

BandHUB USER MANUAL V1.1



INTRODUCTION

The ARTinoise BandHub is a Bluetooth 5 multi-channel BLE-MIDI to USB interface for PC and MacOS.

Manage up to 16 Bluetooth Low Energy MIDI devices with your PC and Mac using the dedicated Webapp called BandHUB Manager.

At its core, BandHub connects to BLE-MIDI devices and allocates them automatically to a different MIDI channel (1 to 16).

This way, you can simply use your Bluetooth-enabled MIDI devices quickly in your DAWs by easily selecting the BandHub as a device and then choosing one of the MIDI channels associated with the desired device.

PRECAUTIONS:

Do not expose BandHUB to moisture, rain, fire, or electrical shocks.

Do not expose the BandHUB to vibrations or dust, and avoid hitting it; that may break the BandHUB and/or the USB port where the BandHUB is connected

USAGE



The BandHUB is a plug-and-play device, simply connect it to an available USB port.

The first time you connect the BandHUB you need to use the BandHUB Manager to set it up.

BandHUB Manager

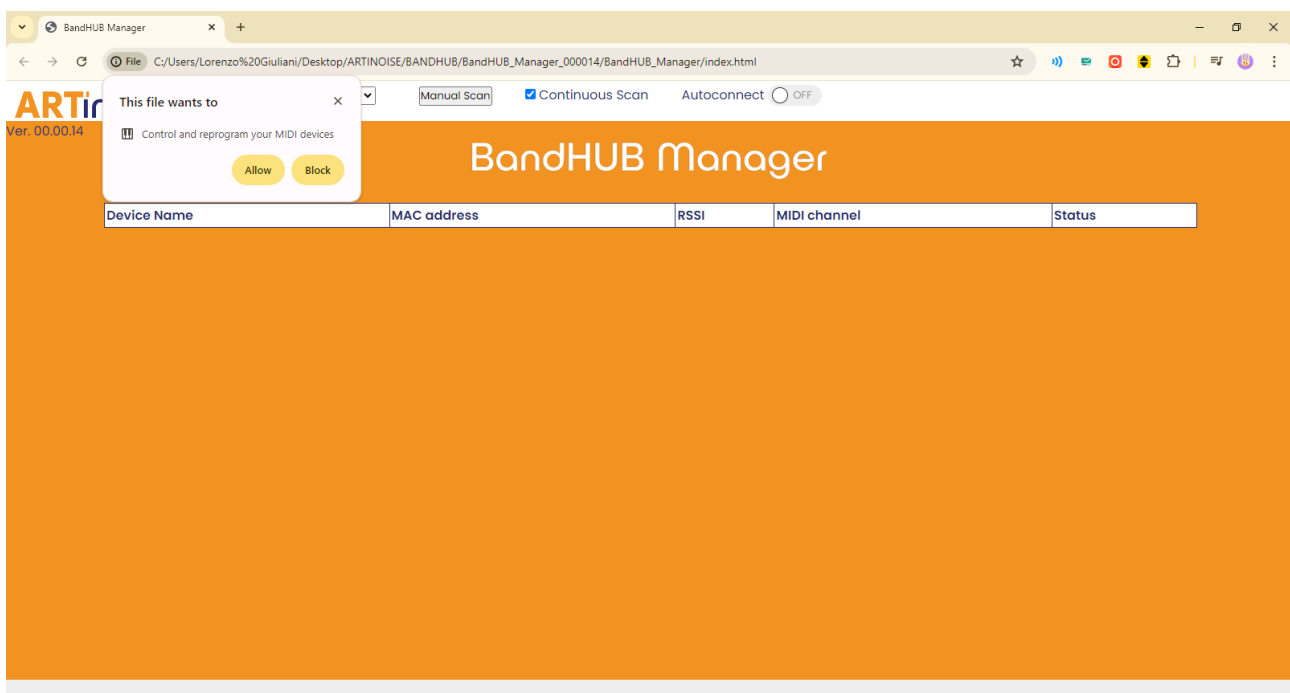
You can download the necessary files on our website in the dedicated section.

