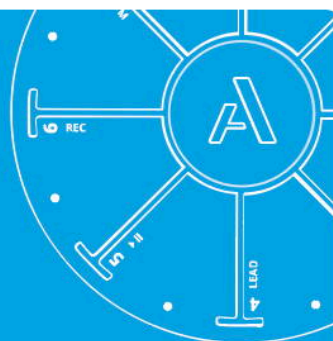


 **ORBA**
BY ARTIPHON



USER MANUAL

Everything there is to know about
this strange musical space grapefruit.



Welcome!

Congratulations! You are one of the first to take Orba for a spin (quite literally).

There are all kinds of things this new instrument does, and we're excited for you to try them all. You might see how many tiny loops you can make as you ride the bus to work. Or perhaps you'll use Orba as an gestural synth at your next gig – waving it through the air to control effects as the crowd goes wild. Or maybe you'll use Orba to play a software synth in that track you've been working on in Logic Pro or Ableton Live.

However you plan to Orba, you probably have some questions. You may be wondering why we only put eight pads on Orba. Or maybe you're wondering what all of those little flashing lights mean. Or maybe you just want to know how to turn up the volume.

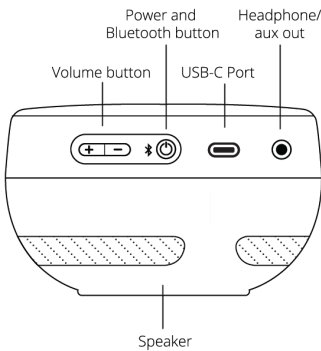
You're in the right place. Welcome to the official (and ever-evolving) Orba User Manual.

Product Overview

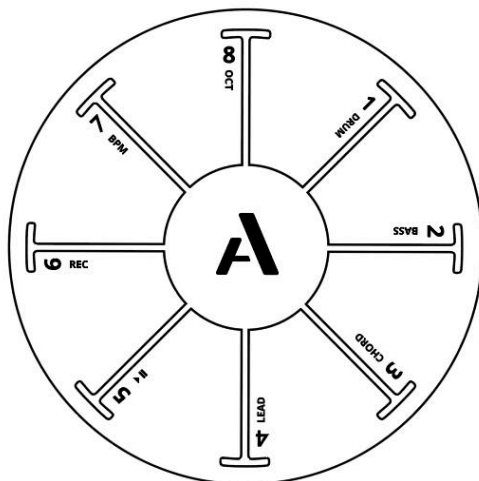
What's In The Box?

- Orba
- USB-C Cable
- Quickstart Guide
-

Input/Output Panel



Volume	Increase and decrease the volume of Orba's speaker
Power/Bluetooth Pairing	Press and hold to turn Orba on and off
USB-C Port	Charge Orba's built-in battery and connect your external hardware devices
Headphone Output	1/8" audio output for headphones or speakers
Speaker	Rock and roll



MODES	LOOP
1. DRUM	5. Play / Pause
2. BASS	6. REC - Record your loop
3. CHORD	7. BPM - Adjust tempo
4. LEAD	8. OCT - Change octave

Function Cheat Sheet

FUNCTION	COMBINATION
Record	A + Pad 6 (Rec)
End a loop	A
Stop recording	A + Pad 6 (Rec)
Pause playback	A + Pad 5 (Play/Pause)

Pause	A + Pad 5 (Play/Pause)
Clear the loop on the current mode	A + shake
Clear everything	A + Pad 6 (Rec), hold for three seconds
Change BPM	A + tap desired tempo on Pad 7 (BPM)
Octave up	A + Pad 8 (Octave) and slide clockwise
Octave down	A + Pad 8 (Octave) and slide counter-clockwise
Next mode	A
Switch to Drum	A + Drum
Switch to Bass	A + Bass
Switch to Chord	A + Chord
Switch to Lead	A + Lead
Hard reset	Hold power + volume down for five second

Power

Charging Orba

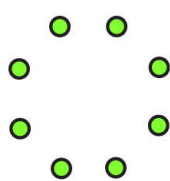
Orba can be charged from any power-charging USB port using the included USB-C cable. Either a wall charger for your phone or a computer will work perfectly. Orba remains fully functional while charging, so you can keep playing even while you're juicing up.

Charging indicators

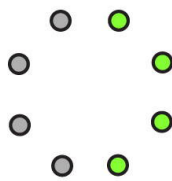
When you connect Orba to a power source and turn it on, you'll see a single green LED blinking on pad 8. This indicates that Orba's battery is charging. If Orba is off you won't see any lights, but rest assured it's still charging.

Checking battery levels

Tap the PWR button to check Orba's battery level. You'll see a series of green LEDs light up across Orba's 8 Pads. When all 8 pads are lit, your battery is at full capacity. As the battery level decreases, the number of lit LEDs will decrease from 8 to 1. You'll also see this display of green LEDs whenever Orba powers on.



Fully-charged

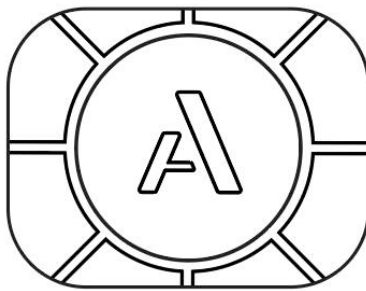


Half charged

Low Battery

If the battery level drops too low, a single, red LED will blink for 5 seconds before Orba automatically powers down. When you try to power up Orba on an empty battery the red LED will blink for 5 seconds before switching off again.

The A Button



You can think of the A button as a function or menu button. Any time you want to change what you're doing on Orba, you'll use the A button to make it happen.

A single tap of the A button will cycle through each of the four main modes.

Try it:

Start in Drum mode and press the A button once. Now you're in Bass mode!

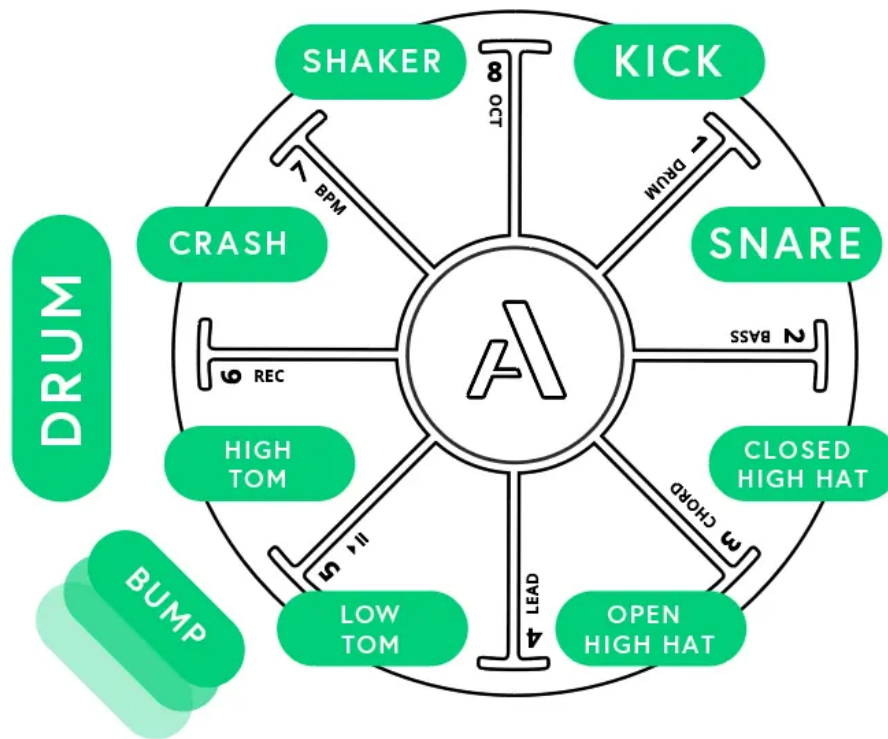
Using the A Button to Switch Modes

Press and hold the A button at the same time you press one of Orba's eight pads to activate that mode.

Try it:

If you don't want to cycle between modes, you can jump to any playing mode directly by holding A and pressing the pad for that mode.

