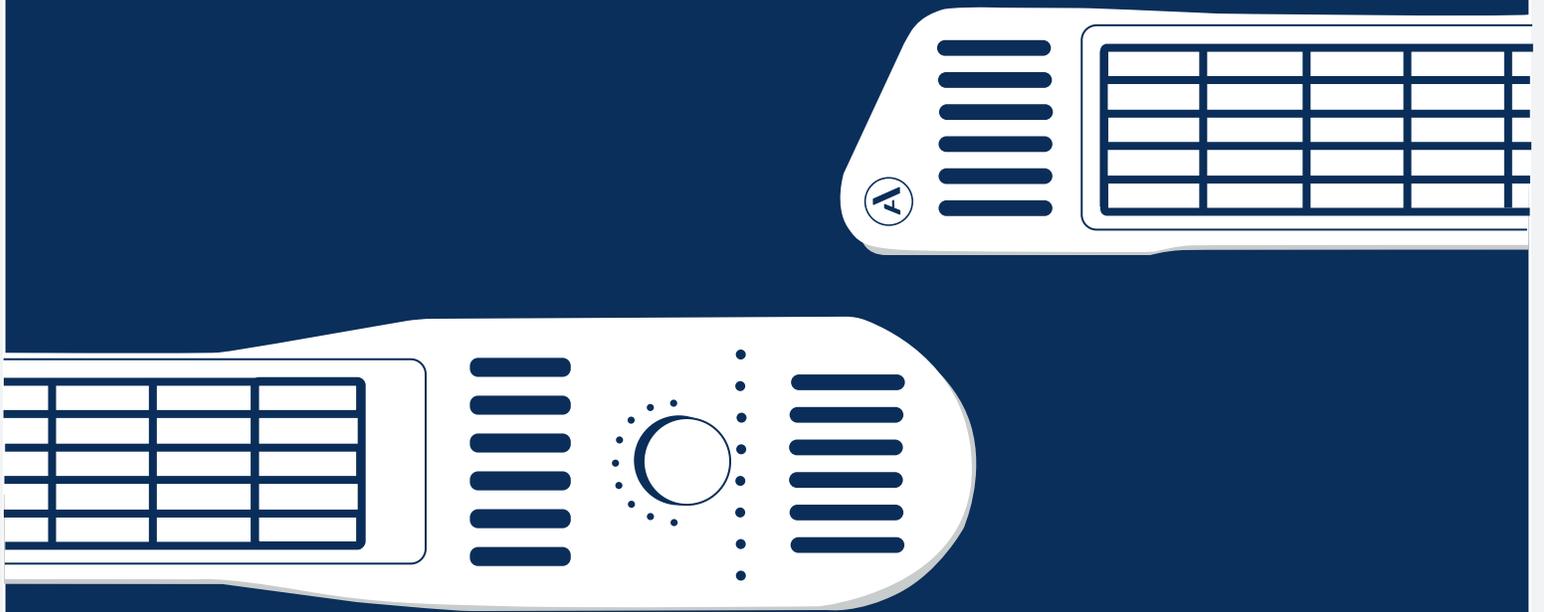




ARTIPHON

# INSTRUMENT 1



# USER MANUAL

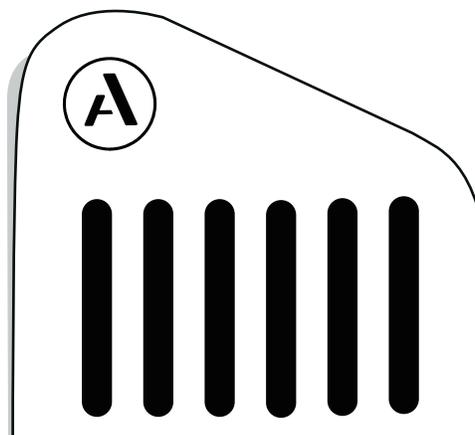
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V1.0.0

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# Welcome

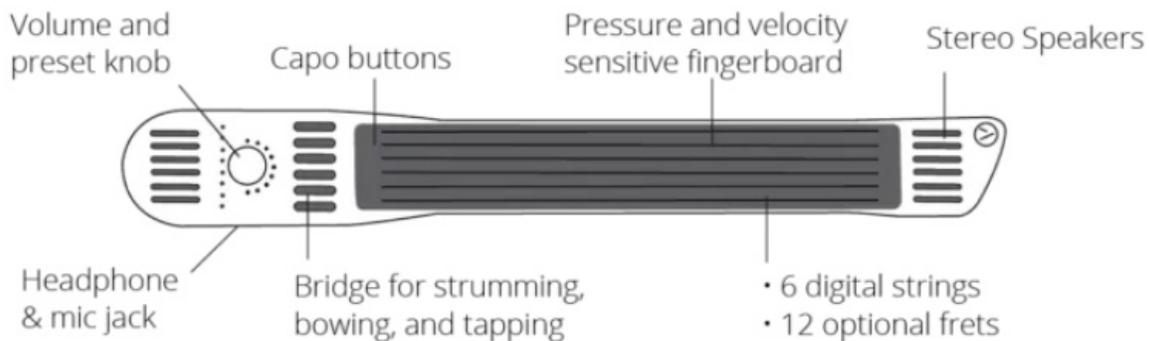
Hello, and welcome to the manual for the Artiphon INSTRUMENT 1!

The INSTRUMENT 1 is a versatile, expressive, and portable multi-instrument. With this single instrument, you can perform a variety of intuitive musical gestures and play any sound.

It was designed to be fun and useful for music lovers at all skill levels. The INSTRUMENT 1's complexity can be scaled from a simple connection to the Artiphon iOS app up to a powerful and customizable MIDI interface for professional software.

