

MIDI Maestro



Manual v2
Firmware 1.1.9

Welcome

MIDI Maestro Manual

REACH US!

support@singularsound.com

We love to help! :-)

In order to benefit from all the latest features, it is necessary to have the most recent firmware version installed.

To check the Firmware version on your MIDI Maestro, press the Mode button on the back panel to go to the Main Menu, the firmware version will show in the lower left screen. As of the writing of this manual, it is **1.1.9**. Read how to update your pedal's firmware in the MIDI Maestro Smartphone App section on pg. 33.

Don't have the latest firmware?

Download it from the MIDI Maestro App, and make sure it's updated, the current phone app version is **1.7.0 for Android and iOS**. Find the app and download it from the Google Play Store for Android, or on the Apple Store for iOS, search for "Singular Sound MIDI Maestro". (Read the Using Your MIDI Maestro section on pg.8 using the MIDI Maestro to learn how to update your unit.)

For the complete changelog of firmware improvements ,see the end of this manual.

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Introduction & Quickstart

The MIDI Maestro places the full power of MIDI control at your feet. Make the most of any setup by choosing exactly how you want your MIDI commands to be arranged and control up to 16 MIDI channels independently. The functions of each button on the MIDI Maestro can be edited with the MIDI Maestro smartphone app. Look it up by searching “Singular Sound MIDI Maestro” on the [Google Play store](#) or the [Apple Store](#) for a free download!

Do you use the BeatBuddy and/or the Aeros Loop Studio? The MIDI Maestro has built-in default modes for each unit for a plug-and-play experience right out of the box!

We know you’re itching to start playing with your MIDI Maestro, but there are a few things you should know!

The MIDI Maestro comes with built in presets (modes) for your BeatBuddy and your Aeros Loop Studio. You can also create and load your own custom mode with the free smartphone app.

IMPORTANT: Please make sure your BeatBuddy and Aeros have the latest firmware installed for the MIDI Maestro to work properly with them. You can download the latest firmwares here: <https://singularsound.com/pages/support>



- 1 The “Mode” button switches between the Main Menu and the last open preset.
- 2 To customize your own preset:
 - Connect your smartphone with the MIDI Maestro: Hold down the Bluetooth Pairing button to put the MIDI Maestro in pairing mode. You do not need to pair your phone in your Bluetooth settings, but you may have to allow location services to connect. The app will search for and pair to any one MIDI Maestro nearby while in pairing mode.
 - Download the MIDI Maestro App in the [Google Play Store](#) or the [Apple Store](#) by searching "Singular Sound MIDI Maestro".
 - Follow the steps in the manual for creating and editing modes in the MIDI Maestro Smartphone App section on [pg. 33](#)
- 3 Make sure your MIDI Maestro is up-to-date by updating the firmware via the app. As long as the pedal firmware (bottom-left screen in the menu) displays the current version (1.1.7), there's no need to update the pedal when a new app version is released.
- 4 Extension Pedal: You can use a dual momentary footswitch to move up and down between pages. This saves you from using one of the MIDI Maestro’s buttons to get to other pages of commands when creating your custom preset. Plug your footswitch into the MIDI Maestro’s Extension port with a stereo TRS cable. We recommend using the [Singular Sound Footswitch+](#).
- 5 Expression Pedal: You can use an expression pedal to easily control the value of a MIDI command. (With a default BeatBuddy preset, the Expression pedal controls the tempo on your BeatBuddy.) However, when using a new expression pedal for the first time, you must calibrate it. Press the Mode button on the MIDI Maestro and then select Calibrate Exp Pedal, and follow instructions.

While using your MIDI Maestro you can enter the Expression Pedal's "Clutch Mode" by holding down the lower right and middle buttons at the same time. This allows you to reposition the expression pedal without sending out MIDI commands. The MIDI Maestro is not just easy to use, it has incredible depth for those willing to explore its more advanced features. Read the full manual at www.SingularSound.com/start

Connections

Power

The MIDI Maestro uses a 9V 350mA center-negative power supply.

If you use a power supply of more than 9V or plug it directly into AC power you will destroy your MIDI Maestro, and your warranty will NOT be valid! This would be painful for everyone - especially your MIDI Maestro. Do not do this!

The power supply must have a minimum of 250mA (0.25 Amps) for the MIDI Maestro to turn on. More amps won't harm your MIDI Maestro. If you use a center-positive adapter, it won't harm your MIDI Maestro either, but your MIDI Maestro won't turn on.

Using your pedal board's power supply

If you would like to use your pedal board's 'octopus' power supply (a single power supply that powers all of your pedals), make sure it is 9V and center negative (most are) BEFORE plugging it in! To calculate if your pedal board's power supply has enough Amps to power the MIDI Maestro, add up all of the Amps that your other pedals require (usually written on the bottom of the pedal. Remember: 1000 mA [milliAmps] = 1.0 A [Amps]) and add 0.25 Amps for the MIDI Maestro's requirement. If this total is more Amps than your power supply can produce (for example, the

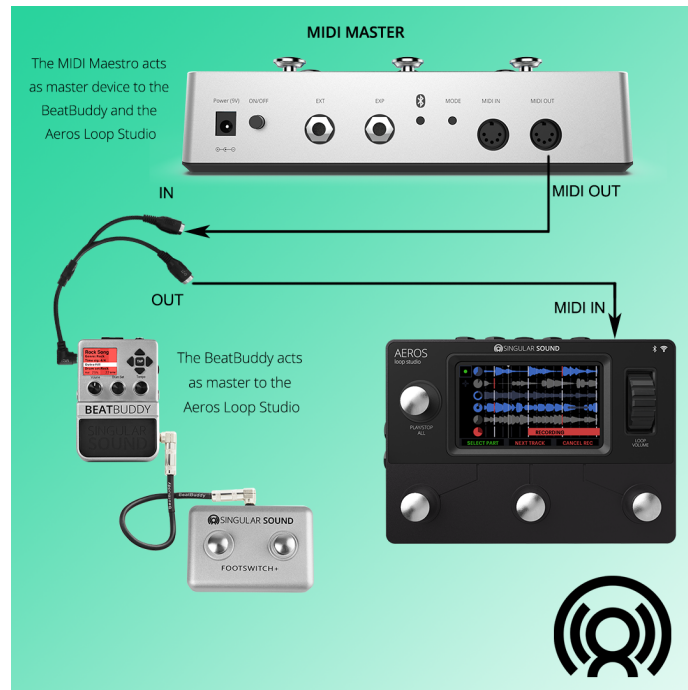
total of all of your pedals plus the MIDI Maestro is 2.5 Amps but your power supply can only produce 2.0 Amps), then the MIDI Maestro won't turn on (neither will any of your other pedals), because there isn't enough power available. PLEASE NOTE: Plugging the MIDI Maestro (a digital pedal) into the same power supply as analog pedals (most effect pedals) can cause noise interference in the analog pedal sound. If you experience this, please use a separate power supply for the MIDI Maestro.

MIDI Connection

The MIDI Maestro is best used as the MIDI transmitter or "master" device, meaning it is the unit controlling all of the other connected units. In order to use the MIDI Maestro as the transmitter (master), connect a standard 5-pin male to male MIDI cable to the MIDI OUT port on the MIDI Maestro. Then, connect that cable to the MIDI IN port of the next device in the MIDI daisy-chain (the units connected sequentially via MIDI).

Connections

The MIDI Maestro also passes all MIDI commands that come into its MIDI IN port to the OUT port, this on its own is known as MIDI Thru. The MIDI Maestro technically works using MIDI Merge, it sends both the commands it generates and the commands it receives (from MIDI IN) through the OUT port.



Here is an example of a typical set up using the MIDI Maestro.

Bluetooth Connection

The MIDI Maestro can connect to the MIDI Maestro Smartphone App in order to update the MIDI Maestro firmware, update the default modes on the MIDI Maestro, and update/add a custom mode. Simply press and hold the Pairing button on the back panel until the tiny blue light on the top of the MIDI Maestro front panel begins to blink. If the light is solid, that means a bluetooth connection has been established.

