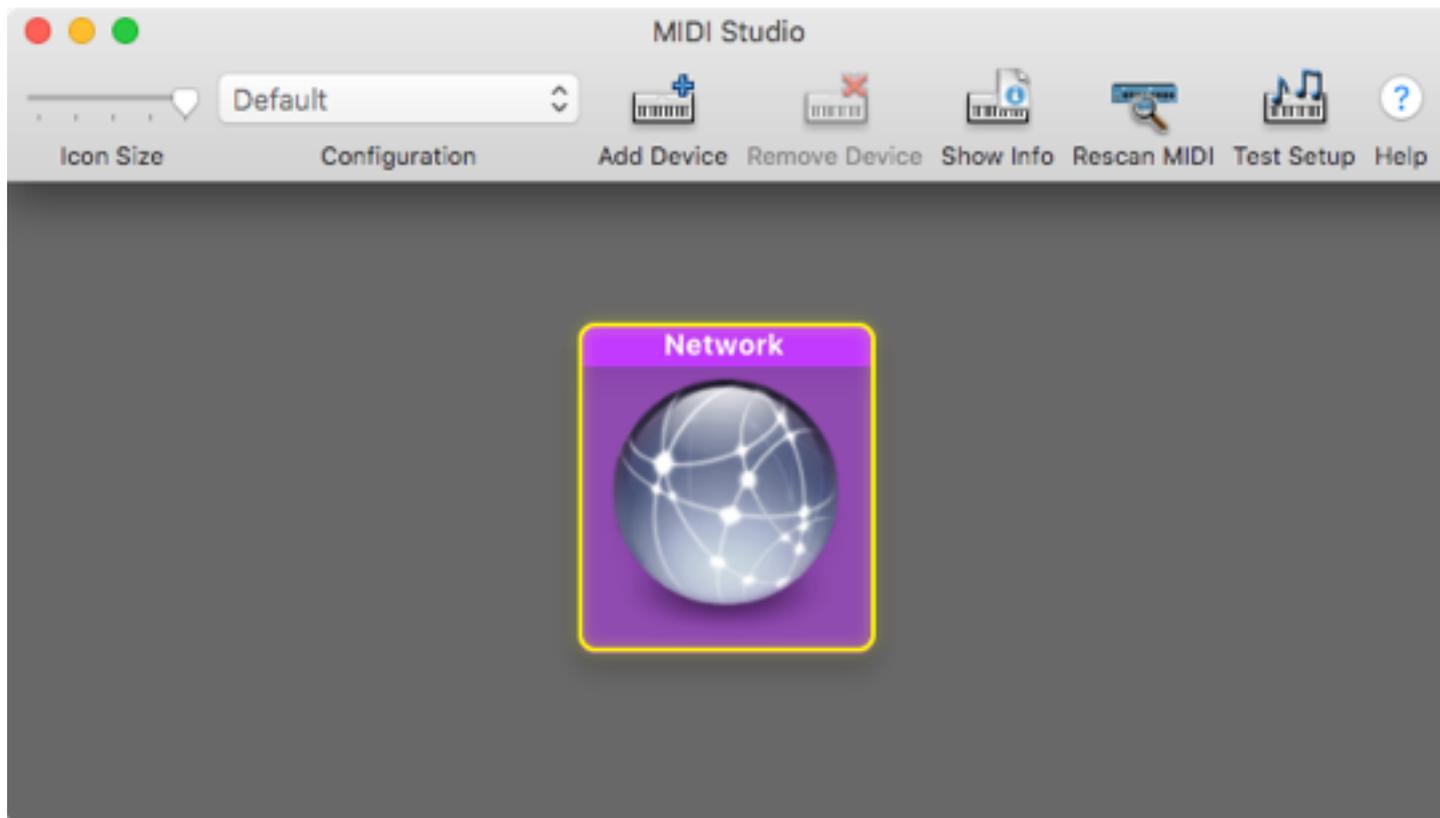
- Strong WiFi Signal
- Modern Hardware
- Unique Device Names
- **"Anyone"** May Connect
- MIDI Patching Window
- Connect In **and** Out

Thirdly, make sure all of your devices have a unique device name. Having two iPads each named 'My iPad' will confuse the software as well as your studio techs, not to mention yourself. **If you need to rename a device**, be sure to **reboot all the devices on your network** - including your Mac(s). Limitations and bugs in the 'Bonjour' service discovery protocol cause errors and may hang when you rename a device while it is online.