This manual will detail all of the ways the INSTRUMENT 1 can be played and customized.

# Hardware



## VOLUME AND PRESET KNOB

The circular multi-purpose knob can be turned to control volume and pressed to cycle between presets.

## FINGERBOARD

The rectangular, pressure-sensitive playing surface with six strings and twelve frets.

## CAPO BUTTONS

The two triangular buttons at the end of the fingerboard.

## BRIDGE

The six triggers between the fingerboard and knob used to trigger sounds.

## I/O PANNEL

The panel for input and output connections on the side of the instrument. This is also where the power button is located.

## LED LIGHTS

There are a number of lights on the INSTRUMENT 1. These include the power, volume, preset, and capo LEDs.

# Getting Started

## POWERING ON AND CHARGING

Turn the INSTRUMENT 1 on using the power button on the I/O Panel.



If the PWR LED doesn't glow green when powered on, connect your instrument to a power source using the included 12V power supply.

A power adapter with three different international prongs are provided. Here's a GIF showing how to assemble your power adapter:



When assembled correctly, the prongs will sit flat with the body of the charger.

Do not use any power adapter other than the one we provide. Many adapters use the same shaped plug but can have different electrical properties and may damage the INSTRUMENT 1.

The PWR LED on the I/O panel changes color to indicate the state of the battery:

  
20-100% Charge

  
5-20% Charge

  
0-5% Charge

  
Charging

A fully charged battery will last at least six hours.

# Connecting

Two connection cables are included:



Lightning cable for iPhone, iPad, and iPod



USB Cable for Mac and Windows Computers

There are two software we provide for customizing and configuring your INSTRUMENT 1:

## **THE INSTRUMENT 1 IOS APP**

The free Artiphon INSTRUMENT 1 app is available on the Apple App Store. This app includes sounds and allows you to customize settings for the INSTRUMENT 1. The INSTRUMENT 1 app is covered in more detail later in this manual.

## **THE INSTRUMENT 1 EDITOR**

The desktop interface for controlling all the INSTRUMENT 1's various settings on Mac and Windows. Note that the desktop editor does not have built-in sounds. The INSTRUMENT 1 Editor is covered in more detail later in this manual.

## **THIRD PARTY SOFTWARE**

The INSTRUMENT 1 is a class-compliant MIDI controller and can connect to any third-party music making software that accepts MIDI. This includes iOS apps and desktop DAW's. We'll go in to more detail about connecting to third-party software later in this manual.

# Main Settings

## PRESET

A saved combination of INSTRUMENT 1 settings. For example, the Guitar preset includes the settings Fretted, Strum, and Guitar tuning (EADGBE). Every preset for the INSTRUMENT 1 is comprised of a Mode, Method, and Tuning. Read on to learn about each of these elements.

## MODE

The mode sets how the INSTRUMENT 1 can be played. Two modes set the fingerboard to respond like digital strings:

### Fretted



### Fretless



Grid mode has 72 notes on the fingerboard in a 12 x 6 arrangement with an additional 6 triggers on the bridge. Any note on the grid can be pressed and played, meaning you can play multiple notes on the same string.

Unlike string modes where the tuning ascends chromatically from a base tuning, each Grid mode note location can be tuned individually.

You'll notice the notes in Grid mode are where the strings are in Fretted and Fretless modes, not the spaces in between strings.

## Pad



Pad mode has 12 locations with an additional 6 triggers on the bridge. In this mode, an entire fret becomes one large pad, so just a single note or chord will be triggered no matter what part of the region is pressed.

## **METHOD**

The method setting determines how you intend to interact with the INSTRUMENT 1. Some methods are only available for certain modes.

## **STRUM**

(Available for Fretted, Fretless, and Pad modes)

Strum method is similar to playing strings like a guitar, bass, banjo, harp, ect. A string will be activated by strumming or plucking the bridge. Notes can also be activated by striking the fingerboard as a hammer-on or pulling-off to another fretted note.

The bridge and fingerboard are sensitive to how hard they are played (velocity).

If you are holding a string on the fingerboard, the note will stop when the fingerboard is released. Open strings will ring out for some time unless they are muted. Strings can be muted in a few different ways:

If you press straight into the bridge, this will mute the note. When you release this, a note will not be triggered.

If you touch the bridge, but release slowly, this will not trigger a note. (As if you were playing bass and your finger lands on a lower string, not intending to pluck it.)

If you lightly press an active open string on the fingerboard, this will mute the note.

## **TAP**

(Available for Fretted, Grid, and Pad modes)

Tap method is similar to playing a keyboard or a drum pad. When you tap or press the fingerboard or bridge, a note will be triggered. When you release, the note will turn off.

The bridge and fingerboard are sensitive to how hard they are played (velocity).

## **SLIDE**

(Available for Fretless mode)

Slide method is the Fretless version of Tap, where you can tap a note and slide up or down a string. This method also allows for vibrato when rocking back and forth over a fret.

This method uses the MIDI message pitch bend. The Pitch Bend Range output of the INSTRUMENT 1 can be set to 12, 24, or 48.

The fingerboard is sensitive to how hard it is played (velocity).