The MIDI Maestro can also work with any MIDI BLE enabled device. You **do not** need to pair your phone with the MIDI Maestro as a bluetooth device for it to work as a BLE MIDI device within an app like OnSong, for example. The app will automatically pair with the Maestro, no need to connect it directly to your phone via Bluetooth, just have Bluetooth enabled on your phone. ([read more about setting up MIDI Maestro BLE commands in Section 6 MIDI Maestro Smartphone App](#)).

Connections

Expression Pedal Port

Connect your expression (EXP) pedal to the MIDI Maestro's expression port to send MIDI data to a connected device when you move the EXP pedal up or down.

By default, the expression pedal will send values of CC:80 when increasing and CC:81 when decreasing, CC:80 and CC:81 are the BeatBuddy tempo increment and decrement MIDI commands, respectively. [You can find a list of all MIDI commands here.](#)

This can be set to send a custom EXP command when using a custom mode made on the MIDI Maestro App, please read more on [pg. 37.](#)

Using the MIDI Maestro

First Use

Turn on the MIDI Maestro by pressing the On/Off button on the back panel, the blue LED screens will light up and you should see something like this:



Menu

The MIDI Maestro menu is navigated by pressing one of the 6 buttons:

- Custom Mode (*Top-Left*) - This opens the uploaded custom mode, these modes are made and uploaded to the MIDI Maestro via the MIDI Maestro app. (See more about the MM app in section 5 MIDI Maestro Phone Application.)
- BeatBuddy Mode (*Top-Center*) - The built-in default mode for plug and play use with Singular Sound's [BeatBuddy](#).
- Aeros Mode (*Top-Right*) - The built-in default mode for plug and play use with Singular Sound's [Aeros Loop Studio](#).
- Firmware Version (*Bottom-Left*) - Shows the current Midi Maestro firmware loaded on your unit. The current firmware version is **1.1.9**.
- Cancel (*Bottom-Center*) - Re-opens the last used mode (Aeros Mode/BeatBuddy Mode/ Custom Mode).
- Calibrate Ext Pedal (*Bottom-Right*) - This opens the dialog for setting up an external expression pedal. See **Calibrate Expression Pedal** below.

Using the MIDI Maestro

If the Bottom-Left screen has a firmware version number lower than 1.1.9, please use the following procedure to update the firmware:

Press and hold the Pairing button on the back panel so the MIDI Maestro is in pairing mode. Open up the MIDI Maestro phone app (we'll call it the MM app) and press the upper left menu button.



Press "Update Firmware" to update the MIDI Maestro firmware. Once complete, press "Update Default Modes" to update the default modes on your MIDI Maestro. Make sure to do it in this order.

Calibrate Expression Pedal: Connect your expression pedal to the Expression Pedal ¼" jack. First, set your pedal to the maximum, and select "Set Pedal to Max & Press" (Bottom-Right), then set the minimum in the same fashion. Then, you have the choice to select either "Re-calibrate" (Top-Right), or "Confirm and Exit" (Bottom-Right) which will return you to the last used mode (Aeros Mode/ BeatBuddy Mode/ Custom Mode). You always have the option to select "Exit / Cancel" (Bottom-Left) during this process to cancel and return to the last used mode.

How the MIDI Maestro Works

Modes

The MIDI Maestro is organized into "Modes". A Mode is a specific configuration of MIDI commands on the MIDI Maestro. There are three modes: BeatBuddy Mode, Aeros Mode, and the Custom Mode. You send the MIDI commands by pressing one of the 6 footswitch buttons on the MIDI Maestro. A screen above each button will have some text to describe what commands that button will send.

Buttons

Each of the 6 buttons has two physical states, when it is pressed and when it is released. MIDI Commands can be sent either when it is pressed, released, or both. For simplicity we will refer to pressing and releasing a button once as a 'button action'.

Using the MIDI Maestro

One example of why this is useful is when using the BeatBuddy Mode. Pressing the footswitch button labeled “Part 2” sends the command to begin the transition to song part 2, and releasing the button sends the command to complete the transition. So you can extend a transition by holding down the button before releasing it.

Commands

A command is a specific MIDI message (CC, PC, PB, Note On/Off — read more on this in section 4 MIDI [pg. 12](#)) that is sent from the MIDI Maestro to a MIDI receiver (slave) device. MIDI commands can be sent via a MIDI cable and/or wirelessly over MIDI BLE (Bluetooth Low Energy). The command can change a number of things, from the receiver (slave) device’s behavior to setting parameters, like volume and panning. Every button on the MIDI Maestro can have up to 8 different MIDI commands per button. This can be doubled by adding a toggle to the button, learn more about toggles on [pg. 13](#).

Pages on the MIDI Maestro

A Mode is organized into “pages”. Each page consists of 6 button configurations (as displayed on the MIDI Maestro screens). If you change ‘pages’, you will see the text description of the screens change, and the commands the buttons send change along with it. You can have up to 10 pages in a custom mode. A footswitch plugged into the MIDI Maestro's Ext. port can be used to navigate the pages (see External Footswitch below). Buttons can also have a “redirect” command coded on them, this means that when you press that footswitch button it will also change the current page of the mode you’re on. For example, in Aeros Mode, pressing the footswitch button that says ‘2x2 Commands -->’ will redirect the Maestro to the page that has all the 2x2 Commands. In the default modes we usually include a “-->” (enter) or “<--” (exit) symbol to indicate that this button has a redirect command coded on it.

External Footswitch - Use a momentary switch (like the Footswitch+) that uses a TRS (Tip-ring-sleeve) ¼” connector. The left and right buttons on your footswitch can be used to navigate the pages on the MIDI Maestro in the modes (Aeros Mode/BeatBuddy Mode/Custom Mode). Pressing the Left footswitch button goes to the next page, while the right button goes to the previous page. The external footswitch does nothing while in the Main Menu. Using a footswitch to scroll through pages saves you the necessity of using one of the MIDI Maestro buttons to redirect to a new page.

Using the MIDI Maestro

Type of footswitch - It is highly recommended that you use the official Singular Sound Footswitch+ (sold separately). If you are **not** using a Footswitch+, make sure that the third party footswitch is compatible with the MIDI Maestro. The MIDI Maestro is compatible with standard momentary dual footswitches which have a single TRS ¼" output (one switch is connected to the Left channel and the other to the Right). It is **NOT** compatible with ABY switches.

Tips and Tricks

- Holding down the Bottom-Center and Bottom-Right buttons enters "clutch mode" where you could move the expression pedal to a new position without sending MIDI messages. This is useful if you run out of expression pedal range and want to reset.
- Holding down both the Bottom-Left and Bottom-Center buttons at the same time returns the MIDI Maestro to the Main Menu hands-free, so you can change modes without having to bend down.
- Send multiple commands to several units on different MIDI channels (1-16) using just one button, up to 8 commands per button, and up to 16 if toggling is enabled. Each MIDI command can be sent on a separate channel to control a different device (see the MIDI section of the manual for more info on channels). That's up to 96 commands per page!
- Want to start an action and complete it after holding a footswitch button? You can set one command to be sent on the press and the other on the release! This is how transitions work on the BeatBuddy mode.
- When using the Smartphone app, if you are searching for a command, if you do not find it and start to create a new command, the text from your search will autofill as the name of the new command.

MIDI

We go from the basic to very complex topics, feel free to read, skim, or totally avoid this section!

Basics

What is MIDI?

MIDI (Musical Instrument Digital Interface) is the digital language that musical equipment uses to communicate. By using MIDI, the MIDI Maestro can send commands to a number of devices on up to 16 separate channels by daisy-chaining the MIDI connections.

What is a daisy chain?