MIDI From Synclavier³

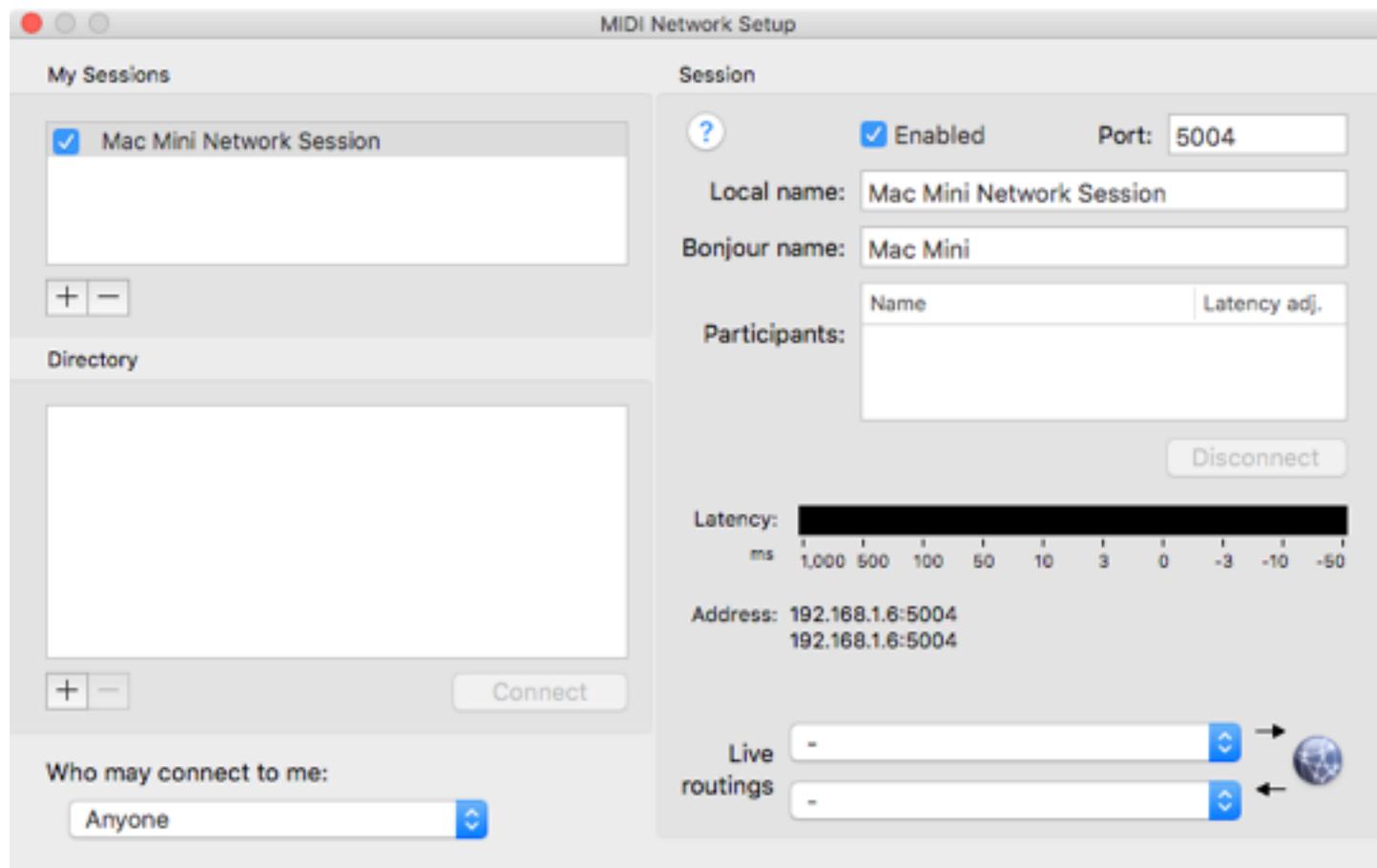
MIDI To Synclavier³

Setting Up a MIDI Network Session



Select the Network option within Apple's Audio MIDI Setup application.