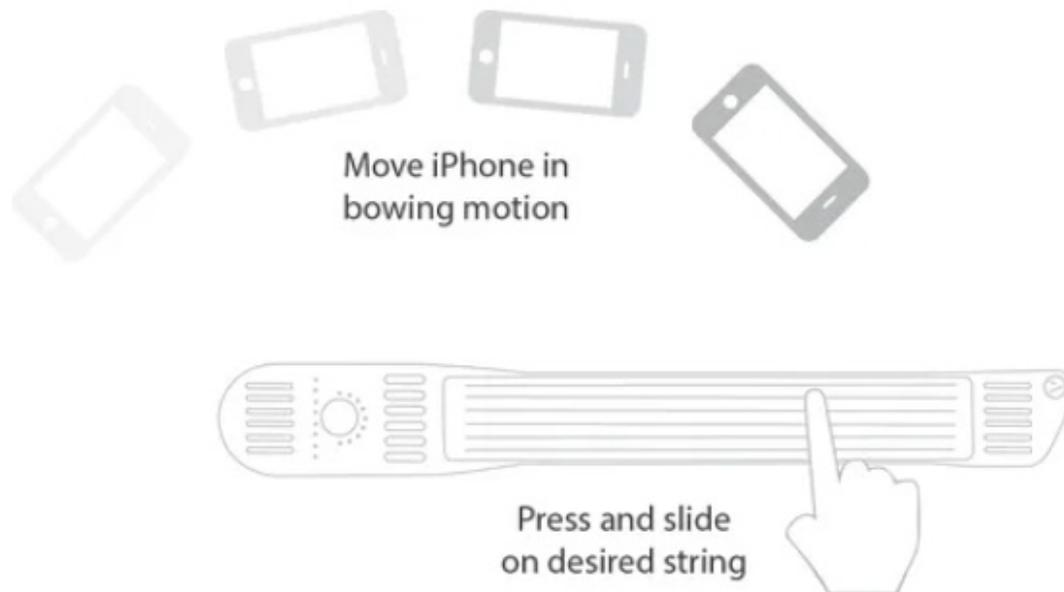
## **BOW**

(Available for Fretted and Fretless modes)

Bow method is similar to using a bowed string instrument like a violin or cello. Pressing the bridge will activate a string, and modulating pressure will control the MIDI message brightness (CC 74). Releasing the bridge will end the note. Multiple bridge triggers can be bowed and independently control brightness.

In the Artiphon app, Bow method is mapped to control volume.

## IBOW



(Available for Fretless, Grid, and Pad modes when connected to the Artiphon app)

iBow uses the accelerometer in iOS devices to control the volume of the sound. The iPhone is moved in a bowing motion while pressing down on a string on the INSTRUMENT 1. The angle of the iPhone and the motion combined determine how loud a sound is played.

## TUNING

The tuning of the INSTRUMENT 1 can be easily changed and customized. We provide a number of tuning profiles in the app and editor, and each note can be edited.

The fretted and fretless modes have a base tuning for each string, and the notes ascend chromatically up the frets. In grid and pad mode, each note element can be edited independently.

# Features

These features can be turned on and off unlike the core settings which are part of every preset. Some features are global, meaning they apply to all presets. Other features are preset specific, meaning they can be on for some presets, but not for others.

## **MULTI-CHANNEL MIDI**

The INSTRUMENT 1 can output MIDI on multiple channels (1-7). This is a new, emerging MIDI specification called MIDI Polyphonic Expression (MPE). With MPE, you can control pitch bend and pressure for individual notes, meaning you can slide notes in different directions with independent pressure control.

## **PRESSURE**

The INSTRUMENT 1 fingerboard and bridge are continuously pressure-sensitive. In multi-channel mode, the MIDI message is channel pressure, and in single channel mode, the MIDI message is aftertouch. All INSTRUMENT 1 methods can be made more expressive with pressure.

## **TILT**

The INSTRUMENT 1 can be tilted to control mod wheel (CC 1). The maximum tilt range starts from horizontal & parallel with the ground going 90 degrees up to vertical. The minimum and maximum tilt ranges can be adjusted to any range of motion within the 90 degrees.

## **STRING BENDING**

In the Fretted mode, string bending can be activated. Apply pressure to the fingerboard to bend a string by up to two semitones.

## **STRING BENDING**

Set your INSTRUMENT 1 to Pad mode and Strum method to play Smart Strum. Press anywhere on a pad and strum or pick the bridge to easily play full chords with a single finger. Change chords by pressing a different pads. This feature is also compatible with pressure, tilt, and the arpeggiator. Chord tuning profiles can be customized to include different chord root notes and voicings.

## **CAPO**

The capo buttons will shift the tuning up or down. This can be set to shift by one semitone or one octave. The maximum number of shifts is 12 up or down.

## **ARPEGGIATOR**

Notes will activate at a set tempo as long as they are held down. If multiple notes are played and held, they will play over and over in the order they were activated. The tempo can be adjusted by tapping in the app or set to a specific BPM. The rate of the notes can also be set to a specific note value.

## **STRING FLIP**

The INSTRUMENT 1 can be played by both left and right-handed players. The Fretted and Fretless string modes can be set to either a left or right-handed orientation. The INSTRUMENT 1 can globally be set to always right or left. Alternately, it can be set to Automatic flip, where the INSTRUMENT 1 will flip the strings based on how you are holding it.

There is also a preset-specific override setting, in case you wish to set a preset to flip specifically one way.

## **PROGRAM CHANGES**

When activated, the INSTRUMENT 1 will send a MIDI program change message when you press the preset selector knob. The messages 0–7 can be sent for the eight presets.