All it means is that you connect the devices in sequence. A transmitter device (sometimes referred to as the 'MIDI Master' device in other manuals) will send MIDI commands from the MIDI Out port and a receiver device (sometimes referred to as 'MIDI slave') will accept that signal through the MIDI In port. For example, Device A MIDI Out is connected to Device B MIDI In, then Device B MIDI Out is connected to Device C MIDI In, and so on. The MIDI Messages start on Device A and get sent down the chain. It cannot be sent the other way around (from B back to A). The MIDI Maestro is most likely going to be the main transmitter device, so it would be first in the chain.

MIDI Mapping

MIDI mapping involves setting up a MIDI device to adjust how it behaves. The MIDI Maestro can be configured to send different commands that are specific to other units.

MIDI Instrument

A MIDI Instrument is a device that communicates using the MIDI protocol. This means that it sends (and possibly receives) information using the structure, timing, and mechanisms defined in the MIDI standard. For example, almost all electronic pianos meet this description.

It is of note that MIDI information can be sent through different methods, most commonly a large 5-pin MIDI cable, a small 5-pin MIDI cable, USB cable, or Bluetooth.

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What is a MIDI Channel?

A MIDI Channel is a way to separate MIDI commands so that they only affect the intended device. Each device in the MIDI daisy chain can be set to listen to a specific MIDI channel and ignore MIDI commands sent on other channels. Although most devices have the option to listen on all channels — this is sometimes called OMNI — each MIDI command is sent through only one channel at a time.

The MIDI Maestro can send commands on any of the 16 channels.

Toggling

The MIDI Maestro is able to toggle its buttons between two digital states, which means it can send one set of commands on button action 1, and a new set of commands on button action 2. Then, you alternate between the states with each new action on that button. Remember, a 'button action' represents both physical states of pressing and releasing once.

For example, pressing a button once sends CC 40 value 0 (can represent a Mute command for a device) and then pressing the button again will send CC 40 value 1 (can represent an Unmute command).

Each button on the MIDI Maestro can toggle, so they can either have two states (toggle is on), or not toggle at all — so they would send the same messages every time you activate the button.

Types of Commands

- CC (Continuous Control) — A MIDI message that can have a value range from 1-127 (128 total values). Each CC command usually relates to a specific operation like volume control, muting, soloing, etc. There are 128 possible CC commands from CC:0 to CC:127.
 - Each value can have a different outcome, depending on the listening MIDI device's MIDI mapping.
 - For example, CC:40 value 1 could unmute a track and CC40 value 0 could mute that track (this depends on what CC# and values the receiver (slave) device uses for muting).

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- PC (Program Change) — Also known as a Patch Change, it is a MIDI message that changes a patch preset on the listening device. There are 128 possible PC commands (0-127). Unlike CC commands, PC commands do not have values.
 - For example, a MIDI keyboard may have several patches, or sounds, for different instruments like Acoustic Piano, Electric Piano, Marimba etc. On this device, PC:0 could represent a patch like Acoustic Piano, and PC:1 could represent a patch like Electric Piano.
- PB (Pitch Bend) — A MIDI message that has a range of 0–16383 (16,384 different values) with a center at 8192. This allows for operating parameters that need a lot of precision, like volume, pitch modulation, or wetness, for example.
- Note On/Off — Much like what it sounds, a Note On command starts the playback of a MIDI note, while Note Off cuts off the sound.
 - Without a Note Off command, some sounds will never stop playing back, or will follow their original decay rate and that can make things sound very messy.
 - Note Off commands are not always needed with percussive sounds. Adding the Note Off command should not cause any trouble even if it's not necessary. If for some reason you'd like to omit sending the Note Off command, refer to the target device's MIDI manual to confirm it is necessary.
 - Middle C (aka C4) is note 60. (61 is C#, 62 is D, so on and so forth)
 - Velocity is measured from 0-127, 0 being so "soft" it probably is not audible, 127 being as "hard" as the note can sound. Imagine the difference between a drummer tapping a snare with their drumstick lightly and them hitting the snare with all their force. Although velocity and volume are related, they are not the same thing.

MIDI

MIDI Standards

Routing - MIDI Thru, Merge, and Out

Devices can vary on how MIDI data is sent along a daisy chain. There are three main hardware routing options that are typically available: MIDI Thru, MIDI Merge, and MIDI Out.

- **MIDI Thru** — The device passes all MIDI commands received from the MIDI In port to the MIDI Out Port. The device does not send out its own generated MIDI commands.
- **MIDI Merge** — The device sends MIDI commands it generates and all MIDI commands it receives from the MIDI In port to MIDI Out port. (Like the MIDI Maestro)
- **MIDI Out** — The device only sends the MIDI commands it generates to the MIDI Out port.

Some devices may have internal settings for MIDI routing. Others have dedicated MIDI Thru ports. Refer to your device's manual for specifications on MIDI routing.

General MIDI

In the world of MIDI, some devices are made to adhere to a set mapping of commands and values. This is especially true with Drum kits. In order to make a standardized set of drum sounds for a wide range of styles most devices follow the General MIDI Drum Map.

General MIDI Drum Map

Midi Note - Drum Instrument

35 - Acoustic Bass Drum
36 - Bass Drum
37 - Side Stick
38 - Acoustic Snare
39 - Hand Clap
40 - Electric Snare
41 - Low Floor Tom
42 - Closed Hi Hat
43 - High Floor Tom 44 - Pedal Hi Hat
45 - Low Tom
46 - Open Hi Hat
47 - Low Mid Tom
48 - Hi-Mid Tom
49 - Crash Cymbal 1
50 - High Tom
51 - Ride Cymbal 1

52 - Chinese Cymbal
53 - Ride Bell
54 - Tambourine 55 - Splash Cymbal 56 - Cowbell
57 - Crash Cymbal 2
58 - Vibra slap
59 - Ride Cymbal 2
60 - Hi Bongo
61 - Low Bongo
62 - Mute-Hi Conga
63 - Open-Hi Conga
64 - Low Conga
65 - High Timbale 66 - Low Timbale

67 - High Agogo
68 - Low Agogo
69 - Cabasa
70 - Maracas
71 - Short Whistle 72 - Long Whistle 73 - Short Guiro
74 - Long Guiro
75 - Claves
76 - High Wood Block
77 - Low Wood Block
78 - Mute Cuica
79 - Open Cuica
80 - Mute Triangle 81 - Open Triangle

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It is common for a device to follow General MIDI for its PC commands. However, since every device is different, it is also common for devices to *not* follow General MIDI mapping. Check your device's manual for how it handles PC commands.

Here is a list of the General MIDI PC commands:

Piano

- 0 Acoustic Grand Piano
- 1 Bright Acoustic Piano
- 2 Electric Grand Piano
- 3 Honky-tonk Piano
- 4 Electric Piano 1
- 5 Electric Piano 2
- 6 Harpsichord
- 7 Clavinet

Chromatic Percussion

- 8 Celesta
- 9 Glockenspiel
- 10 Music Box
- 11 Vibraphone
- 12 Marimba
- 13 Xylophone
- 14 Tubular Bells
- 15 Dulcimer

Organ

- 16 Drawbar Organ
- 17 Percussive Organ
- 18 Rock Organ
- 19 Church Organ
- 20 Reed Organ
- 21 Accordion
- 22 Harmonica

Stringed Instruments

- 24 Acoustic Guitar (nylon)
- 25 Acoustic Guitar (steel)
- 26 Electric Guitar (jazz)
- 27 Electric Guitar (clean)
- 28 Electric Guitar (muted)
- 29 Overdriven Guitar
- 30 Distortion Guitar
- 31 Guitar Harmonics
- 32 Acoustic Bass
- 33 Electric Bass (finger)
- 34 Electric Bass (pick)
- 35 Fretless Bass
- 36 Slap Bass 1
- 37 Slap Bass 2
- 38 Synth Bass 1
- 39 Synth Bass 2
- 40 Violin
- 41 Viola
- 42 Cello
- 43 Contrabass
- 44 Tremolo Strings
- 45 Pizzicato Strings
- 46 Orchestral Harp
- 47 Timpani
- 48 String Ensemble 1
- 49 String Ensemble 2
- 50 Synth Strings 1
- 51 Synth Strings 2
- 52 Choir Aahs
- 53 Voice Oohs
- 54 Synth Choir
- 55 Orchestra Hit
- 56 Trumpet
- 57 Trombone
- 58 Tuba
- 59 Muted Trumpet
- 60 French Horn
- 61 Brass Section
- 62 Synth Brass 1
- 63 Synth Brass 2
- 64 Soprano Sax
- 65 Alto Sax
- 66 Tenor Sax
- 67 Baritone Sax
- 68 Oboe
- 69 English Horn
- 70 Bassoon
- 71 Clarinet