You must **enable** the MIDI Network Session within Audio MIDI Setup before it can be selected from within Synclavier® Touch. It may take 10 seconds or more for a new MIDI Network Session to appear in the Synclavier® Touch MIDI Connection Summary panel. The “Bonjour” name is what you will see from your iPad when you connect to the MIDI Network Session.



Be sure to set “Who may connect to me” to “Anyone” if you want to be able to initiate the MIDI Network Session connection from your iPad.

Use the ⇌ button in Synclavier® Touch to open the MIDI Connection Summary panel. Use the Connect link to join your MIDI Network Session.



MIDI Connection Summary

MIDI Network Sessions

Mac Mini

CJ-Mini.local.:5004

✓ Available

Connect

MIDI Connection Summary

MIDI Network Sessions

Mac Mini

CJ-Mini.local.:5004

✓ Connected

Disconnect

Your network sessions only show up in the list when an audio or MIDI application is running on your mac (e.g. Audio MIDI Setup or Synclavier³).

Note - If you are running the dual iPad setup, you will see the iPads listed under MIDI Network Sessions. **Do not connect** to the iPad sessions, otherwise unnecessary network traffic will be sent between the iPads.

Be sure to connect to, and only connect to, the network session that is hosted by the Mac that is running the Synclavier³ application.



MIDI Connection Summary

MIDI Network Sessions

iPad
iPad.local.:5004
✓ Available Connect

Mac Mini
CJ-Mini.local.:5004
✓ Connected Disconnect

Using Synclavier® Touch with Wired MIDI Ports

MIDI hardware ports on your iPad are connected automatically.