Now follow these steps:

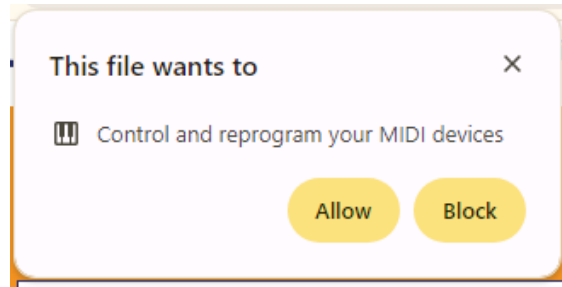
- Click on the link to go to our website.
- Click on the link and download the file.
- Unzip it and open the folder.
- Click on the index.html file to open the BandHUB Manager in the browser.

Please note: we recommend using the BandHUB Manager with Google Chrome

- Now you will be prompted with the following screen:



- Your browser should prompt you to ask if you want to allow the BandHUB Manager to access MIDI devices.



- Select "Allow" to let the BandHUB Manager to work correctly.
- If you haven't already connected the BandHUB, do it now.
- The dropdown menus "MIDI In" and "MIDI Out" should be automatically populated with the BandHUB.



In case you have other MIDI devices connected to your PC or Mac, please select BandHUB from the list.

BandHUB Manager **will not work** with any other MIDI device available from the list.

CONNECTING DEVICES

BLE-MIDI devices can be connected both Manually and Automatically.

Manually connecting a new BLE-MIDI device



These two parameters work concurrently to scan for new and available BLE-MIDI devices around you.

By pressing the Manual Scan, the BandHUB will perform a one-shot scan.

If "Continuous Scan" is ticked, by pressing the "Manual Scan" the BandHUB will start scanning indefinitely. When the user connects one device, the continuous scan will stop and the "Continuous Scan" will be un-ticked.

The scan and manual connection for new devices works as follows.

If any BLE-MIDI device is found by pressing the "Manual Scan" button or activating the "Continuous scan" toggle, it will be visualized in the table below.

BandHUB Manager

Device Name	MAC address	RSSI	MIDI channel	Status
Artiphon Orba 2	1c:9d:c2:c9:0e:4a	-47		<input type="button" value="Connect"/>

Click on the "Connect" button on the status column to connect it.

BandHUB Manager

Device Name	MAC address	RSSI	MIDI channel	Status
Artiphon Orba 2	1c:9d:c2:c9:0e:4a		1	<input type="button" value="Disconnect"/>

The connected device will be automatically assigned to the first available MIDI Channel.

Any further device will be assigned to the next MIDI Channel, up to channel 16.

BandHUB Manager

Device Name	MAC address	RSSI	MIDI channel	Status
Artiphon Orba 2	1c:9d:c2:c9:0e:4a		1	<input type="button" value="Disconnect"/>
nanoKONTROL Studio	00:ae:fa:9c:00:28		2	<input type="button" value="Disconnect"/>
re.corder L - 3873D8	00:a0:50:38:73:d8		3	<input type="button" value="Disconnect"/>
LUMI Keys Block J4SM	48:b6:20:19:ce:26		4	<input type="button" value="Disconnect"/>

To disconnect a device simply press the "Disconnect" button.

Automatically connecting a new BLE-MIDI device

Autoconnect

Use the Autoconnect function to set the BandHUB to scan for available BLE-MIDI devices and automatically pair and connect them.

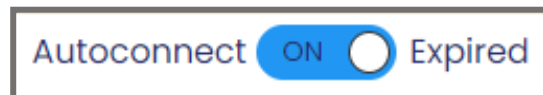


The "Autoconnect" toggle will start a 2-minute timer while the function is active.

Once activated, you will see "In Progress" next to the toggle and the blue LED on the BandHUB stick will start blinking.



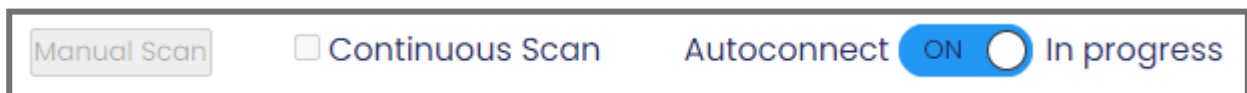
Once the 2 minutes timer will run out, "Expired" will appear instead of "In Progress" and the blue LED will stop blinking.