MIDI

Pipe

- 72 Piccolo
- 73 Flute
- 74 Recorder
- 75 Pan Flute
- 76 Blown bottle
- 77 Shakuhachi
- 78 Whistle
- 79 Ocarina

Synth Lead

- 80 Lead 1 (square)
- 81 Lead 2 (sawtooth)
- 82 Lead 3 (calliope)
- 83 Lead 4 (chiff)
- 84 Lead 5 (charang)
- 85 Lead 6 (voice)
- 86 Lead 7 (fifths)
- 87 Lead 8 (bass + lead)

Synth Pad

- 88 Pad 1 (new age)
- 89 Pad 2 (warm)
- 90 Pad 3 (polysynth)
- 91 Pad 4 (choir)
- 92 Pad 5 (bowed)
- 93 Pad 6 (metallic)
- 94 Pad 7 (halo)
- 95 Pad 8 (sweep)

Synth Effects

- 96 FX 1 (rain)
- 97 FX 2 (soundtrack)
- 98 FX 3 (crystal)
- 99 FX 4 (atmosphere)
- 100 FX 5 (brightness)
- 101 FX 6 (goblins)
- 102 FX 7 (echoes)
- 103 FX 8 (sci-fi)

Ethnic

- 104 Sitar
- 105 Banjo
- 106 Shamisen
- 107 Koto
- 108 Kalimba
- 109 Bagpipe
- 110 Fiddle
- 111 Shanai

Percussive

- 112 Tinkle Bell
- 113 Agogo
- 114 Steel Drums
- 115 Woodblock
- 116 Taiko Drum
- 117 Melodic Tom
- 118 Synth Drum
- 119 Reverse Cymbal

Sound effects

- 120 Guitar Fret Noise
- 121 Breath Noise
- 122 Seashore
- 123 Bird Tweet
- 124 Telephone Ring
- 125 Helicopter
- 126 Applause
- 127 Gunshot

MIDI

MSB and LSB

Fair Warning, this gets a little bit complicated, we tried to translate this into something humans can understand.

MSB (Most Significant Bit) and LSB (Least Significant Bit) commands allow for a greater variety of commands to be sent while still using a value set that is limited from 0-127 (All MIDI messages — except Pitch Bend [PB] — have 128 possible values associated with them). Think of MSB and LSB as an extension to the limit of having 128 values for a MIDI message. There are 128 (0-127) LSB commands for each of 128 (0-127) MSB commands. That means you have a total of 16,384 banks just from the MSB and LSB.

MSB and LSB commands are usually a sequence of 3 MIDI messages. Two CC commands which have both the CC message itself and the value associated, and a PC command which actually makes the change on the receiver (slave) MIDI unit.

The MSB Bank command is activated and set using CC:0 and the same goes for the LSB Bank command which uses CC:32, **this is a standard for MIDI devices**. If you use the Singular Sound BeatBuddy, you will find it needs a PC command to use CC:0 and C:32. Read more about how the BeatBuddy behaves using MSB and LSB on [pg. 20](#).

The value of the CC command (CC:0 or CC:32) decides which specific layer of the MSB and LSB banks is being activated. In terms of hierarchy, MSB comes before LSB and LSB is before the Program Change message. The Program change adds an additional 128 values to each of the MSB and LSB message configurations, that means a total of 2,097,152 values.

The math may seem confusing. A good way of summarizing it is by noticing that we have 128 MSB values, which are combined with 128 LSB values, and then with an additional 128 PC values. The relationship is multiplicative, so we have a total of $128 \times 128 \times 128$ possible values. Similar to binary math (we know, super fun!) you must organize the numbers in this order: MSB > LSB > PC.

This means you must select the MSB bank **before** the LSB bank, and the LSB bank **before** the PC command for it to work correctly.

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Let's try out some MSB LSB math so that it makes more sense:

Let's say that you want to get the number 1 as a value from the MSB LSB command. First you would send the value CC:0 to the receiver (slave) device with a value of 0, then you would send CC:32 with a value of 0 as well. Finally you would send a PC:1 command. Your device could interpret this sum value as 1 ($0 + 0 + 1$). This is shown in the chart below.

MSB	LSB	PC	Sum Value
0	0	0	1

Let's say that you changed the LSB value with CC:0 to a value of 1. This would mean that you already have selected the second layer of LSB. Remember every MSB layer has 128 LSB layers, and every LSB layer has 128 PC commands per layer. So now if you send CC:0 value 0, CC:32 value 1, and a PC:1 command your sum would be 129 ($0 + 128 + 1$). This is shown in the chart below.

MSB	LSB	PC	Sum Value
0	1	1	129

Have you gotten lost yet? Don't worry, it gets more complicated! Let's say you change the MSB layer to value 1:

So you send CC:0 value 1, CC:32 value 1, and PC:1. Once MSB is set to the second bank, the sum value you choose cannot be less than 16,384. Why would you need to do this? Ask the MIDI gods (a.k.a the Gearspace forum).

So back to where we were, if you send CC:0 value 1, CC:32 value 1, and PC:1, that will equal 16513 ($16384 + 128 + 1$). This is shown in the chart below. Have your calculator handy!

MSB	LSB	PC	Sum Value
1	1	1	16513

MIDI

Now let's try one last one on your own. Let's say you send CC:0 value 2, CC:32 value 2, and PC:50. Come on at least try! $16,384 \times 2 + 128 \times 2 + 50$. Don't forget your dear Aunt Sally...

Wow, you got it, how did you do that... that's right it *is* 220174!

This is the basis for how MSB and LSB math works. Many devices, however, will use MSB and/or LSB to select folders and the PC command to select something like a patch or a sound on a keyboard, for example. Some MSB and LSB layers could be defined to access specific folders in the keyboard, [check out this calculator for MSB and LSB changes as reference.](#)

This is similar to how the BeatBuddy uses MSB and LSB, read below to learn about how the BeatBuddy uses MSB and LSB.

Folder/Song Select on the BeatBuddy

- You can select a BeatBuddy folder and song with the MIDI Bank Select (combination of CC:0 [MSB] and CC:32 [LSB] and Program Change (PC) messages Depending on your settings for the Song Select, the BeatBuddy is expecting different things. Go to Main Pedal > MIDI Settings > MIDI In > Program Change to choose the behavior.

Default

- The folder is selected with the Bank Select Message (Bank MSB and LSB) and the song is selected with the Program change. MSB selects the Bank, LSB the folder withing the bank. Every MSB bank has 128 folder each.
- PC command selects the song within the current open folder
- This gives a potential of $128 \text{ MSB} \times 128 \text{ LSB} = 16,384$ different folders with 128 songs each (selected by the Program Change [PC] command).
- The order of the folders / songs are sorted by the BeatBuddy Manager. The order of the folders / songs corresponds to the number used by the MIDI messages +1.
 - This means that Program Change (PC) Message must have a value of 0 to select the first song in the menu.
 - We know this is confusing -- but MIDI was designed by computer nerds, not normal people like us, and computer nerds like to start with 0 instead of 1.