MIDI Connection Summary

MIDI Input Ports

Cypress USB Audio+MIDI Device Port 1

✓ Connected

Cypress USB Audio+MIDI Device Port 2

✓ Connected

MIDI Output Ports

Cypress USB Audio+MIDI Device Port 1

✓ Connected

Cypress USB Audio+MIDI Device Port 2

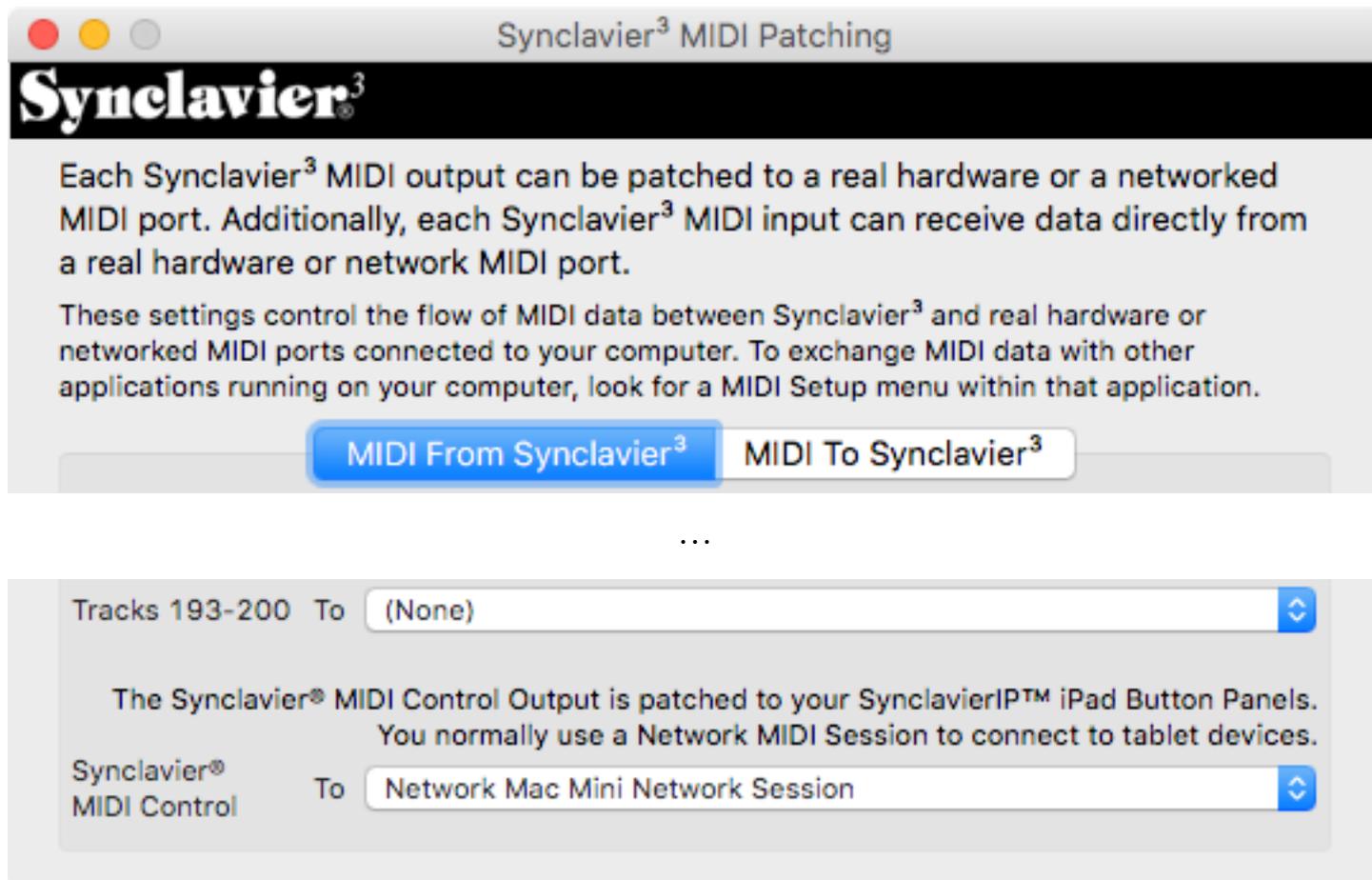
✓ Connected

Tap anywhere outside the MIDI Connection Summary panel to close it.

You have to set up both an input and output connection when using Wired-MIDI. You will need two MIDI cables, plus an input and an output port on both your iPad and your Mac.

MIDI Patching Window in Synclavier³

Open the MIDI Patching window (Window Menu) in Synclavier³.



You must connect both the input and output for the Synclavier[®] MIDI Control port to your MIDI Network Session (or hardware interface as appropriate).

Synclavier³

Each Synclavier³ MIDI output can be patched to a real hardware or a networked MIDI port. Additionally, each Synclavier³ MIDI input can receive data directly from a real hardware or network MIDI port.

These settings control the flow of MIDI data between Synclavier³ and real hardware or networked MIDI ports connected to your computer. To exchange MIDI data with other applications running on your computer, look for a MIDI Setup menu within that application.

MIDI From Synclavier³

MIDI To Synclavier³

...

(None)



To Tracks 193-200

The Synclavier® MIDI Control input receives MIDI data from your SynclavierIP™ iPad Button Panels. You normally use a Network MIDI Session to connect to tablet devices.

Network Mac Mini Network Session

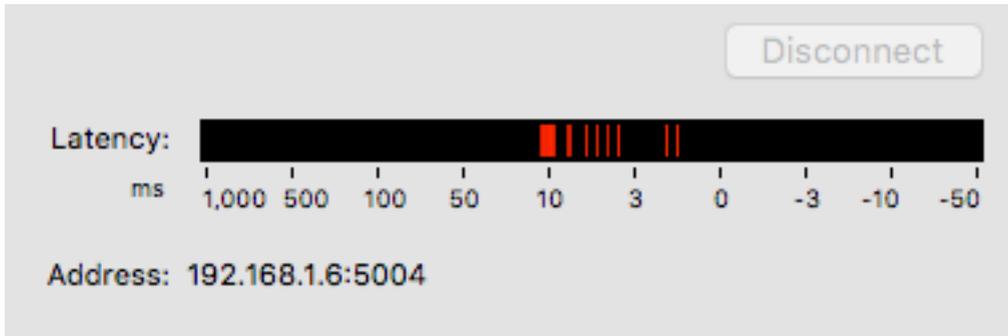


To Synclavier®
MIDI Control

You must connect both the input (MIDI To Synclavier³) and output (MIDI From Synclavier³) for the Synclavier® MIDI Control port to your MIDI Network Session (or hardware interface as appropriate).