DRUM



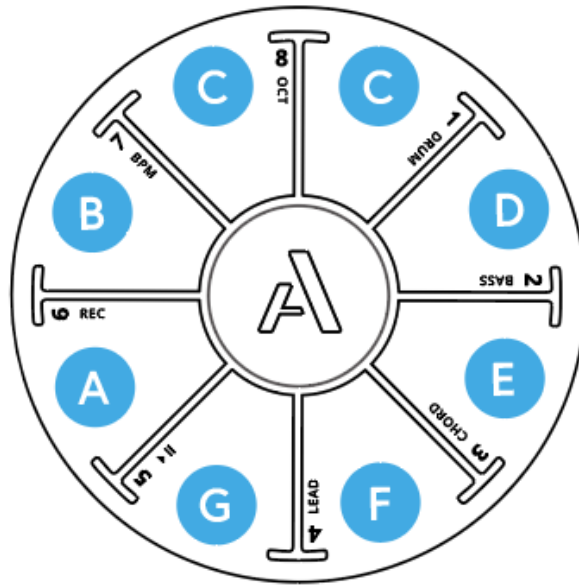
DRUM mode has nine distinct drum sounds: one per pad, plus an additional one that is triggered by using the Bump gesture. You can also keep triggering the shaker sound by holding pad 8 and using the Shake gesture.

Drums are velocity-sensitive and will respond to different intensities of tapping, similar to how a traditional drum changes its tone and volume by hitting it harder or softer. The sounds also respond to how long your finger stays on each pad. Try holding your finger on a cymbal to cut it short, or tap and release quickly on a tom to hear a long decay.

Try it:

Drum velocity and timing allows for some very nuanced playing. For example, you can alternate between open and closed hi-hat sounds on the same pad simply by changing the

BASS

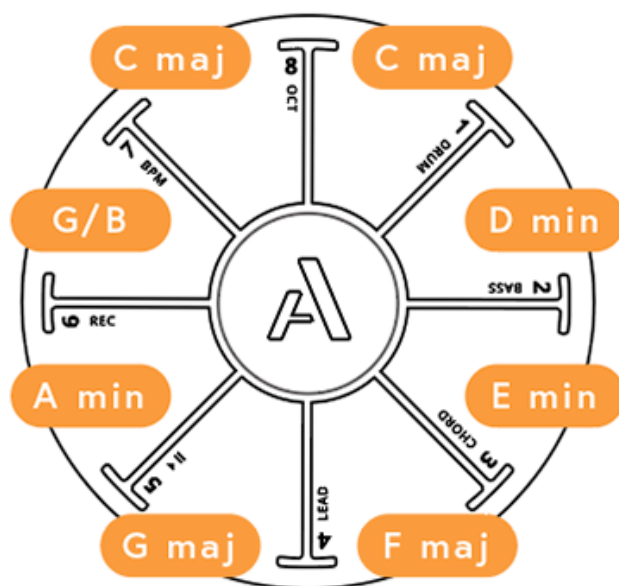


Orba's Bass mode is monophonic, meaning only the most recent note is played at a given time (this is called "last-note priority" in synthspeak). By default, Bass is tuned to a C major diatonic scale.

Try it:

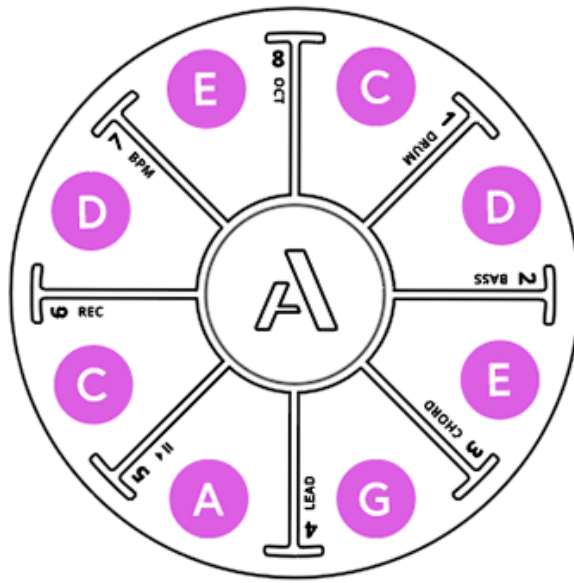
Bass is a great mode for trying different motion gestures, especially Tilt and Radiate.

CHORD



In Chord mode, each of Orba's pads triggers multiple notes simultaneously to form a chord in the key of the song. Chords are a fun way to casually explore song structures and create new ideas quickly. Like Bass, Chord responds really well to gestures like Tilt and Radiate.

LEAD



Lead is a polyphonic mode (meaning you can play several different notes simultaneously). In Lead, the pads are tuned to a pentatonic scale. This is a fun scale with five notes per octave, making it easy to find a melody that goes along all that rhythm you just played.

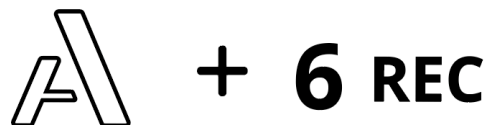
Looping

Looping is a fun and intuitive way to create a lot of musical ideas very quickly.

Orba's built-in looper lets you record and layer all four modes together, and even overdub to add more notes as you get going.

Starting A Loop

- To start a loop
 - Choose one of the four instrument modes.
 - Press A + Pad 6 (REC) together. When you release you'll hear the metronome click—this indicates the tempo of the song and means you're ready to play your first loop. Although the metronome has started, the loop won't begin recording until you play your first note.



- Record a few notes, and then tap the A button when you're ready to end your loop. The notes you just played will automatically start to play back from the beginning. Note: the song length will always be as long as the first loop you've recorded.

Overdubbing

- While your first loop continues to play, you can begin to layer additional notes and loops on other modes. Orba will stay in overdub mode until you pause or stop playback by pressing A + Pad 5 (Play/Pause) to pause the song, or if you press A + Pad 6 (REC) to disarm recording while the song keeps playing.

Try it:

Start with a simple Kick + Snare on drum, then press A to start overdubbing. Add in your hi-hats on the second pass, maybe toms on a third. Keep adding drum beats till you notice that your head has been bobbing for a few minutes ;)

Playback/Pause

- To pause or resume playback, hold the A + Pad 5 - Play/Pause buttons together.



Clearing a loop

- To clear loops one at a time:

1. Pause playback (A + Pad 5 - Play/Pause)

2. Select the mode that you want to clear

3. Press and hold A + Pad - REC together for two seconds. Alternatively, you can hold A and *Shake Orba* to clear your current loop

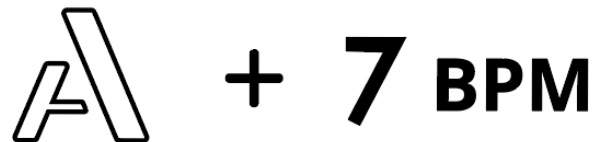
- Note: You can also clear loops by pressing CLEAR in the Orba app.
- To clear your Song (all of your loops at once):
- Press and hold A + Pad 6 (REC) for 5 seconds. Alternatively, you can hold A + Pad 6 (REC) and *Shake Orba* to clear your song

Adjusting Tempo

- Orba's default tempo is 120 beats-per-minute (BPM). There are a few different ways to adjust the tempo of your song.

Adjusting Tempo by Tapping

1. Hold the A button
2. Tap Pad 7 (BPM) at the desired tempo

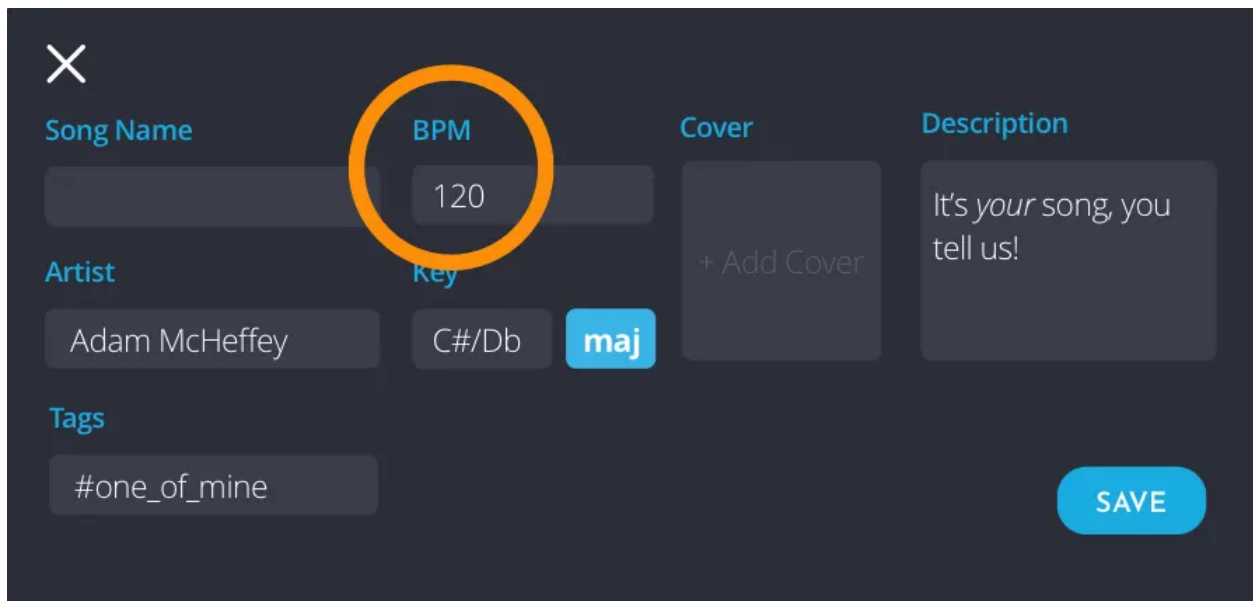


Adjusting Tempo by Sliding

- You can also make smaller adjustments to your tempo by using the Slide gesture.
 - Hold A + Pad 7 (BPM) together
 - Slide your finger up or down from the BPM pad