# MIDI MAPPING

	Single Channel MIDI	Multi Channel MIDI	Configurable in App and Editor
MIDI Channels	Channel 1	Channel 2-7 (base channel 1)	Switch Single / Multi Channel
Fingerboard Pressure	Channel Pressure	Polyphonic After-touch	On/Off, Sensitivity
Fingerboard and Bridge Tap	Note on/off, velocity	Note on/off, velocity	MIDI note #, Method Sensitivity
Slide on fingerboard	Pitch bend (ch. 1, adjustable range)	Pitch bend (channel per note, adjustable range)	Pitch Bend Range (12, 24, 48)
Bridge Bow	Note on/off, Brightness (CC74)	Brightness (CC74)	Method Sensitivity
Bridge Strum	Note on/off, velocity	Note on/off, velocity	Method Sensitivity
String Bending	Pitch bend (ch. 1, up to two semitones)	Pitch bend (channel per note, up to two semitones)	Pitch Bend Range (12, 24, 48)
l1 Tilt	Mod Wheel (CC1)	Mod Wheel (CC1)	On/Off, Tilt Range
Program Changes	Program Changes 0 - 7	Program Changes 0 - 7	On/Off

# SENSITIVITY SETTINGS

## **METHOD SENSITIVITY**

This sets the velocity output across all methods. The maximum is 123 and the minimum increases with Method Sensitivity. If you set this to very high, you can play lightly and still have loud notes. If you set this to low, you can play with the most dynamic range.

### **LOW**

Velocity 40-123 using light to very hard touch

### **MEDIUM (DEFAULT)**

Velocity 60-123 using light to hard touch

### **HIGH**

Velocity 80-123 using light to medium touch

### **VERY HIGH**

Velocity 100-123 using light to medium touch

In tap method, velocities 124-127 are possible, but require harder strikes.

## **HAMMER-ON SENSITIVITY**

(Available for Fretted/Strum)

This sets how hard you have to strike the fingerboard to trigger a hammer-on. If you are playing the Guitar preset and find that you are unintentionally triggering notes when you press on the fingerboard, the Hammer-On Sensitivity can be decreased or turned off to prevent this. Alternately, you can turn this up to make the fingerboard more sensitive.

Turning off hammer-ons will also turn off pull-offs.

## **AFTERTOUCH SENSITIVITY**

This how hard you press the fingerboard to control polyphonic aftertouch or channel pressure. This can also deactivate pressure sensitivity.

# ARTIPHON iOS APP

Platform: iOS (iPhone, iPad, and iPod)

Available on the Apple App Store

## TECHNIQUES AND SOUNDS

With the INSTRUMENT 1 you can combine sounds, techniques, and tunings to design your own custom instruments. The Artiphon companion app for iOS is the quickest way to adjust settings on existing instrument presets, and to design new ones.

## WHAT'S A PRESET?

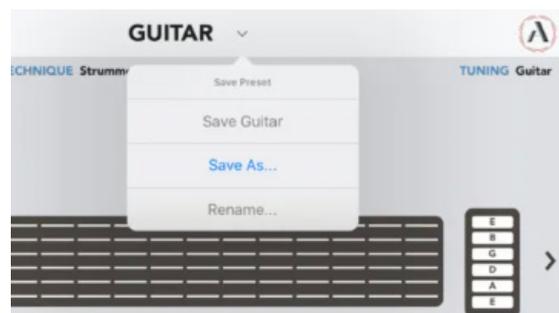
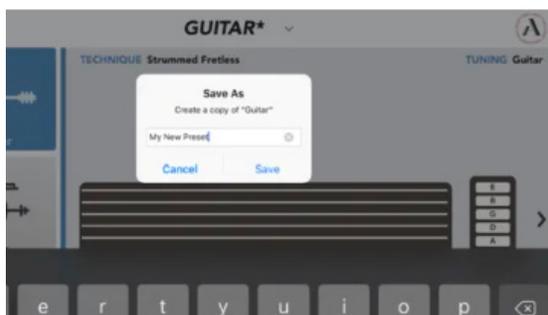
When using the Artiphon iOS app, a preset is a combination of technique, tuning, and sound. You can change and adjust existing presets or create new ones, and save them in your collections folders within the app.

## MAKE A CUSTOM PRESET

You can start out with any of the presets found in the app. There are four main built-in presets (Guitar, Violin, Piano, and Drums) and a selection of custom ones that we designed (and continue to update and add to).

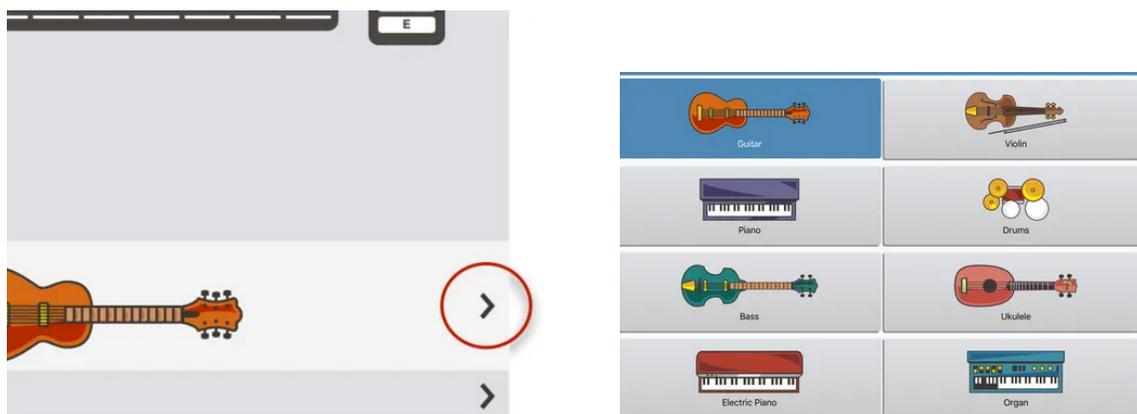
## NAMING YOUR PRESET

Pressing the arrow next to the preset name at the top of the screen gives the options to overwrite the current preset, save it as a new preset, or rename the current preset.