MIDI Network Troubleshooting

MIDI messages are sent over a WiFi network using the [RTP MIDI standard](#). The RTP MIDI protocol provides a good solution in most cases, however performance can be reduced over WiFi networks by the proximity of other base stations. The Latency indicator of the Audio MIDI Setup application can provide clues regarding the performance of your MIDI Network Session.

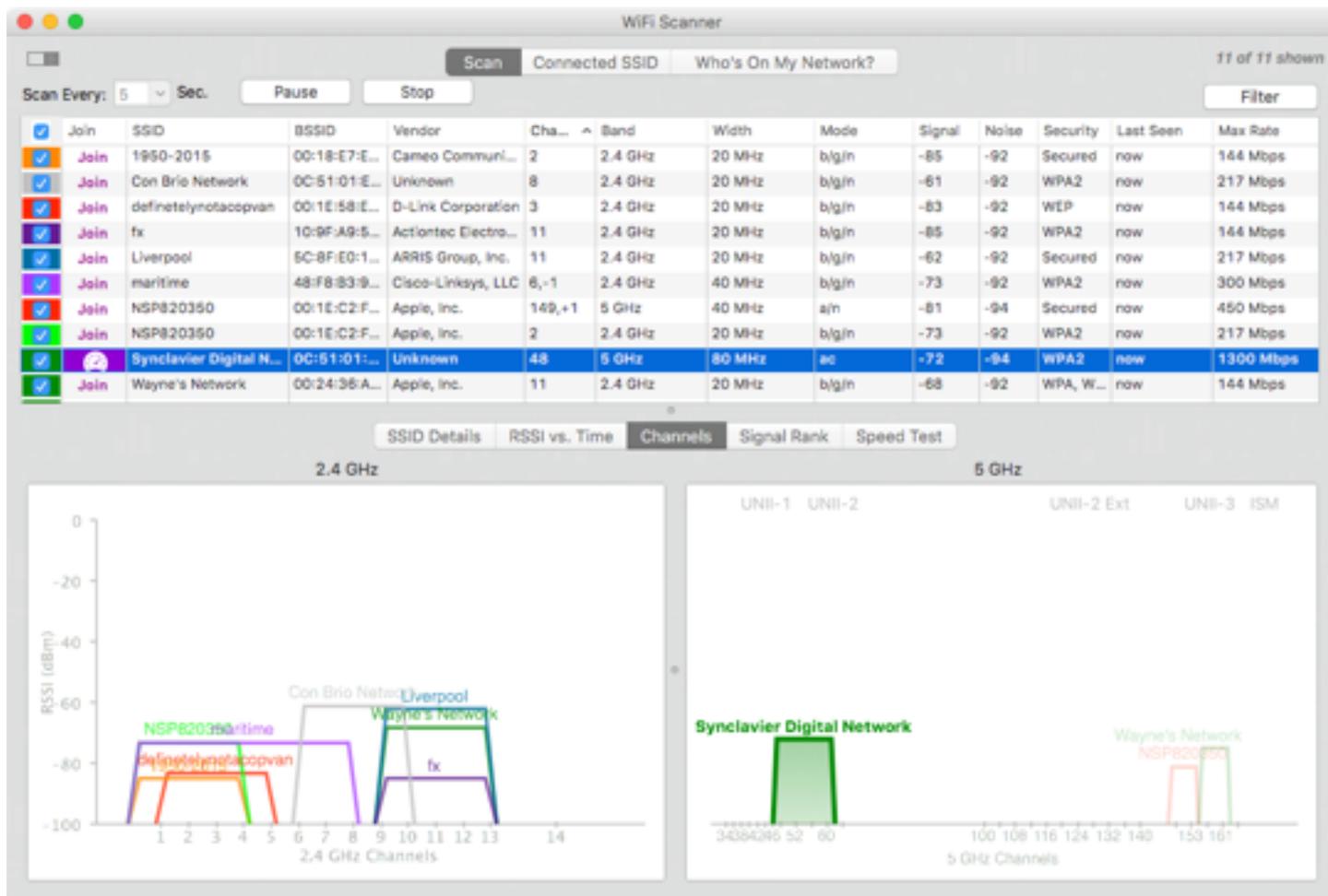


Latencies of 10 milliseconds or less indicate very good performance and are more than adequate for Synclavier³.

Sleeping your Mac is not advisable when a MIDI Network Session is active. With several versions of Mac OS