Adjusting Tempo in the app

- To achieve a specific BPM, you can type the desired BPM in the Song window of the Orba App
 - Open the Orba app
 - Select your Song
 - Select the pencil icon in the transport bar
 - Type in your desired BPM
 - Press save



A screenshot of the Orba App's 'Song' window. The interface is dark-themed. At the top left is a white 'X' icon. The window is divided into several sections: 'Song Name' with an empty text input; 'BPM' with a text input containing '120', which is circled in orange; 'Cover' with a placeholder '+ Add Cover'; and 'Description' with a text area containing 'It's *your* song, you tell us!'. Below these are 'Artist' (Adam McHeffey), 'Key' (C#/Db), and a blue 'maj' button. At the bottom left is a 'Tags' section with a text input containing '#one_of_mine'. A blue 'SAVE' button is at the bottom right.

Song Name	BPM	Cover	Description
	120	+ Add Cover	It's <i>your</i> song, you tell us!

Artist: Adam McHeffey Key: C#/Db maj

Tags: #one_of_mine SAVE

Transposing Orba

Changing Octaves

- You can transpose octaves right on Orba itself. To shift octaves:
 - Press and hold A + Pad 8 (OCT)
 - Slide your finger up from the Octave pad to raise the tuning
 - Press and hold A + Pad 8 (OCT)

Changing Keys

- Orba's default tuning is in the key of C major. However, Orba can play in any key. The key of your song is changed in the Orba App.
- To change keys:
 - Open the Orba app and select your Song
 - Select the Pencil icon in the transport bar

- Select Key, and a dropdown menu will appear with different options
- Select your key, and press Save

The screenshot shows a music creation interface for a song titled "SWEET SUGAR". A modal window is open with a dark background. It contains several input fields: "Song Name" (empty), "BPM" (120), "Artist" (Adam McHeffey), "Key" (C#/Db), and "Tags" (#one_of_mine). A dropdown menu is open for the "Key" field, displaying a list of musical keys: C, C#/Db (highlighted), D, D#/Eb, F, F#/Gb, G, G#/Ab, A, A#/Bb, and B. A blue "SAVE" button is located at the bottom right of the modal. The background of the app shows a blurred view of a music library with various album covers.

×

SWEET SUGAR

Song Name

BPM

120

Artist

Adam McHeffey

Key

C#/Db

Tags

#one_of_mine

Description

It's *your* song, you tell us!

SAVE

Orba Jan

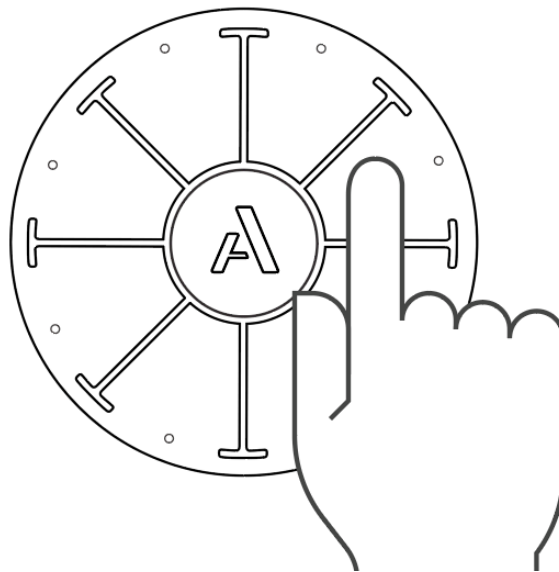
Pollen

Swing Mood

Gestures

Orba's touch and motion sensors combine to capture even your most subtle gestures. Pick it up and hold it, or just reach over and play a few notes while it's sitting on your desk. Tap it with one hand or both, with your fingertips or thumbs, or shake and wave it through the air. You can slide around each pad, or go crazy with some vibrato. It's all up to you! Below, you'll find a bit more information on each gesture and how exactly it works.

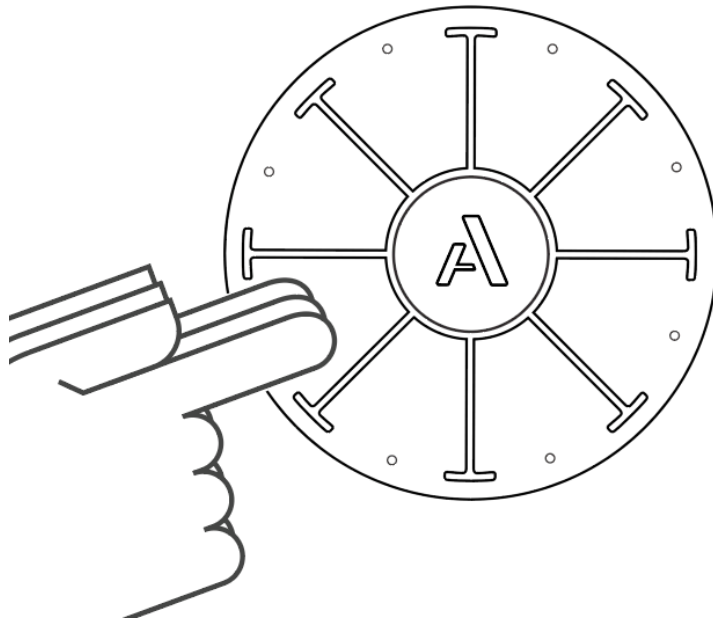
Tap



Tap your finger on a pad. Orba is velocity-sensitive, so the harder you Tap, the louder the sound.

MIDI Message: Note On/Off

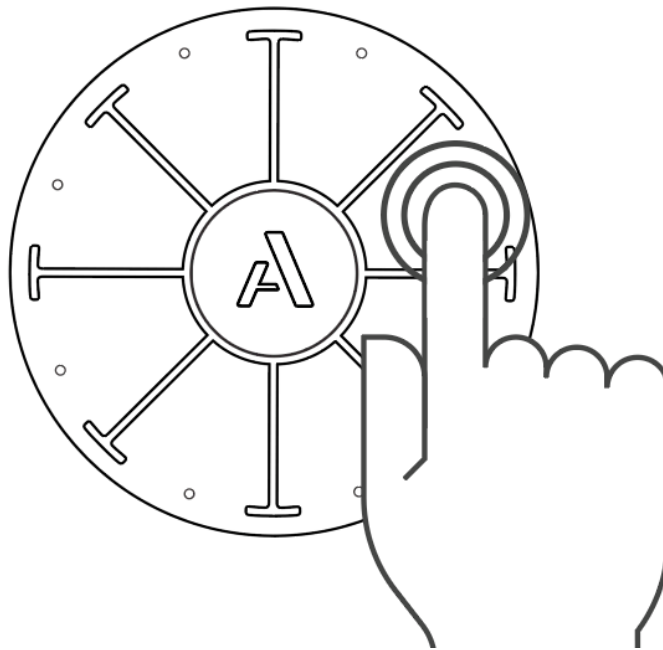
Vibrato



Tap and move your finger from side-to-side on a pad. Vibrato produces a change in pitch. the range of pitch can be adjusted with the *Pitch Bend Scaling* setting in the Orba App.