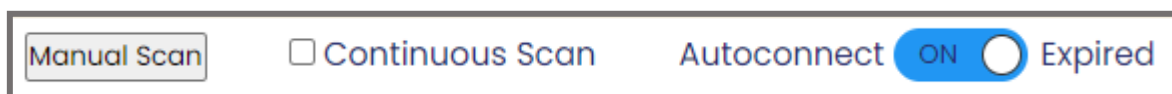
Tip #1

The blue LED also acts as a status LED, blinking whenever MIDI messages are received or sent. If one or more devices are already connected or were connected during this step and some of them are sending MIDI data, the steady blinking activated by the Autoconnect command may not be visible. Refer to the "In progress" or "Expired" text in the BandHUB Manager to know if Autoconnect is active or not.

While "Autoconnect" is active "Continuous scan" and "Manual scan" are greyed out, because any manual activity is blocked.



Once the 2 minutes time period ends, the two parameters will be clickable again.



The Autoconnect toggle also allows to set the BandHUB to automatically connect any BLE-MIDI device available every time you connect BandHUB to your PC or Mac, without using the BandHUB Manager.

Every automatically connected device will be assigned to a different MIDI channel, up to the 16th channel.

If you want to disconnect a device, press on the relative "Disconnect" button.

Tip #2

If the "Autoconnect" function is on, BandHUB will try to connect to every available BLE-MIDI device, even the one you just disconnected! This can be problematic for devices that, once disconnected, will turn into a waiting-to-be-paired state instead of a standby state (for example, our re.corder). To avoid headaches, you can simply turn off the "Autoconnect" mode, make the changes you wish, and then turn it back on.

USAGE EXAMPLE:



Activate the Autoconnect function to allow the BandHUB to scan for devices available.

Each available device ready to be connected will be connected and automatically assigned to a MIDI channel in ascending order (check the MIDI Channel Column).

BandHUB Manager

Device Name	MAC address	RSSI	MIDI channel	Status
re.corder L - 3873D8	00:a0:50:38:73:d8		1	<input type="button" value="Disconnect"/>
nanoKONTROL Studio	00:ae:fa:9c:00:28		2	<input type="button" value="Disconnect"/>
Artiphon Orba 2	1c:9d:c2:c9:0e:4a		3	<input type="button" value="Disconnect"/>
LUMI Keys Block J4SM	48:b6:20:19:ce:26		4	<input type="button" value="Disconnect"/>

If you wish to disconnect a device, check if the “Autoconnect” function is still active and refer to **Tip #2** in the last chapter! Otherwise, simply click on the “Disconnect” button.

Now you should see that the disconnected device has disappeared from the list.

In the picture, you can see that there is an empty MIDI channel (note that the recorder that was allocated to MIDI Channel 3 has now disappeared).

BandHUB Manager				
Device Name	MAC address	RSSI	MIDI channel	Status
re.corder L - 3873D8	00:a0:50:38:73:d8		1	<input type="button" value="Disconnect"/>
nanoKONTROL Studio	00:ae:fa:9c:00:28		2	<input type="button" value="Disconnect"/>
LUMI Keys Block J4SM	48:b6:20:19:ce:26		4	<input type="button" value="Disconnect"/>

Now, whenever a new device to be connected to the BandHUB will be allocated to the first empty MIDI channel in ascending order (i.e. in this case a new device will be associated to MIDI ch. 3)

BandHUB Manager				
Device Name	MAC address	RSSI	MIDI channel	Status
re.corder L - 3873D8	00:a0:50:38:73:d8		1	<input type="button" value="Disconnect"/>
nanoKONTROL Studio	00:ae:fa:9c:00:28		2	<input type="button" value="Disconnect"/>
LUMI Keys Block J4SM	48:b6:20:19:ce:26		4	<input type="button" value="Disconnect"/>
Artiphon Orba 2	1c:9d:c2:c9:0e:4a		3	<input type="button" value="Disconnect"/>

Quick recap:

- Initial condition: 5 devices connected and MIDI Ch. 1 to 5
- If 3 devices are disconnected and they were occupying MIDI Channels 2, 3 and 5, a new device will be allocated to MIDI Ch. 2.
- Another one will be set to MIDI Ch. 3.
- The next one will be set to MIDI Ch. 5.
- Any new device will then be allocated to the next empty spot in ascending order, so in this case MIDI Ch. 6 and so on until reaching Ch. 16.
- Once you are satisfied with all your devices connected, you can now use them with your favourite DAW or Synth.