## CHOOSING YOUR SOUND

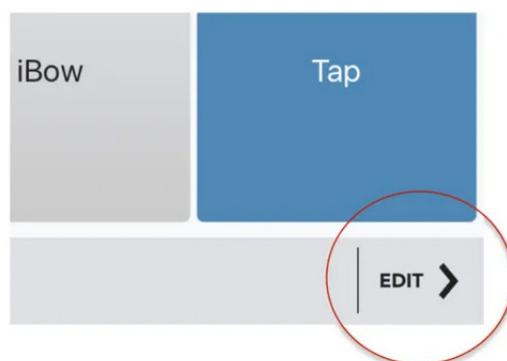
In the Artiphon app any sound can be used with any technique. Choose your sound by pressing the arrow next to the sound icon. On the Sounds page you can browse between different instrument sounds that we designed specifically for the INSTRUMENT 1.



## CHOOSING YOUR TUNING

Pressing the arrow in the tuning bar at the bottom of the Technique screen opens a list of tunings to choose from. All the tunings you see can also be customized with the tuning editor.

There are many common tunings to select from, including Standard Violin, Open G, Drop D, and more. If you'd like to edit or modify a tuning, select Edit and change the value for each individual string, note, or region.



## **SELECT YOUR MODE**

Enter the Technique Editor by pressing the arrow on the right of the Artiphon app home screen.

Swipe to browse between the four modes: Fretted, Fretless, Grid, and Pad. Each mode will determine how the fingerboard and bridge on your INSTRUMENT 1 respond to your playing.

Fretted Mode: similar to a guitar, electric bass, ukulele, or other stringed instrument with frets.

Fretless Mode: similar to a member of the violin family, allowing you to slide continuously between notes, and rock your finger for vibrato.

Grid Mode: divides the fingerboard into a grid of 72 note locations.

Pad Mode: divides the fingerboard into 12 pads arranged side-by-side.

## **CHOOSING YOUR METHOD**

Choose from the Method buttons at the bottom of the screen to select your method.

Strum Method (works with Fretted, Fretless, and Pad modes): lets you strum or pluck the bridge triggers to play the corresponding strings of the fingerboard.

Bow Method (works with Fretted and Fretless modes): lets you press on the bridge triggers and slide continuously between notes on the fingerboard.

Slide Method (works with Fretless Mode): lets you press a note on the fingerboard and slide continuously up or down the neck.

Tap Method (works with Fretted, Grid, and Pad modes): lets you tap or press a location on the fingerboard or bridge to play a sound.

## **SAVING YOUR PRESET**

While you can save as many custom presets as you like in the Artiphon iOS app itself, you can also save your presets to the four user preset locations accessible on the face of the INSTRUMENT 1. You can switch between these presets at any time by pressing in the INSTRUMENT 1's volume/preset knob.

A dialog will ask you which of the user preset locations you want save to.

## **THE MORE MENU**

There are a number of additional features in the More menu that you can apply to your presets. The technique settings will apply to specific presets, while the INSTRUMENT 1 settings apply to all the presets.

Aftertouch Sensitivity controls how hard you press the fingerboard to control polyphonic aftertouch or channel pressure.

Capo Step Size sets the tuning interval that is changed by the Capo button. Selecting 1 will make the tuning shift up or down one semitone, while selecting 12 will make the tuning shift one octave.

String Flip Mode sets whether the INSTRUMENT 1 is oriented for a left or right-handed player. Selecting Left or Right will lock it in that orientation. Selecting l1 flip means that the accelerometer inside the INSTRUMENT 1 will sense the orientation and automatically change.

String Flip Override will force a specific left/right orientation.

Arpeggiator will cause notes to activate at a set tempo as long as you hold down a key, pad, or string. If multiple notes are played and held, they will play over and over in the order they were activated. The tempo can be adjusted by tapping in the app, or set to a specific BPM. The rate of the notes can also be set to a specific note value.

Hammer-On Sensitivity sets how hard you have to strike the fingerboard to trigger a hammer-on. This setting only works for Fretted mode. If you are playing the Guitar preset and find that you are unintentionally triggering notes when you press on the fingerboard, the Hammer-On Sensitivity can be decreased or turned off to prevent this. Turning off hammer-ons will also turn off pull-offs.

Method Sensitivity sets the velocity output across all methods. The maximum is 123 and the minimum increases with method sensitivity. If you set this to very high, you can play lightly and still have loud notes. If you set this to low, you can play hard and have a wide dynamic range.

String Bending allows you to press into the fingerboard to bend a string up by two semi-tones.

INSTRUMENT 1 Tilt tracks the angle of the INSTRUMENT 1 to the ground and controls mod wheel accordingly. The Tilt Range for this feature can also be adjusted.

MIDI Program Changes will send a program change message when you press the preset selector knob. The MIDI messages 0 - 7 can be sent in your software of choice.

## **THE SETTINGS MENU**

Press the Artiphon logo in the upper right to open the settings menu.

Learn More Online will bring you to this page.

Launch Firmware Updater is where you can update or restore your INSTRUMENT 1 firmware.

Export app presets allows you to share presets via email. Press here to open the "Share Presets" dialog. Select the desired presets and press "Share" in the right upper corner. In the Sharing dialog select the email icon and the presets will be sent via email to share presets with someone or to create a backup for yourself. To import the presets onto another iOS device just press on the preset bundle file icon and select "Copy to Artiphon". Your presets will then be available on this iOS device.

Master Volume adjusts the overall volume of the sounds in the Artiphon app.

App Runs in Background when switched on, allows background audio when using the Artiphon app alongside other audio apps like GarageBand.

MIDI Mode: select Multi Channel for most applications. Some apps do not work with the Multi-Channel mode for pitch bend so that sliding in fretless modes does not work. In these cases please use Single- Channel midi mode. In Single- Channel midi mode fretless techniques become monophonic as a workaround for the restrictions of these apps.

Pitch Bend Range will change the pitch bend output of the INSTRUMENT 1 when using fretless modes or string bending. The Artiphon App's sound will update automatically, but third party virtual instruments will need to match this value to perform correctly.