MIDI Message: Pitch

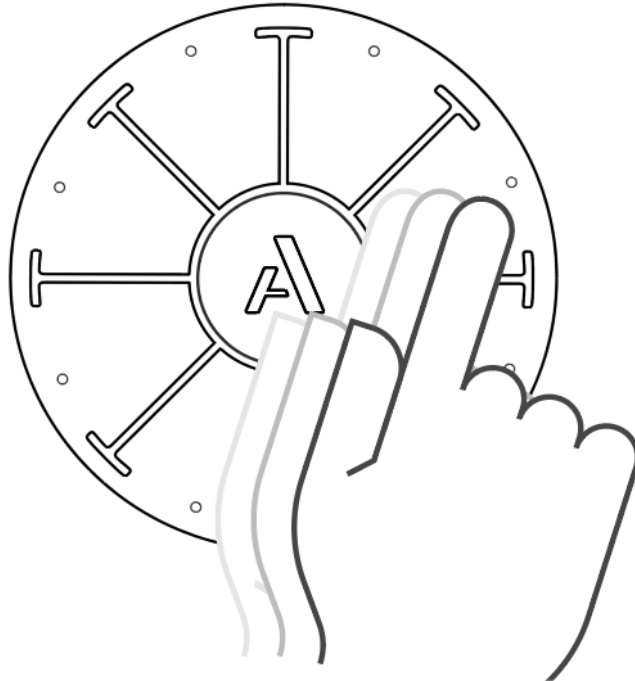
Press



Tap and *hold* your finger on a pad with varying degrees of intensity. As opposed to velocity which detects pressure, Press is activated by making your finger take up more (and less) surface area. Think about it like this: the more you spread out your finger, the more Press is activated. Pressing with sustained pressure will modulate effects on Orba's synth.

MIDI Message: Channel Pressure

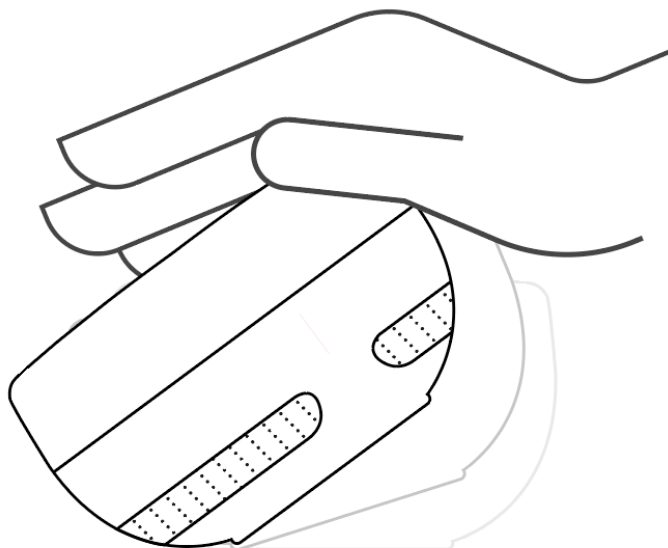
Radiate



Press and move your finger within a pad, in and out from the center to the edge of Orba. Radiate effects Brightness. When using it with Orba's internal synthesizer it may be affecting volume, envelopes, and others effects. Try it in Bass and Chord modes to start.

MIDI Message: Brightness - CC#74

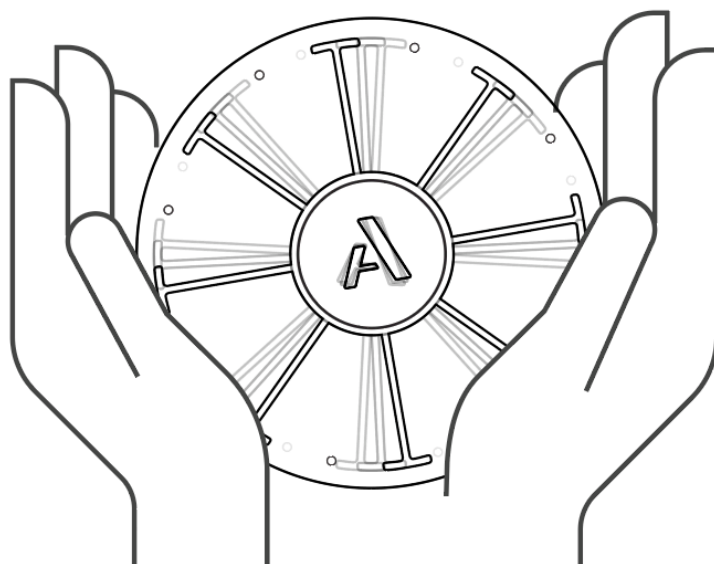
Tilt



Tilt Orba to the side to play effects. Tilt is Orba's version of the mod wheel on a traditional keyboard controller. As mod wheel is a very common MIDI effect, you'll find Tilt works automatically with most software synths and apps.

MIDI Message: Mod Wheel - CC#1

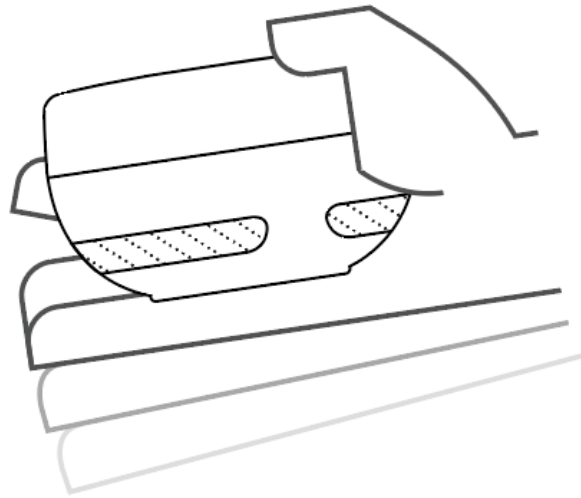
Spin



Rotate Orba like a knob.

MIDI Message: CC#112

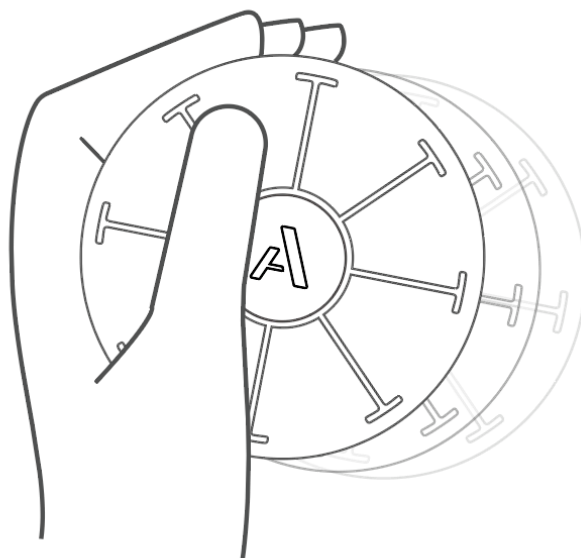
Move



Move Orba in space to modulate sounds and effects.

MIDI Message: CC#113

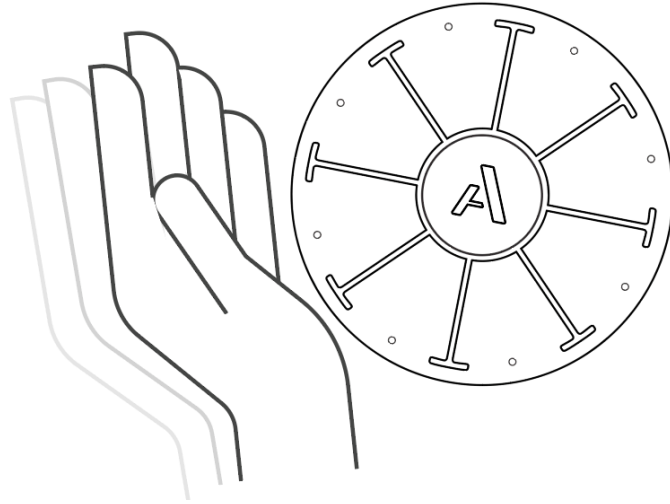
Shake



In Drum mode, hold the pad 8 and shake Orba. Shaker works best using soft movements in a side-to-side motion.

MIDI Message: MIDI note 69 and CC#2

Bump



Tap Orba on its side. Try to Bump in drum mode: you'll get a "clap" sound!

MIDI Message: MIDI note 39

The Orba App

The Orba App allows you to customize Orba, share songs, load presets and access songs. You can use the Orba app to update firmware, too, ensuring you've got the latest and greatest features enabled on your instrument.