MIDI

Aeros Mode

- The folder is selected using only LSB 0-110, these correspond to the first 111 BeatBuddy folders. LSB 111-127 open playlists 1-17.
- The order of the folders / songs are sorted by the BeatBuddy Manager. The order of the folders / songs corresponds to the number used by the MIDI messages +1. The Playlist song select starts on LSB 111 which corresponds with Playlist 1.
 - This means that Program Change (PC) Message must have a value of 0 to select the first song in the menu.
 - We know this is confusing -- but MIDI was designed by computer nerds, not normal people like us, and computer nerds like to start with 0 instead of 1.

Default Example:

Folder/Song	Bank MSB (CC:0)	Bank LSB (CC:32)	Program Change (PC)
Folder 1 - Song 1	Value 0	Value 0	Value 0
Folder 1 - Song 2	Value 0	Value 0	Value 1
Folder 3 - Song 3	Value 0	Value 2	Value 2
Folder 129 - Song 4	Value 1	Value 1	Value 3

Aeros Mode Example:

Folder/Song	Bank MSB (CC:0)	Bank LSB (CC:32)	Program Change (PC)
Folder 1 - Song 1	N/A	Value 0	Value 0
Folder 1 - Song 2	N/A	Value 0	Value 1
Folder 3 - Song 3	N/A	Value 2	Value 2
Playlist 1 - Song 1	N/A	Value 111	Value 0
Playlist 2 - Song 1	N/A	Value 112	Value 0
Playlist 2 - Song 4	N/A	Value 112	Value 3

Please note that the BeatBuddy's song does not change until the Program Change message is received, i.e. bank messages alone are not enough to change a song.

MIDI

Folder/Song Select on the Aeros Loop Studio

How to set up a song with MIDI Song Select on the Aeros

First, the user must open the song, and edit the song settings (click the pencil icon in the Loop Studio)..

There are two relevant settings, MIDI Song Select and the MSB+PC setup. First, you must enable MIDI Song Select. Once enabled, the user can set which MSB (0-127) bank and which PC command will be required to open the song.

By using a MIDI controller capable of sending CC:0 (remember, this represents the general MIDI MSB bank) + PC commands in a sequence, you can open that song at any time.

How to open a song with MIDI Song Select

Step 1: Set a song to respond to a specific set of MSB and PC commands. Read how to do this above. Remember, MSB is represented by the CC command CC:0, the value decides which MSB bank is activated. For example, CC:0 value 4 is MSB 4.

Step 2: Set your MIDI controller to send a CC:0 (MSB) command set with a value between 0-127. In some devices MSB commands are sent differently, refer to your MIDI controller's manual for more information on sending MSB commands.

Step 3: Next, set your MIDI controller to also send a PC command with a value between 0-127. This should be sent after the MSB command, if sent before it will not work.

Step 4: Send both the MSB and PC commands (in that order) to a MIDI channel the Aeros is currently listening to. Make sure the Aeros song you are trying to open is set to the same MSB and PC values you are sending.

Step 5: Your song will open.

MIDI

RPNs and NRPNs

RPNs (Registered Parameter Number) and NRPNs (Non-Registered Parameter Number, or as musicians like to call it, "*nerpins*" when they want to sound cute instead of nerdy) both work in the same way. RPN's are specified by the MIDI standard, and NRPN's are specified by particular manufacturers. Refer to the manual of the device you are using to understand how it uses NRPNs in its MIDI mapping. RPNs and NRPNs are just like standard MSB and LSB commands, but are set up using other CC commands than CC:0 and CC:32.

[Read more about RPNs and NRPNs here](#)

How to Use NRPNs

Refer to the manual of your MIDI device to see if and how it uses NRPNs. The most typical method is by activating two CC commands to be treated just like a bank MSB and bank LSB. These can be set to a range of parameters on different devices. One example is how the Singular Sound BeatBuddy sets the tempo.

Some devices require you to set the CC commands that will become the NRPN MSB and LSB banks before using them. You do this by first pressing CC99 with a value equal to the new Bank MSB CC command. Then by pressing CC98 with a value equal to the new Bank LSB CC command. Please refer to your device's manual to see if this is necessary.

For example, you first send the command CC99 value 65, now a CC65 command will activate a specific MSB layer. Then, you send a CC98 command with a value of 66. Now, a CC66 that follows a CC65 command will select an LSB layer.

For some systems, like the BeatBuddy's Tempo, the amount of commands allowed from just the MSB and LSB commands are enough to cover the range of values the unit can use. In other cases, the unit may use a PC command after the MSB and LSB commands to increase the value range.

MIDI

NRPNs and the BeatBuddy

Since the BeatBuddy's tempo ranges from 40BPM - 300BPM, we can't use just one CC command to cover the whole range because a CC command can only have 128 values.

There are two ways of changing the tempo.

- With INC/DEC (increase/decrease) messages which adjust the tempo up or down by 1 BPM
- By skipping directly to a specific tempo BPM using the MSB/LSB system, like in the Song Selection system.

However, it's a bit more complicated because, unlike the Song Selection system where you have dedicated CC commands to represent the MSB (CC:0) and LSB (CC:32), there are no dedicated CC commands for Tempo.

So we use the "NRPN Register" (Non-Registered Parameter Number) which is a general purpose MSB (CC:99) and LSB (CC:98). This can be used to control tempo, any other parameter, or multiple parameters at once.

Currently we're only using it to control tempo, but we follow the MIDI Standard protocol to leave room for further control in the future. Because of this capability for multiple parameter control, the steps below are followed.

INC/DEC (see <https://www.midi.org/specifications>)

MIDI

Here are the common steps to do to control the BeatBuddy's tempo.
It follows the Data INC/DEC specification of the MIDI protocol:

Steps to Increment Tempo

Steps	Message	Details
1*	CC:99/106	Set the NRPM MSB register to Tempo MSB
2*	CC:98/107	Set the NRPM LSB register to tempo LSB
3	CC:96/1	Increment the tempo by one
4*	CC:99/127	Clears the NRPN MSB register
5*	CC:98/127	Clears the NRPN LSB register

Steps to Decrement Tempo

Steps	CC#/Value	Details
1*	CC:99/106	Set the NRPM MSB register to Tempo MSB
2*	CC:98/107	Set the NRPM LSB register to tempo LSB
3	CC:97/1	Decrement the tempo by one
4*	CC:99/127	Clears the NRPN MSB register
5*	CC: 98/127	Clears the NRPN LSB register

Steps with a * are optional if the only value control by Inc/Dec is the Tempo. By default, the BeatBuddy will increment/decrement the tempo when receiving a INC/DEC message.

BeatBuddy Tempo MSB & Tempo LSB

In order to directly set the tempo to a specific BPM, you need to use the Tempo MSB and Tempo LSB. The Beatbuddy will update its current tempo only when receiving the LSB message.

So the order of the message should be MSB value first, then the LSB value. Don't forget, the value of the Tempo can only be set with both MSB (CC:106) and LSB (CC:107).

Take note, the BeatBuddy does not need to access numbers larger than 16384, so it uses MSB and LSB math without the PC command added. Check out how the math works in the table below.

MIDI

Here are a few examples of MIDI message combinations:

MSB (CC:106)	LSB (CC:107)	Tempo
0	25	40
0	40	40
0	127	127
1	0	128
1	25	153
1	50	178
2	0	256
2	44	300
2	45	300

Find out more about general MIDI mapping [here](#).

MIDI

MIDI Song Select on the Aeros

How to set up a song with MIDI Song Select on the Aeros

Using the Aeros, first, the user must open the song, and edit the song settings (click the pencil icon in the Loop Studio)..

There are two relevant settings, MIDI Song Select and the MSB+PC setup. First, you must enable MIDI Song Select. Once enabled, the user can set which MSB (0-127) bank and which PC command will be required to open the song.

By using the MIDI Maestro to send CC:0 (remember, this represents the general MIDI MSB bank) + PC commands in a sequence, you can open that song at any time.

How to open a song with MIDI Song Select

Step 1: Using the Aeros, set a song to respond to a specific set of MSB and PC commands. Read how to do this above. Remember, MSB is represented by the CC command CC:0, the value decides which MSB bank is activated. For example, CC:0 value 4 is MSB 4.