Tip #3

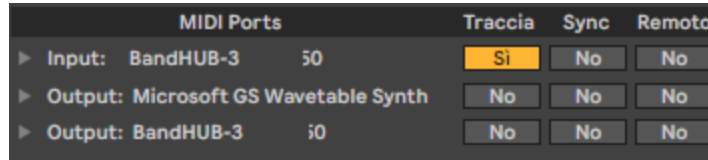
The Autoconnect function allocates a MIDI device to a MIDI channel based on how quick a device “answers” the pairing request, without any particular order.

Use the “Disconnect” and “Connect” button to rearrange the order of your devices!

Let's see how the BandHUB can be seen inside Ableton Live.

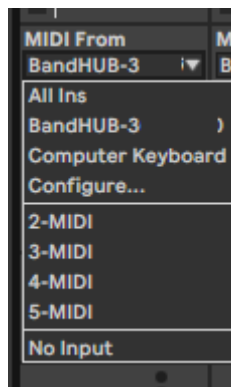
First of all, make sure that the BandHUB is correctly recognized in the Settings.

Go to Preferences -> Link MIDI tab -> set as follows



Go back to the Arrangement or Session view.

Select the BandHUB in the "MIDI from" dropdown menu:



You can select the desired instrument for the MIDI track by simply choosing from the dropdown menu the MIDI Channel associated to it like in the picture below:



FREQUENTLY ASKED QUESTIONS



"What makes the BandHUB different from other BLE-MIDI to USB dongles?"

BandHUB is an immediate and easy to use way to connect up to 16 different BLE-MIDI devices, especially in combination with non-bluetooth-enabled devices!

It can be useful for studio applications, mobile musicians with lots of battery powered and wireless hardware devices **but more importantly for educational purposes.**

ARTinoise is deeply connected to education and teachers, and with an increasing interest in creating digital and music technology classes and courses our BandHUB can really help!

The *ARTinoise re.corder* is one of them, go check it out!

"Sometimes the connection is immediate, others is not. Why is that?"

When the BandHUB asks a device to be paired, sometimes it needs a moment (up to 10 seconds) to receive an "answer"; please be patient, that's completely normal!

"What happens if I unplug the BandHUB when devices are connected?"

Don't worry, nothing bad will happen! The connected devices will simply autodisconnect in around 5–10 seconds, or you can just turn them off!

"How about latency?"

Latency is a peculiar subject; there are lots of factors involved! On our side, during our tests, we discovered that the latency is really low, around 5ms, but that depends on the performances of the device you connect the BandHUB to, the DAW buffer size, the distance between the BandHUB and the devices, etc.

Please take a moment to test and find ways to tweak settings until you find a satisfactory result.

Latency ≠ Jitter!

When lots of devices are connected at the same time, it can happen that some notes and MIDI messages are grouped into Bluetooth data packets. This may result in some notes coming from different connected devices getting slightly delayed sometimes.

This is different from the "latency" term, since it means an *overall* delay.

"I can't receive MIDI clock data from my instruments... why?"

We decided to block any incoming MIDI Clock message because it is generally unstable and not reliable via Bluetooth and also to free some space in data traffic to increase performances and reduce latency.

We suggest to turn MIDI Clock off completely from any device that can send it, to free some space up for MIDI traffic and reduce any possible latency.

"I can't send Sysex messages... why?"

Because for the way the BandHUB is conceived and for its internal routing, Sysex messages cannot work. Sysex messages are sent to all MIDI channels on a specific MIDI port and the BandHUB, even with several MIDI-BLE devices, treats each of them as a MIDI Channel instead of a different MIDI port.

IMPORTANT

Each BLE-MIDI device behaves differently while connecting and how they manage the MIDI traffic.

ARTinoise cannot prove that the BandHub will be compatible with every device available on the market connected to it.

For any information, please contact us via the form on the website and we will be happy to help.

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