Songs

What is a Song?

A song is a collection of loops and presets that work well together. When you generate a series of loops you can save these in the Orba app together as a song.

Presets

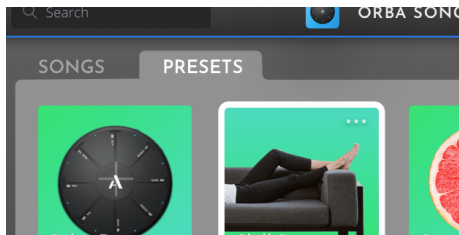
What are presets?

A preset is a sound, tuning, and set of gestures that apply to one of Orba's four instrument modes. Note: Presets are mode-specific. For example: a Drum preset could only be selected while in Drum mode. Changing a preset on Orba is done within the Orba app.

If you want to change your sound, you do this by selecting a new preset!

Changing your preset

1. Navigate to the Presets folder
2. Select Load and voila!



Using Orba As A Midi Controller

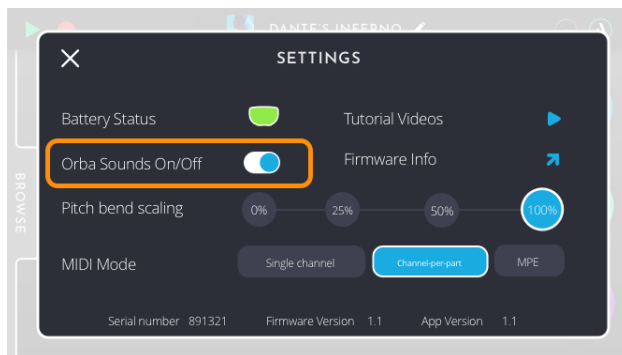
In addition to being a standalone synthesizer, Orba also works as a MIDI controller. You can use Orba to trigger and affect sounds in any MIDI-enabled software or hardware.

There are two ways to connect Orba as MIDI controller:

- You can use Orba using MIDI over Bluetooth on Mac OS X, iOS, and Android.
- You connect via USB-C on Mac, iOS, and Windows.

For ease, we've provided instructions below on connecting to MAC OS X, Windows, iOS, and Android.

If you like, disable Orba's internal synth to make sure you're not hearing two different sound sources. To do that, open the Settings page in the Orba app and toggle Orba Sounds On/Off.



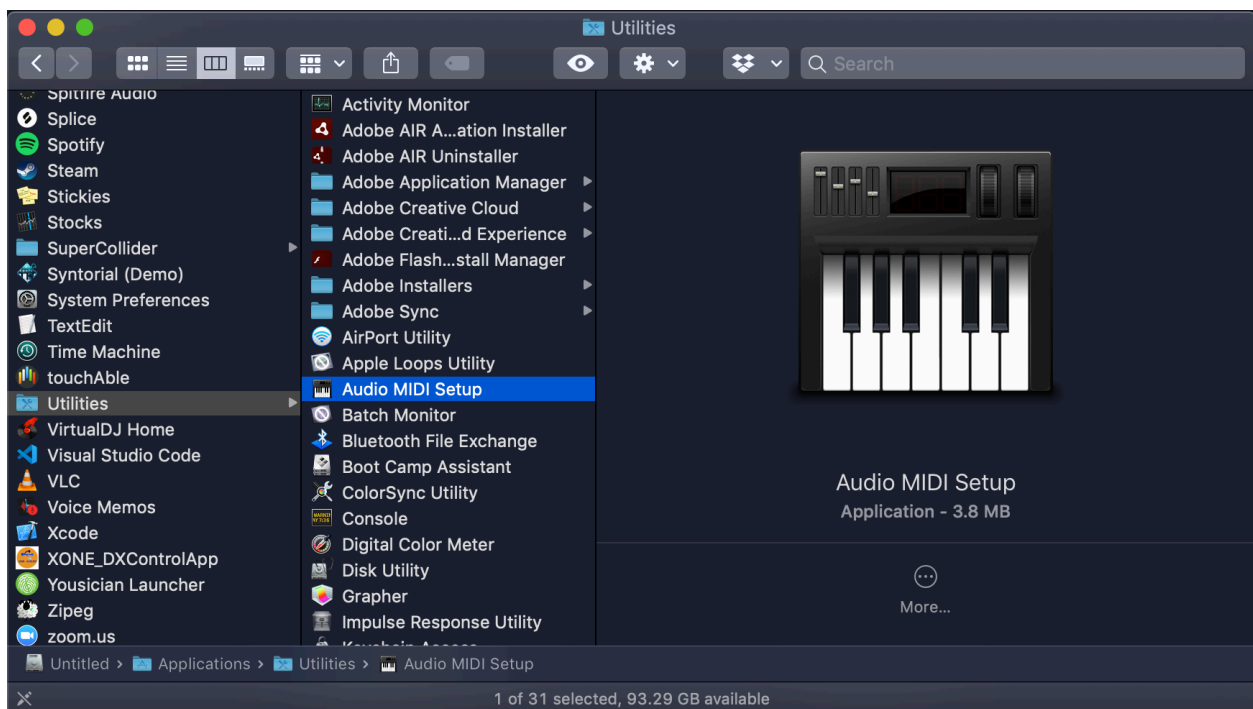
Connecting To macOS

Via USB-C

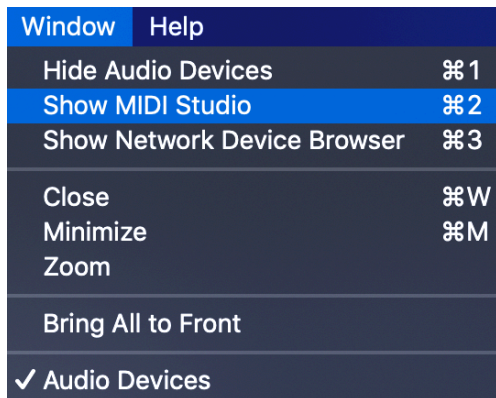
Simply connect the included USB-C to USB-A cable to your computer. Macs with USB-C inputs will require a USB-C to USB-C cable or an adapter.

Via MIDI over Bluetooth

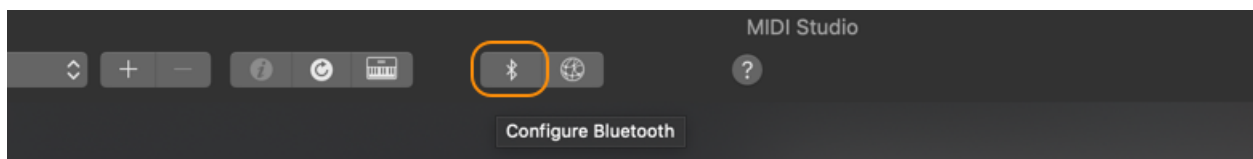
1. Open Audio MIDI Setup on your Mac. This is found in the Utilities folder. Alternatively, you can use the keyboard shortcut Command + Space. Type "Audio MIDI Setup" to find the program.



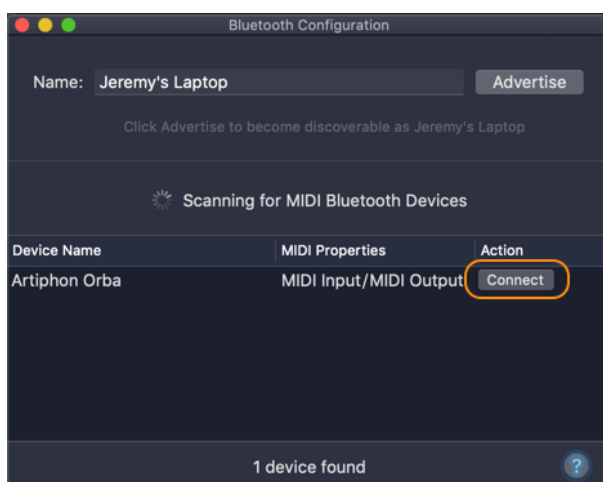
2. Open the *Window* drop-down in Audio MIDI Setup and select Show MIDI Studio, or use the keyboard shortcut Command+2.



3. Select the *Configure Bluetooth* icon from the header window



4. Select Orba from the list of available devices. If you don't see Orba on the list, make sure you have it turned on and in range.