Step 2: Set your MIDI Maestro to send a CC:0 (MSB) command set with a value between 0-127.

Step 3: Next, set your MIDI Maestro to also send a PC command with a value between 0-127. This should be sent after the MSB command, if sent before it will not work.

Step 4: Send both the MSB and PC commands (in that order) to a MIDI channel the Aeros is currently listening to. Make sure the Aeros song you are trying to open is set to the same MSB and PC values you are sending.

Step 5: Your song will open.

The Modes

In this section we will detail the different commands available in the Default Modes, BeatBuddy Mode and Aeros Mode. These modes are ideal for a plug-and-play experience when using the Singular Sound BeatBuddy and/or Aeros Loop Studio with the MIDI Maestro.

Remember that every button on the MIDI Maestro can have up to 8 different MIDI commands per button. This can be doubled by adding a toggle to the button, learn more about toggles on [pg. 13](#).

When using the default modes, a connected EXP pedal will send MIDI commands CC:80 when increasing and CC:81 when decreasing when the pedal is moved, these MIDI commands control the BeatBuddy's tempo. The EXP can be set to send a custom MIDI command when using the custom mode. Learn more in the MIDI Maestro Smartphone App section on [pg. 33](#).

BeatBuddy Mode

Page 1

BeatBuddy Start → <i>Starts playback on the BeatBuddy</i> <i>Redirects to pg.2/CC:114 value 1</i>	Scroll Up <i>Scrolls up selection in the current open folder</i> <i>CC:119 value 1</i>	Enter/Exit Folder <i>Enters/Exits the selected folder</i> <i>CC:118 value 1</i>
Accent Hits <i>Goes to page with accent hits on BeatBuddy</i> <i>Redirects to pg.3</i>	Scroll Down <i>Scrolls down selection in the current open folder</i> <i>CC:119 value 0</i>	Tap Tempo <i>Tap to set the tempo</i> <i>CC:117 value 1</i>

Page 2

← Stop <i>Stops BeatBuddy playback. This will start the outro fill if the outro is enabled on the BeatBuddy. If disabled, it stops at the end of the current measure</i> <i>Redirects to pg.1/ CC:115 value 1</i>	Previous Part <i>Transitions to the previous part on the BeatBuddy on the following measure</i> <i>•Press: CC:113 Value 126</i> <i>•Release: CC:113 Value 0</i>	Next Part <i>Transitions to the next part on the BeatBuddy on the following measure</i> <i>•Press: CC:113 Value 127</i> <i>•Release: CC:113 Value 0</i>
Accent Hits → <i>Goes to the BeatBuddy mode page with Accent hits</i> <i>Redirects to pg. 3</i>	Select Part → <i>Goes to the BeatBuddy mode page with song parts 1-5</i> <i>Redirects to pg. 5</i>	Tempo → <i>Goes to the BeatBuddy mode page with song parts 1-5</i> <i>Redirects to pg. 4</i>

The Modes

Page 3

← Exit <i>Redirects to pg. 2</i>	Clap <i>Plays Clap accent hit</i> <i>Note On: 39 Velocity 100</i>	Tambourine <i>Plays Tambourine accent hit</i> <i>Note On: 54 Velocity 100</i>
Hi-Hat Closed <i>Plays Hi-Hat Closed accent hit</i> <i>Note On: 42 Velocity 100</i>	Snare <i>Plays snare accent hit</i> <i>Note On: 38 Velocity 100</i>	Kick <i>Plays Kick accent hit</i> <i>Note On: 36 Velocity 100</i>

Page 4

← Exit <i>Redirects to pg. 2</i>	Double Time/ Normal Time <i>The BeatBuddy enters Double Time/Normal Time mode at the next measure</i> <i>CC:83 value 1 (Double)</i> <i>Toggle - CC:83 value 0 (Normal)</i>	Tempo Up 1 BPM <i>Increases the BeatBuddy tempo by 1 BPM</i> <i>CC:80 value 1</i>
Tap Tempo <i>Tap to set the tempo</i> <i>CC:117 value 1</i>	Half Time/ Normal Time <i>The BeatBuddy enters Double Time mode at the next measure</i> <i>CC:82 value 1 (half)</i> <i>Toggle - CC:82 value 0 (Normal)</i>	Tempo Down 1 BPM <i>Decreases the BeatBuddy tempo by 1 BPM</i> <i>CC:81 value 1</i>

Page 5

← Exit <i>Redirects to pg. 2</i>	Part 1 <i>If BeatBuddy is stopped, starts song on song part 1. If playing back, transitions to Part 1 on the BeatBuddy</i> •Press: starts transition (CC:113 Value 1) •Release: sets transition to finish at end of next measure (CC:113 Value 0)	Part 2 <i>If BeatBuddy is stopped, starts song on song part 2. If playing back, transitions to Part 2 on the BeatBuddy</i> •Press: CC:113 Value 2 •Release: CC:113 Value 0
Part 3 <i>If BeatBuddy is stopped, starts song on song part 3. If playing back, transitions to Part 3 on the BeatBuddy</i> •Press: CC:113 Value 3 •Release: CC:113 Value 0	Part 4 <i>If BeatBuddy is stopped, starts song on song part 4. If playing back, transitions to Part 4 on the BeatBuddy</i> •Press: CC:113 Value 4 •Release: CC:113 Value 0	Part 5 <i>If BeatBuddy is stopped, starts song on song part 5. If playing back, transitions to Part 5 on the BeatBuddy</i> •Press: CC:113 Value 5 •Release: CC:113 Value 0

The Modes

Aeros Mode

Page 1

Aeros Looper Save Song <i>Saves to current open song from the Loop Studio screen or the Song Settings menu</i> CC:33 Value 0	2x2 Commands → <i>Opens the Aeros Mode page with 2x2 commands</i> Redirects to pg. 3	New 2x2 Song <i>Starts a new 2x2 song with the last used song settings applied</i> Redirects to pg. 3/CC:34 Value 0
Songs List → <i>Opens the Songs List screen</i> Redirects to pg. 2/CC:35 Value 0	6x6 Commands → <i>Opens the Aeros Mode page with 6x6 commands</i> Redirects to pg. 4	New 6x6 Song <i>Starts a new 6x6 song with the last used song settings applied</i> Redirects to pg. 4/CC:34 Value 1

Page 2

← Exit Redirects to pg. 1	Scroll Up <i>Scrolls up by 1 when on the Songs List screen on Aeros</i> CC:36 Value 1	New 2x2 Song <i>Starts a new 2x2 song with the last used song settings applied</i> Redirects to pg. 3/CC:34 Value 0
Select Song <i>Opens the selected song in the Songs List screen on Aeros</i> CC:36 Value 2	Scroll Down <i>Scrolls down by 1 when on the Songs List screen on Aeros</i> CC:36 Value 0	New 6x6 Song <i>Starts a new 6x6 song with the last used song settings applied</i> Redirects to pg. 4/CC:34 Value 1

The Modes

Page 3

← Exit 2x2 Commands <i>Redirects to pg. 1</i>	Undo/Redo Bottom Track <i>Undoes / redoes last recorded layer of bottom track</i> CC:37 Value 2	Undo/Redo Top Track <i>Undoes / redoes last recorded layer of top track</i> CC:37 Value 1
Stop Now <i>Immediately stops the Aeros playback (press)</i> MIDI Stop (Real-Time)	Mute/Unmute Bottom Track <i>Mutes / unmutes bottom track following the Aeros muting rules</i> CC:38 Value 2	Mute/Unmute Top Track <i>Mutes / unmutes top track following the Aeros muting rules</i> CC:38 Value 1