Connect to MIDI Network: If you have set up a midi network with an Apple Mac computer press here to connect.

All Notes Off sends an "All Notes Off" midi command to stop stuck notes that can potentially occur in some sound generators when too much midi data is coming in.

Version Info shows the app and firmware version, as well as your INSTRUMENT 1 model and serial numbers.

# INSTRUMENT 1 EDITOR

## **WHAT IS THE INSTRUMENT 1 EDITOR?**

The Artiphon INSTRUMENT 1 Editor is used to customize all the presets and settings on your INSTRUMENT 1 while controlling third-party virtual instruments or synths on your computer.

## **WHAT IS A PRESET?**

A preset is a combination of INSTRUMENT 1 settings including Method, Mode, Tuning, and additional features that you can enable. For example, the Guitar preset is Strum Method, Fretted mode, and Guitar tuning (EADGBE).

## **CUSTOMIZING YOUR INSTRUMENT 1**

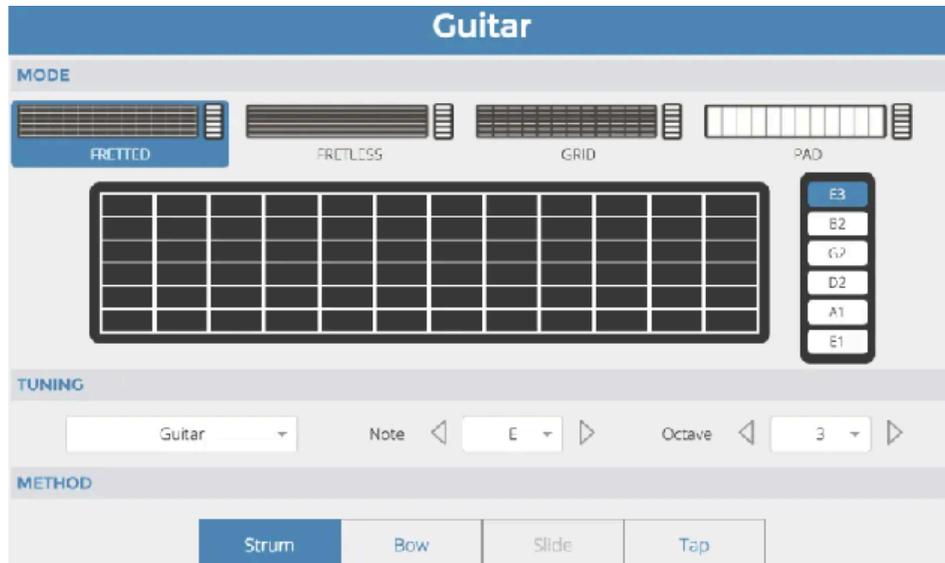
There are eight default presets on the INSTRUMENT 1. The first four – Guitar, Violin, Piano, and Drums – can be customized but not overwritten. The other four presets, indicated by numbered dots, can be overwritten.

We provide a number of presets in the folders on the left-hand side of the Artiphon iOS app and INSTRUMENT 1 Editor for Mac and Windows. Start with a default preset and change the settings to your ideal playing preference. The possibilities are limitless!

## **SELECTING A MODE AND METHOD**

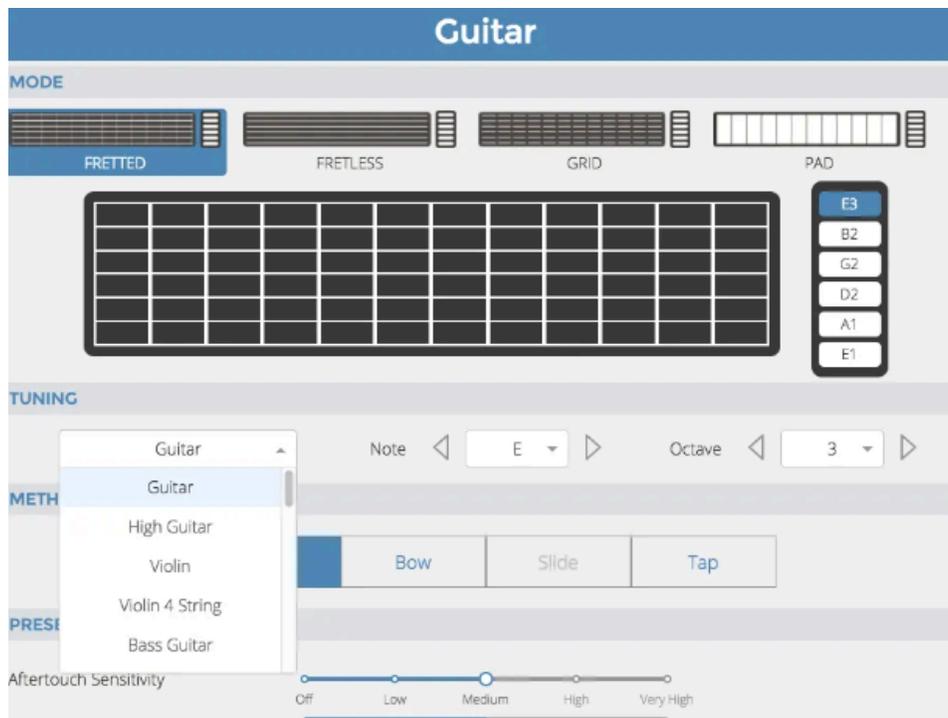
The INSTRUMENT 1's four playing Modes are: Fretted, Fretless, Grid, and Pad. These can be selected by clicking the different icons within the Artiphon iOS app and INSTRUMENT 1 Editor.