Connecting To Windows

Via USB-C

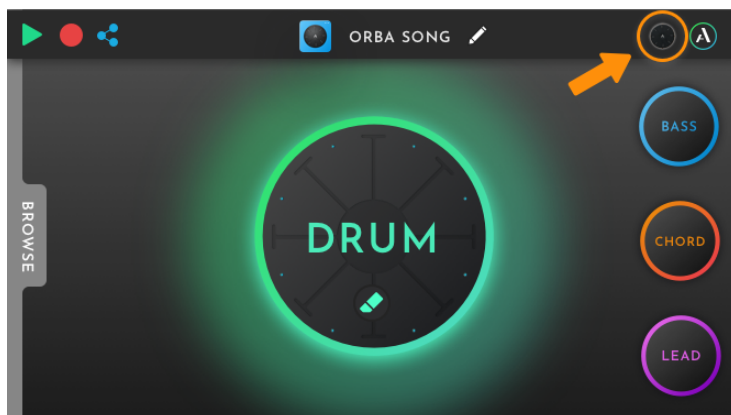
Windows is easy! Just connect the included USB-C-to-USB-A cable to your computer. Unfortunately, Windows does not currently support MIDI over Bluetooth.

Connecting to iOS

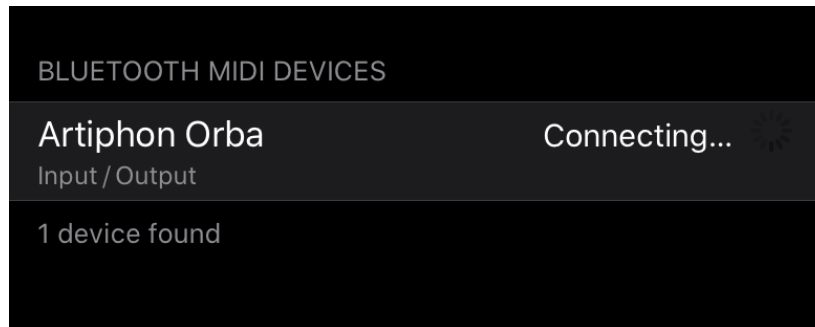
With the Orba App

Bluetooth

- o In the Orba app, navigate to the Orba icon in the upper right-hand corner of the screen.



- Select Orba from the list of Bluetooth MIDI Devices



- Note: If you don't see Orba as an option in this list, make sure the instrument is powered on and within range.

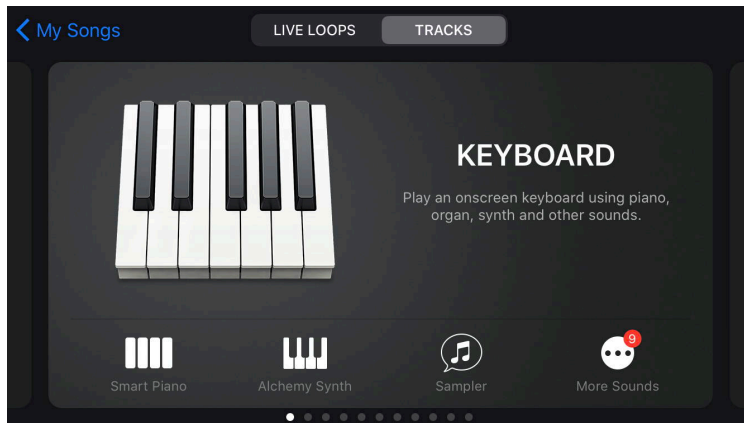
With Third-party apps

There are hundreds of MIDI-enabled iOS apps available. When pairing Orba with an iOS app, connecting over Bluetooth is done in the app itself. As an example, we'll walk through the steps of connecting Orba with GarageBand for iOS.

Connecting to GarageBand

1. In GarageBand for iOS tap the Settings button (Gear Icon) in the control bar. On iPhone 8, iPhone 7, or iPhone 6s, tap the Settings button and then tap Song Settings.
2. Tap Advanced, then tap Bluetooth MIDI Devices.
3. Tap the name of the device you want to connect, then toggle the Connect switch on.

4. Load a software instrument such as Keyboard or Guitar.

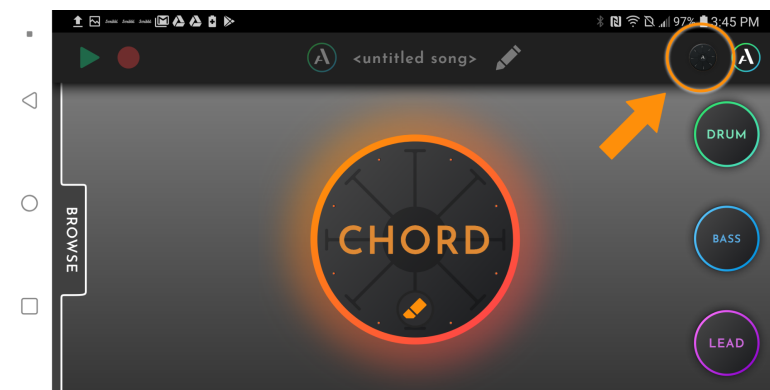


5. Start playing! It's as simple as that!

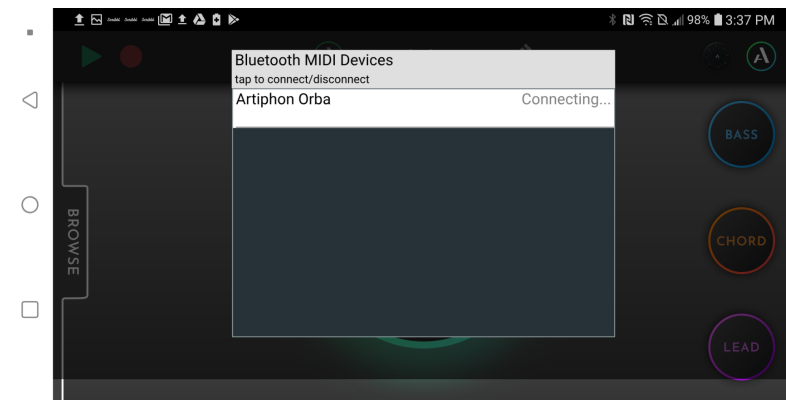
Connecting To Android

With the Orba App

- In the Orba app, navigate to the Orba icon in the upper right-hand corner of the screen.



- Select Orba from the list of Bluetooth MIDI Devices



- *Note: If you don't see Orba as an option in this list, make sure the instrument is powered on and within range.*

With Third Party Apps

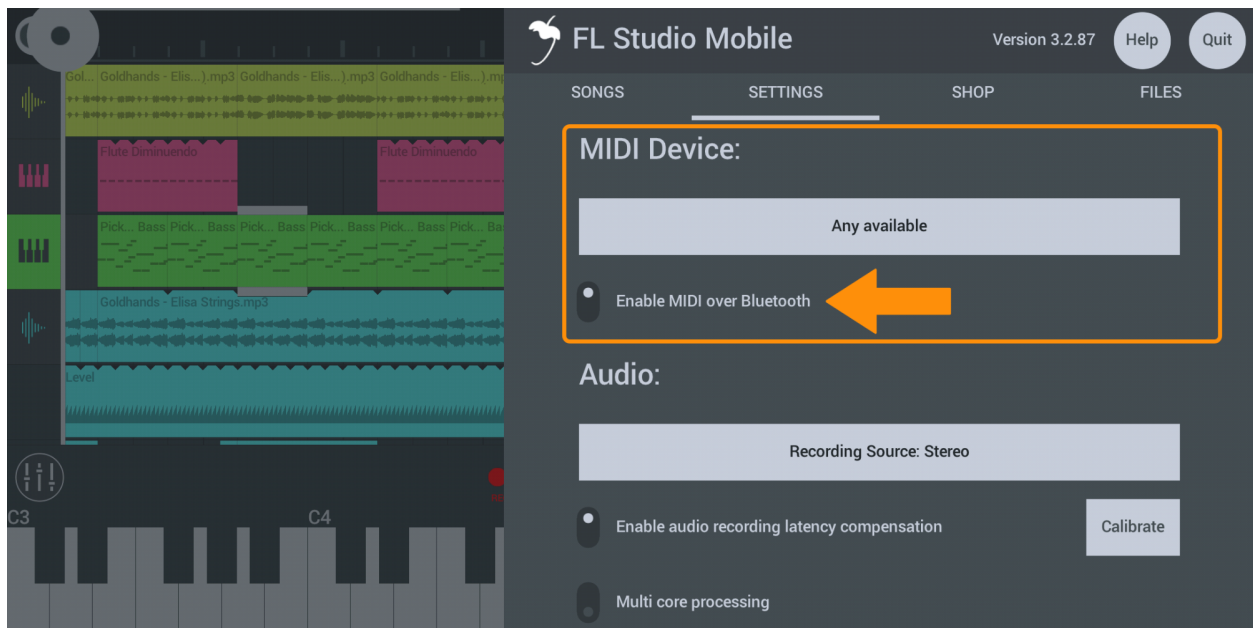
Orba will work with any MIDI-enabled software. Unlike iOS, when connecting with Android devices, the connection is done through the Orba app.