Page 4

← Exit 6x6 Commands <i>Redirects to pg. 1</i>	Play Parts 1-6 → <i>Opens the Aeros Mode page with Play Part commands</i> <i>Redirects to pg. 6</i>	Mute/Unmute Track 1-5 → <i>Opens the Aeros Mode mute/unmute commands page</i> <i>Redirects to pg. 5</i>
Undo/Redo <i>Undoes/Redoes last recorded layer of selected track</i> CC:37 Value 0	Record New Song Part <i>Records on a new song part following the Aeros Change Part rules (press)</i> CC:40 Value 0	Record New Track <i>Records on a new track following the Aeros Start and Length rules (press)</i> CC:41 Value 0

Page 5

← Exit <i>Redirects to pg. 4</i>	Mute/Unmute Track 1 <i>Toggles between muting and unmuting track 1 on Aeros following the Aeros muting rules</i> CC:38 Value 1	Mute/Unmute Track 2 <i>Toggles between muting and unmuting track 2 on Aeros following the Aeros muting rules</i> CC:38 Value 2
Mute/Unmute Track 3 <i>Toggles between muting and unmuting track 3 on Aeros following the Aeros muting rules</i> CC:38 Value 3	Mute/Unmute Track 4 <i>Toggles between muting and unmuting track 4 on Aeros following the Aeros muting rules</i> CC:38 Value 4	Mute/Unmute Track 5 <i>Toggles between muting and unmuting track 5 on Aeros following the Aeros muting rules</i> CC:38 Value 5

The Modes

Page 6		
Play Part 1 <i>If Aeros is stopped, selects the song part on the press. If Aeros is in playback, begins transition to part 1 on the Aeros following Aeros Change Part rules (Press) If that song part is blank, it will start recording</i> Redirects to pg. 4 •Press: CC:113 Value 1 •Release: CC:113 Value 0	Play Part 2 <i>If Aeros is stopped, selects the song part on the press. If Aeros is in playback, begins transition to part 2 on the Aeros following Aeros Change Part rules (Press) If that song part is blank, it will start recording</i> Redirects to pg. 4 •Press: CC:113 Value 2 •Release: CC:113 Value 0	Play Part 3 <i>If Aeros is stopped, selects the song part on the press. If Aeros is in playback, begins transition to part 3 on the Aeros following Aeros Change Part rules (Press) If that song part is blank, it will start recording</i> Redirects to pg. 4 •Press: CC:113 Value 3 •Release: CC:113 Value 0
Play Part 4 <i>If Aeros is stopped, selects the song part on the press. If Aeros is in playback, begins transition to part 4 on the Aeros following Aeros Change Part rules (Press) If that song part is blank, it will start recording</i> Redirects to pg. 4 •Press: CC:113 Value 4 •Release: CC:113 Value 0	Play Part 5 <i>If Aeros is stopped, selects the song part on the press. If Aeros is in playback, begins transition to part 5 on the Aeros following Aeros Change Part rules (Press) If that song part is blank, it will start recording</i> Redirects to pg. 4 •Press: CC:113 Value 5 •Release: CC:113 Value 0	Play Part 6 <i>If Aeros is stopped, selects the song part on the press. If Aeros is in playback, begins transition to part 6 on the Aeros following Aeros Change Part rules (Press) If that song part is blank, it will start recording</i> Redirects to pg. 4 •Press: CC:113 Value 6 •Release: CC:113 Value 0

Custom Mode

You have the power to make or download any MIDI mapping you'd like, read the next section, MIDI Maestro Smartphone App, to learn how to create a custom mode using the MM app.

When using the custom mode, you can also set the EXP pedal to send a custom value. Read more about this in the next section on pg. 33.

Here are some custom modes detailed by our customers:

Using MIDI Maestro to Wirelessly Control YouTube/Video on PC

Using MIDI Maestro To Wirelessly Control YouTube/Video on Android

MIDI Maestro, BOSS Katana and Katana Librarian App

MIDI Maestro Smartphone App

Getting started

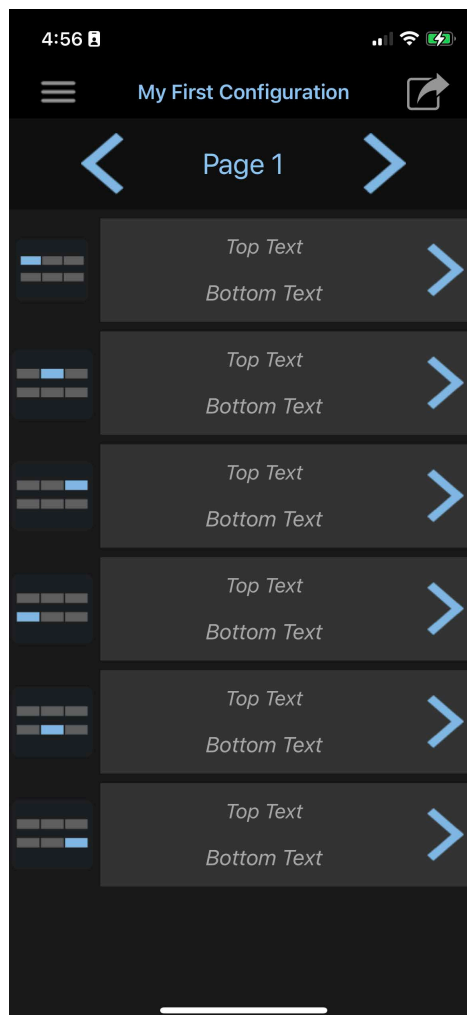
First, download the free MIDI Maestro Smartphone App (we'll call it the MM app for short). You can find the app on the [Google Play Store](#) or [Apple Store](#) by searching "Singular Sound MIDI Maestro".

Once downloaded, you are ready to start the customization process! Already have the app? Double check if you have any pending updates on your phone to a newer version. The latest version for Android and iOS is 1.7.0.

The app will ask you to allow "Access to location", make sure to allow. Don't worry, we're not stalking you! This is required by the BLE (Bluetooth Low Energy) Protocol. We do not save any location data while you are using the app.

[Watch a very helpful tutorial on how to use the app here.](#)

The Main Screen

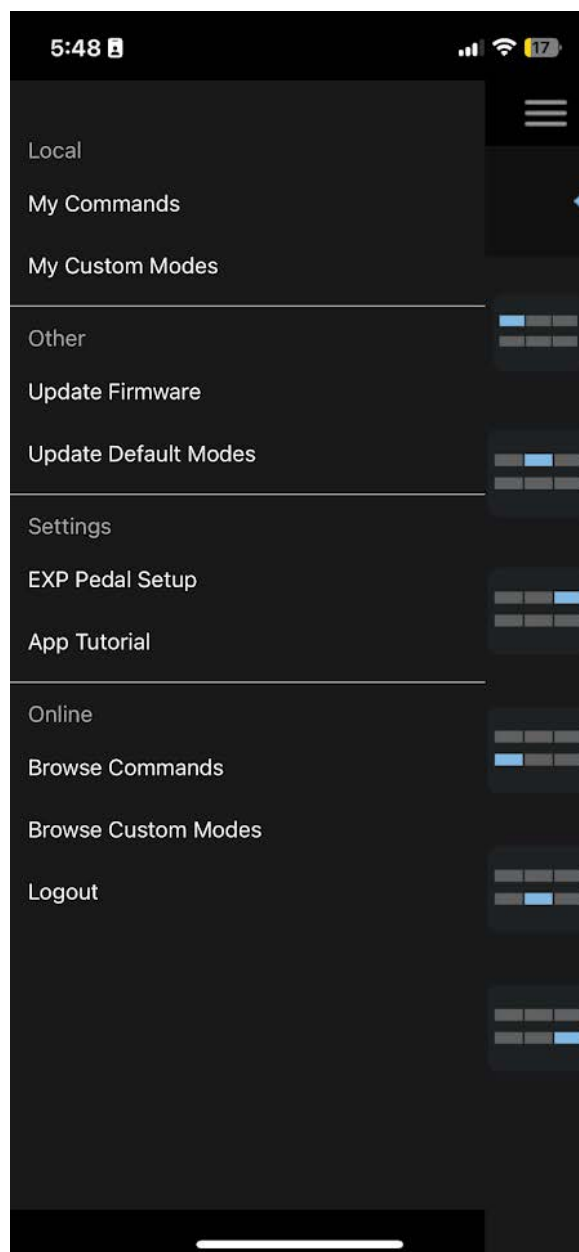


MIDI Maestro Smartphone App

This is the main screen of the MM app, from this screen you can edit the Button Layout of the commands being sent. Read more about Custom Modes on [pg.37](#).