The four playing Methods are: Strum, Bow, Slide, and Tap. Select these by clicking under the Method section. Some methods are not available in certain modes, for example, Slide method is only available in Fretless mode. It is grayed out in the screenshot above because Fretted mode is selected.



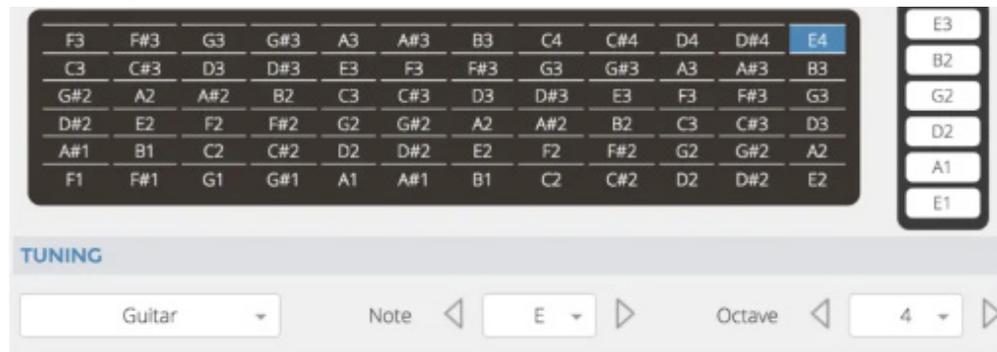
## SELECTING A TUNING

In the Tuning section you'll find a dropdown menu with a selection of available tunings for the mode which you've selected. If you'd like to customize a tuning further, click on the graphic of the fingerboard or the bridge in the mode window. Then, simply type a note and octave, or use the arrows or dropdown menu to adjust individual notes.



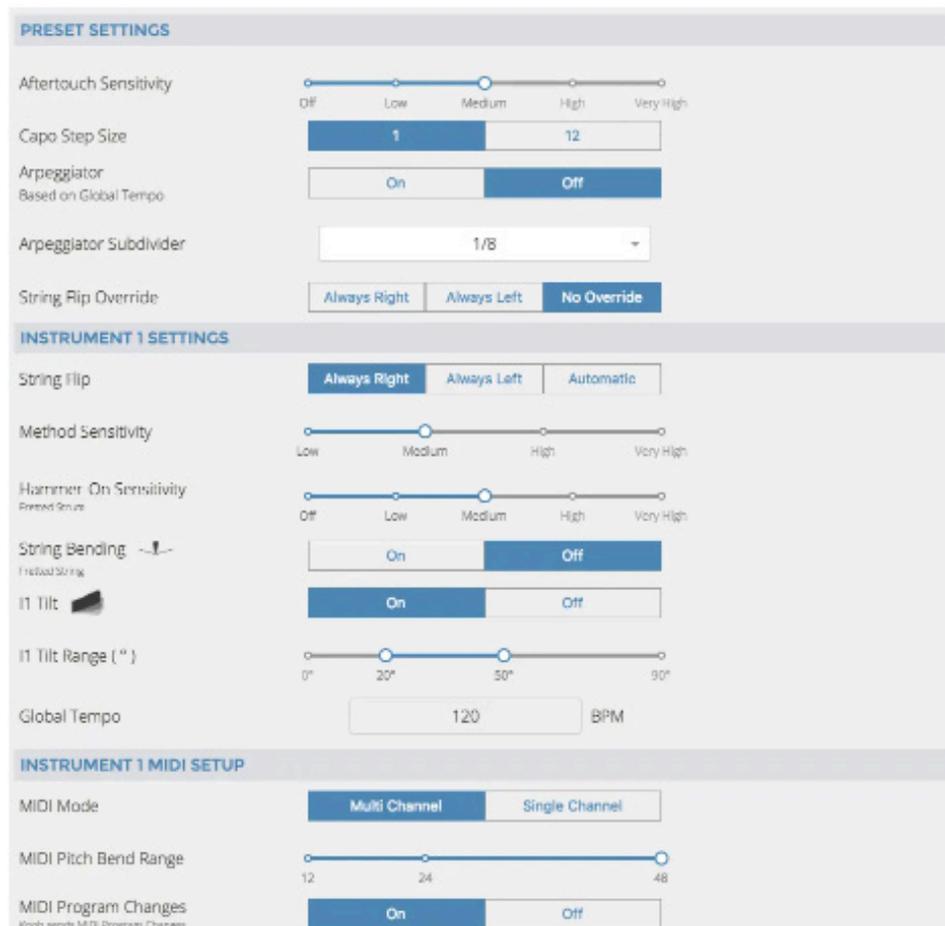
It is also possible to save No Note as a tuning to turn off a string, grid or pad location. Hit Save in the menu bar if you want to preserve your custom tuning in the current preset.

Any note between C-2 and C8 can be assigned to the strings, grid or pads.



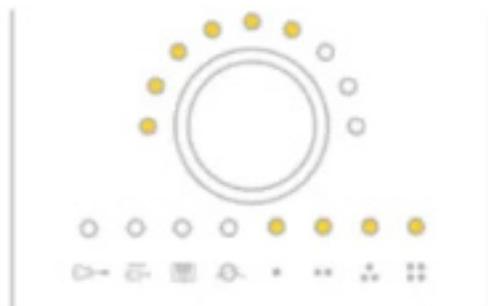
## ADDITIONAL FEATURES

Below Mode, Method, and Tuning, you can access a number of additional features and sensitivity settings.