and iOS, the network timings do not recover from a sleep/wake cycle. The result is an inability for your iPad to connect over the network without any clear indication of the problem. Disabling/enabling the MIDI Network Session in Audio MIDI Setup seems to reset the session.

Periodically inspect the Latency view in Audio MIDI Setup to monitor the health of your MIDI Network Session. Disabling and enabling the MIDI Network Session will reset the session and it will often clear up any issues.

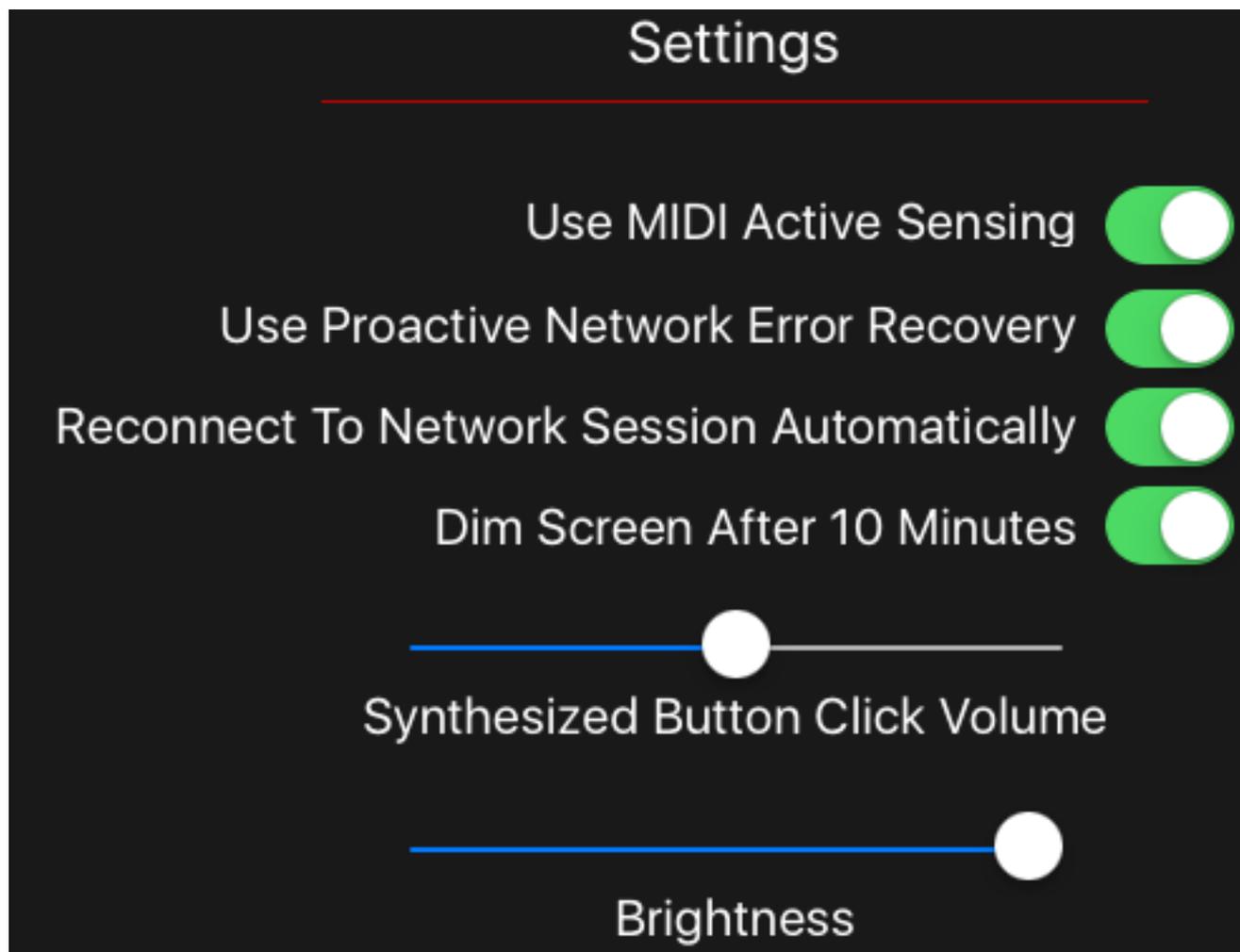
Applications such as [WiFi Scanner](#) offer a convenient method of observing interference from other base stations.