Connecting to FL Studio Mobile

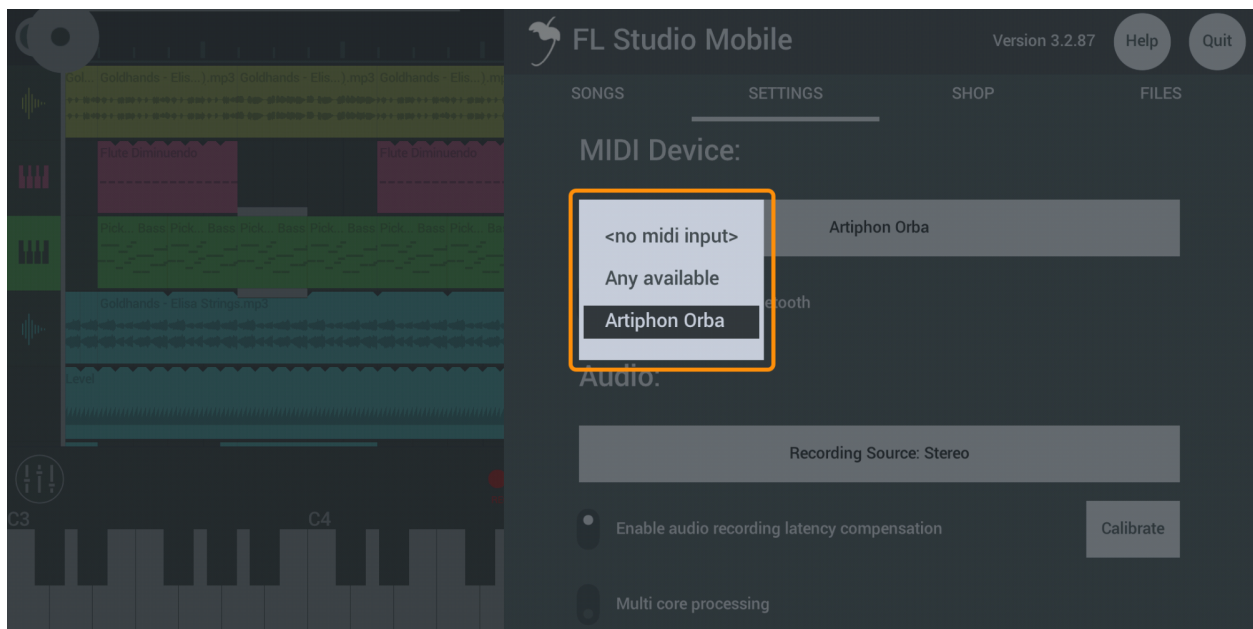
1. In an open project, tap the umbrella icon in the upper right corner of the screen



2. Toggle the 'Enable MIDI over Bluetooth' switch on.



3. Tap the MIDI Device selection button and select Artiphon Orba from the list. If you don't see Orba as an available device, make sure that Orba is on and not connected to any other device.



Settings

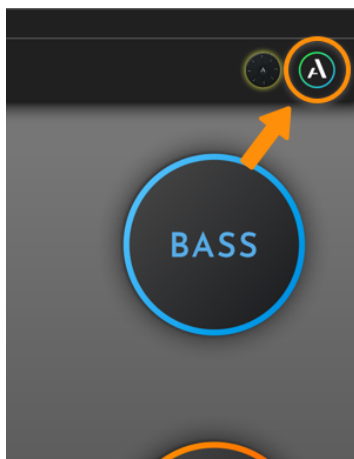
Updating Firmware

We are always adding features and improving the Orba experience. Keeping your firmware up-to-date is the best way to ensure you're getting the best this unique instrument has to offer.

Note: Updating firmware can only be done through the Orba desktop app with a USB-C connection. These downloads are available here: [Mac OS X](#) | [Windows](#)

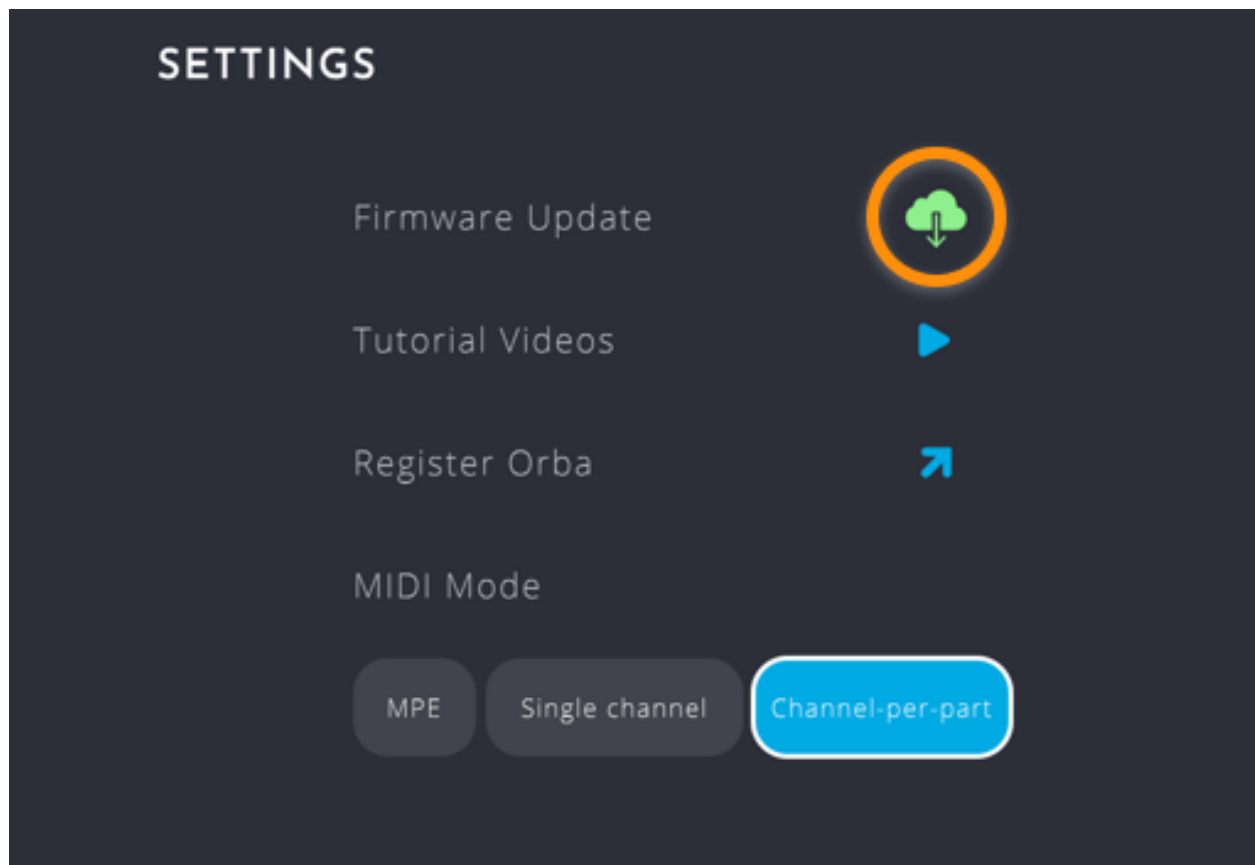
To update firmware, follow these steps:

1. Connect Orba to your computer using the included USB-C cable
2. In the Orba app, open the Settings panel by clicking the A icon in the upper-right corner of the screen.



3. In the settings panel, click the cloud icon next to the text Firmware Update.

Note that this icon will be greyed out and unselectable if you are already running the most current version of the firmware.