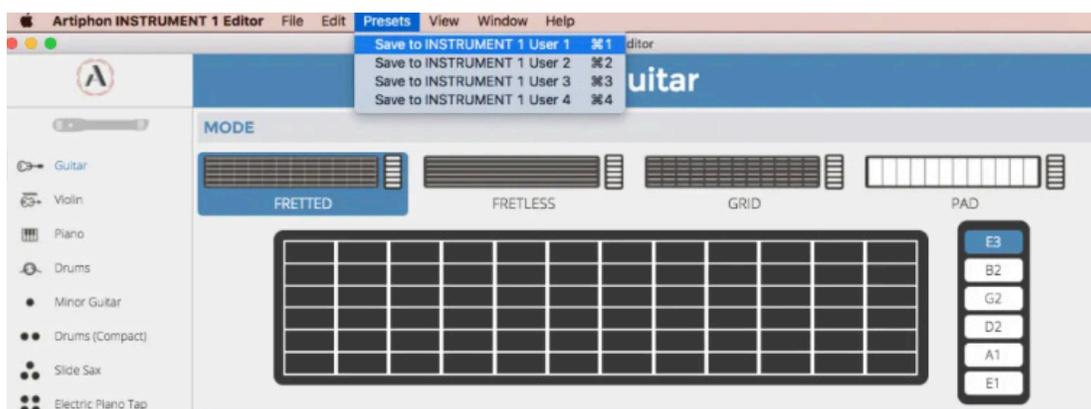


## SAVE YOUR PRESET TO THE INSTRUMENT 1

Any preset can be stored directly onto the INSTRUMENT 1 hardware for easy access and recall. These are the four user presets indicated by the dot icons beneath the volume/preset knob.



To save a preset to the INSTRUMENT 1 itself, select Presets from the menu bar and then select one of the four user preset locations from the dropdown. Alternately, press Command or Control and the number of the preset over which you want to save (1-4).



## SAVING AS/RENAMING/DELETING

All of these options are under the File menu. You can save the current preset as a new preset with Save As. Delete the current preset or preset folder (Artiphon presets and folders cannot be deleted). You can also rename a preset here.

## RESTORE FIRMWARE

If you are experiencing issues after updating, it is possible that something went wrong during the update process. Whoops! In this case, please open the Help tab and choose Restore INSTRUMENT 1 firmware to revert your instrument to its original factory settings.

# THIRD-PARTY APPS

The INSTRUMENT 1 is a Musical Instrument Digital Interface (MIDI) controller, meaning it can work with almost any sound generator or music-making apps/software such as GarageBand, Logic Pro X, Ableton Live, and many others. This allows you to change your sound at any time or to record MIDI data into the digital audio workstation or music-making program of your choice. Below you'll find a few of our favorites and setup tips for best results with the INSTRUMENT 1.



## IOS

Animoog

Artiphon iOS app

GarageBand for iOS

Groovebox

Korg Gadget for iOS

Minimoog Model D

## MAC

Ableton Live

BandLab

GarageBand

Korg Gadget

Logic Pro X

Mainstage

Soundtrap

## PC

Ableton Live

BandLab

FL Studio

Native Instruments Kontakt  
Player

Soundtrap

## CONFIGURATION

To change your playing techniques while using sounds from a third-party sound generator, use the the Artiphon iOS app or the Artiphon INSTRUMENT 1 Editor for Mac and Windows. They enable preset creation and customization while using sounds from a third-party app.

We've made it easy to disable the app's built-in sounds while playing other sound generators. Simply select "No Sound" in the Artiphon iOS app to allow sounds from your third-party app to pass through the Artiphon app.

## MIDI CHANNEL MODE AND RANGE

The INSTRUMENT 1 can be played expressively by using the fingerboard and bridge in different ways. In order to allow these techniques to work with third-party sound generators, the INSTRUMENT 1 sends polyphonic expression data on multiple MIDI channels. You can adjust the settings in your software depending on how you want MIDI data to be received.

Setting your software to receive six channels should ensure that strum and bow modes work properly. When the INSTRUMENT 1 is set to Multi-Channel MIDI mode, the channels 2-7 are used for the played notes while channel one is reserved as MIDI base channel.

The Mac, PC, iOS apps allow to set the INSTRUMENT 1 to multi-channel MIDI mode.

When the third-party sound generator is set to a multi-channel MIDI mode, ensure that MIDI channels 2-7 are set. This setting might be labeled multi-channel, MIDI-mono mode, MPE, or similar.

Note that some sound generators do not support a multi-channel MIDI mode. In this case, the INSTRUMENT 1 can be switched to Single Channel MIDI mode so that expressive data (such as pitch bend when sliding) is still used only for the last note that was played. In single channel MIDI mode, the INSTRUMENT 1 sends MIDI on channel 1.

If fretless modes and pressure are not used, third-party generator can be set to omni, where all MIDI channels are received. In this case, using pitch bend and expression for more than one note at a time can cause problems.

## **GETTING FRETLESS MODE TO WORK PROPERLY (SETTING THE PITCH BEND RANGE)**

In order to have fretless mode work properly, the third-party sound generator's pitch bend range should be set to 48 in order to give you one chromatic half-step per fret marker. Of course, feel free to adjust the pitch bend range to achieve whatever result you desire.

Using the INSTRUMENT 1 Editor or Artiphon app, you can change the INSTRUMENT 1's pitch bend range to 12, 24, or 48.

Here are some examples of third-party sound generator settings:

Moog Model 15

MIDI channel: MPE

Pitch bend range: 48

Apple Alchemy (and other Logic or MainStage plug-ins)

MIDI Mono Mode: On (with base channel 1)

Mono Mode Pitch Range: 48



# ARTIPHON

## Get in touch, stay in touch!

For a wealth of resources, including videos, in-depth tutorials, inspiration from other creators and more, visit [start.artiphon.com](https://start.artiphon.com)

Got questions? We love answering them. Reach out any time at [support@artiphon.com](mailto:support@artiphon.com).