Interestingly, when the Wifi Scanner application is analyzing your local signal map, MIDI-Over-WiFi traffic is suspended for a fraction of a second.

Synclavier® Touch Settings Panel

Use the  button in Synclavier® Touch to open the Settings Panel.



Use MIDI Active Sensing



Synclavier® Touch uses MIDI Active Sensing messages to keep your WiFi network active. This provides the

benefit of reducing latency over the network at the expense of increased power consumption and network traffic. The Active Sensing feature of Synclavier® Touch can be turned off if desired.

Use Proactive Network Error Recovery



Synclavier® Touch also uses a proactive network

error recovery method to provide speedy recovery from any transmission delays that result from WiFi packet collisions. It is recommended that Active Sensing and Proactive Network Error Recovery be left on in all cases.

Reconnect To Network Session Automatically



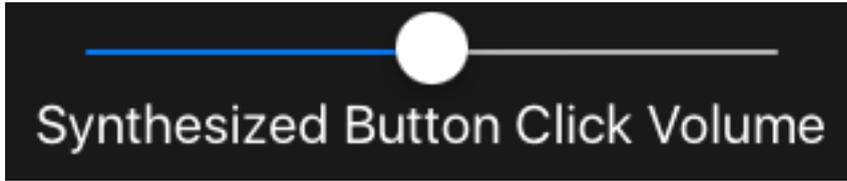
MIDI Network Sessions can get interrupted from various causes. For example, restarting your Mac or rebooting your WiFi router will temporarily interrupt a MIDI Network Session.

Synclavier® Touch can automatically reconnect to the most recent MIDI Network Session after a network dropout or a computer or iPad restart. You would typically leave that setting on.

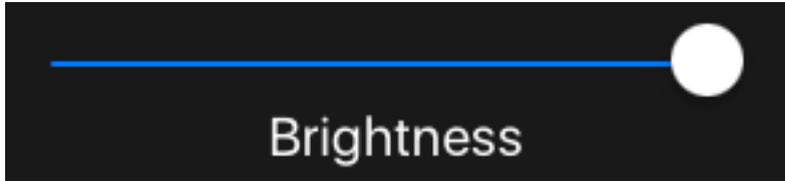
Dim Screen After 10 Minutes



Synclavier® Touch can automatically dim the screen after 10 minutes of inactivity.



A synthesized button click sound provides audible feedback for button presses on the Synclavier® Touch button surface.



The Brightness setting allows Synclavier® Touch to adapt to different studio lighting conditions.

Tap anywhere outside the Settings panel to close it.

A status line at the bottom of the Settings panel provides a rough indication of the reliability of your MIDI-Over-Wifi connection. Network retries are normal and can occur, for example, when both your WiFi base station and your iPad or Computer start to broadcast a network packet at the exact same instant. Frequent retries and session dropouts will occur if you have a weak WiFi signal or have WiFi interference from other base stations nearby.

Network retries: 0
Session Disconnects: 0