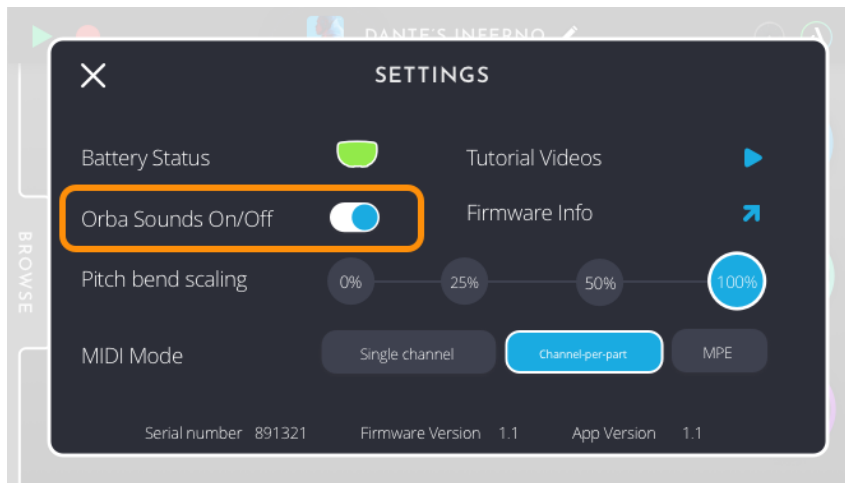
4. Let the app take care of the rest!



Orba Sounds On/Off

When you use Orba as a MIDI controller to trigger sounds in external software or hardware, you may want to temporarily disable Orba's internal synth to prevent it from interfering with the sounds in your external gear. Otherwise, you'll hear two

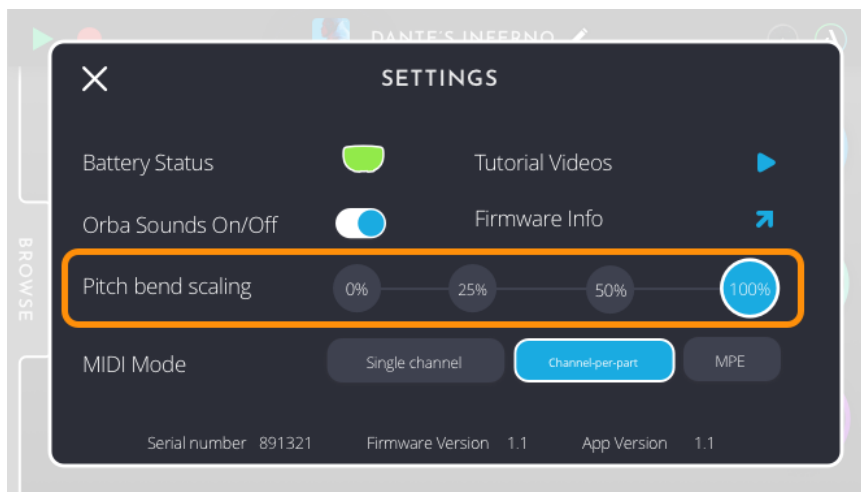
sounds every time you play (which could be awesome!). Do this by toggling the Orba Sounds On/Off setting.



Pitch Bend Scale

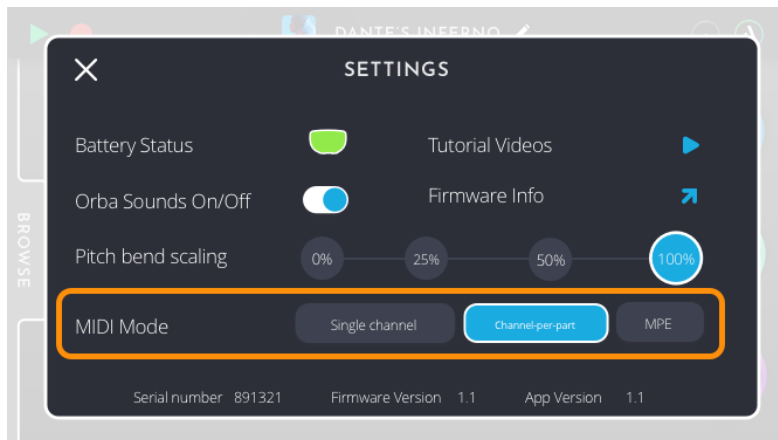
Adjusts Orba's Pitch Bend Scaling settings by ranges (0% - 25% - 50% - 100%).

This affects the rate of change in pitch shifts when performing Vibrato.



MIDI Modes

Orba can be configured to send MIDI messages in 3 different ways: MPE, Single Channel, and Channel-Per-Part.



Single Channel

All notes are sent on MIDI channel 1. Only the MIDI notes for the currently active mode are sent. For example when drum mode is selected only the drum notes are sent out on MIDI.

Channel-per-part

Channel 10	Drum
Channel 1	Bass
Channel 16	Chord
Channel 9	Lead

MPE

MPE (MIDI Polyphonic Expression) is a method that allows players to control multiple parameters (pitch bend, aftertouch, and vibrato) independently per note. On a traditional MIDI keyboard, for example, the Pitch Bend wheel affects all notes at once. An MPE compatible controller will allow these notes to be affected independently from one another.

All notes are sent as MPE MIDI with every note having its own channel so that per-note controllers can be used. In this mode, only the MIDI notes for the currently active mode are sent out on MIDI. For example, when Bass mode is selected only the MIDI out for Bass is sent.

Midi Implementation Chart

Gestures are associated with specific MIDI assignments. Below are the default MIDI assignments. *Note: These may vary depending on the preset you load.*

GESTURES	MIDI
Tap	Note On
Press	Channel Pressure
Vibrato	Pitch Bend
Radiate	CC 74 (Brightness)
Bump	MIDI note 39
Shake	MIDI note 69 and CC2
Move	CC 113

Spin	CC 112
Tilt	CC 1 (Modwheel)
Press "A" button to change mode	Program Change 1-4

Default Note Mapping

Each pad and each Mode sends its own MIDI messages. Below are the default MIDI assignments.

Note: These may vary depending on the preset you load.

DRUM	NOTE	MIDI NUMBER
Pad 1 (Kick)	C1	36
Pad 2 (Snare)	D1	38
Pad 3 (Closed Hi-hat)	F#1	42
Pad 4 (Open Hi-hat/Crash)	C#2	49
Pad 5 (High Tom)	G1	43
Pad 6 (Low Tom)	A1	45
Pad 7 (Ride Cymbal)	D#2	51
Pad 8 (Shaker)	A#3	70
Bump (Clap)	A3	39

BASS	NOTE	MIDI NUMBER
Pad 1	C2	48
Pad 2	D2	50
Pad 3	E2	52
Pad 4	F2	53
Pad 5	G2	55
Pad 6	A2	57
Pad 7	B2	59
Pad 8	C3	60

CHORD	NOTES	MIDI NUMBER
Pad 1	C2, G2, C3, E3	48, 55, 60, 64
Pad 2	D2, A2, D3, F3	50, 57, 62, 65
Pad 3	E2, B2, E3, G3	52, 59, 64, 67
Pad 4	F2, A2, C3, A3	53, 57, 60, 69
Pad 5	G2, B2, D3, G3	55, 59, 62, 67
Pad 6	A2, C3, E3, A3	57, 60, 64, 69
Pad 7	G2, B2, D3, B3	59, 62, 71, 55
Pad 8	G2, C3, E3, C4	60, 64, 72, 55

LEAD	NOTE	MIDI NUMBER
Pad 1	C3	60
Pad 2	D3	62
Pad 3	E3	64
Pad 4	G3	67
Pad 5	A3	69
Pad 6	C4	72
Pad 7	D4	74
Pad 8	E4	76

Specifications

Product Name	Orba
What's in the box	Orba, USB-C to USB-A Cable, Quick Start Guide
I/O	USB-C (USB 2.0 Class Compliant Audio/Midi) 3.5mm (1/8") TRS Analog Headphone Stereo Out)
Bluetooth	Bluetooth LE MIDI
Speaker System	3W built-in active speaker system
Battery	Lithium Polymer Battery 1250 mAH 4h average operating time 80% capacity after 300 charging cycles
Operating Temperature	0 Degrees Celsius - 45 Degrees Celsius
Capacitive Touch Sensitive Pads	8 Pads can be used with different gestures. Tap, Press, Vibrato, Radiate, Hover, Slide, Hold, Palm, Hold
IMU - Accelerometer	Modulation and controllers: Tilt, Spin, Lift, Shake, Bump, Move, Wave
Haptic Engine	Tactile feedback with sounds and metronome
Looper	Four track MIDI looper

Modes	Four on-board modes: Drum, Bass, Chord, Lead
Sound Engine	4 part polyphonic synthesizer with subtractive and physical modeling synths 9 voices + drums
Companion App	iOS, Android, Mac, Windows