To access other pages of the app press the Menu button. 

When using Android, at the bottom of the menu screen, you will find the app version in grey text. iOS does not show the version number, but you can always check the [Apple Store](#) to verify you are on the latest version. The version there will always be the latest available.



MIDI Maestro Smartphone App

MM App Menu

My Commands - Opens the My Commands screen to edit, delete, or share all locally saved commands.

My Custom Modes - Opens the My Custom Mode screen to open, rename, delete, or share all locally saved Custom Modes.

Update Default Modes - Updates the Default Modes on the MIDI Maestro (Set MIDI Maestro to pairing mode by pressing the button on the back to work).*

Update Firmware - Updates the Firmware on the MIDI Maestro (Set MIDI Maestro to pairing mode by pressing the button on the back to work).*

EXP Pedal Setup - Set up what channel and CC commands the Pedal will send when moving the connected Expression pedal while the custom mode is open.

App Tutorial - Links to a run-through [tutorial of the app](#)

Browse Commands - Opens the list of online commands available to download

Browse Custom Modes - Opens the list of online custom modes available to download

Logout - Sign out of your linked account. You must sign in using Google to use the apps online features.

**Please see [pg. 6](#) of the manual for an explanation of Bluetooth connections.*

MIDI Maestro Smartphone App

Update MIDI Maestro Firmware

Once you've verified the app is up-to-date, hold the pairing button on the MIDI Maestro's back panel to enter pairing mode (you do not have to connect your phone directly to the MIDI Maestro using bluetooth in order to use it with the MM app, you just need to have your phone's bluetooth enabled). Once the blue light at the top of the MIDI Maestro's front panel is blinking, press Update Firmware on the MM app menu to update the MIDI Maestro firmware. If you're up to date, the app will cancel the update and let you know you're already up to date.

Once you finish the update you must turn BLE mode back on, it will turn itself off once the firmware is installed. Do not close the app or turn off your MIDI Maestro until the loading pop up on screen says it has finished.

Note you *must* update the default modes after the firmware update in order for them to work correctly. Your MIDI Maestro screens may read "EEPROM invalid", disregard this and update the Default Modes.

1. Update the MIDI Maestro App to the latest version in the App Store or Google Play Store
2. Turn on your MIDI Maestro and enable Pairing Mode (hold the pairing button on the back of the unit for ~1 second). A blue LED will flash once the pairing mode is turned on.
3. Go to the Hamburger menu in the app (top left) and select the Update Firmware option. Once the app has established connection you will see the MIDI Maestro blue Pairing LED stop flashing and turn solid blue.
4. Allow the process to finish, the app will show the progress. Do not close the app, put your phone to sleep, turn off the MIDI Maestro, or change to another app while this is happening or you will need to restart the process.
5. **Once the firmware update is complete, you must rewrite the default modes to the device**, the MIDI Maestro may turn off the BLE Pairing Mode automatically, turn the Pairing Mode back on again manually. Your MIDI Maestro screens may read 'EEPROM INVALID', disregard this.
6. In the app, reopen the hamburger menu and select the Update Default Modes option. Allow the process to finish, the app will show the progress. Do not close the app, put your phone to sleep, turn off the MIDI Maestro, or change to another app while this is happening or you will need to restart the process.
7. Once the update is finished, power the unit off and back on again to see the update take place. You can verify the current loaded firmware on the MIDI Maestro on the bottom left screen of the main menu.
8. Optional: Load in the custom mode currently open on the app by pressing the Upload to MIDI Maestro button in the Home screen.

MIDI Maestro Smartphone App

Update MIDI Maestro Default Modes

*Note: Always update firmware **before** updating the default modes.*

Occasionally, we will modify the Default Modes on the MIDI Maestro. In order to be sure you have the latest versions, hit Update Default Modes on the MM app menu. If you're up-to-date, the app will cancel the update and let you know they're already up to date.

As soon as you're sure both the firmware and the default modes are up to date, power-cycle (turn off and back on) your MIDI Maestro to finalize the updates.

Custom Modes

Note: Always update the Firmware and default modes before uploading your custom mode.

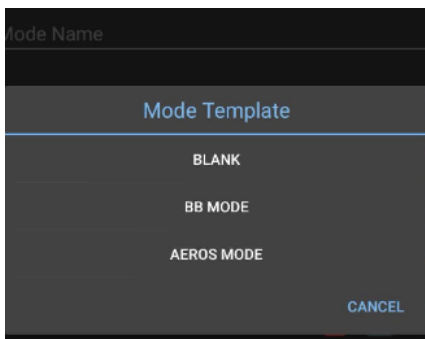
The MM app gives you the ability to create any configuration of commands into your own custom mode for use on the MIDI Maestro. You can program every button on each MIDI Maestro page. A Custom Mode can have up to 10 pages.

You can have as many custom modes on your phone as you would like, but the MIDI Maestro can only have one custom mode loaded at a time.

MIDI Maestro Smartphone App

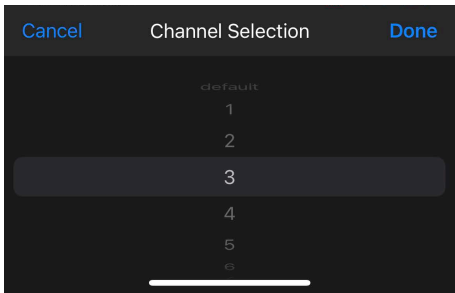
Default Mode Templates

You can create a custom mode based on a template of either the BeatBuddy or Aeros default mode. Simply create a new mode, and select either Blank, BeatBuddy, or Aeros to decide the template that you will use. If you choose Blank, the mode will not be based on any template, and you will start from the beginning of the creation process. Notice, all Singular Sound Default Mode commands are available to you before you create any commands. Read more about commands on [pg. 46](#).

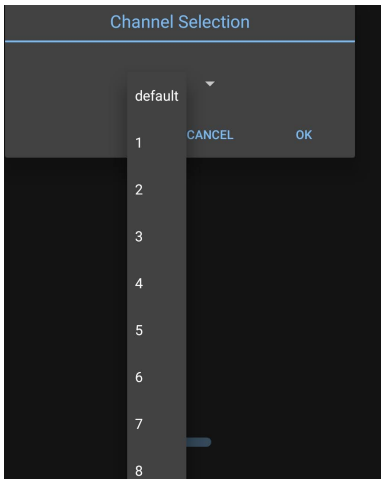
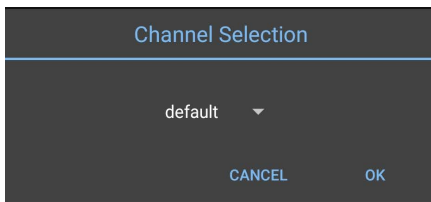


Once you create a template based on a default mode, you will have the option to choose what MIDI channel the mode will be made on, this is a quick way to create all necessary commands on a specific channel.

Here it is on iOS:



Here it is on Android:



Notice how you must choose the option and then click 'OK', default will set the template to channel 1.

MIDI Maestro Smartphone App

Home Screen



Your locally stored Custom Modes can be found and created in the **My Custom Modes** screen which is accessible from the Main Menu.

The home screen shows the currently selected custom mode, the mode's name is written in Blue at the top-center of the screen. Here you can select the Slot for the Button Setup that you wish to edit. You can also organize your Custom Mode page by page by referencing the Button Layout on the left-hand side, each Slot corresponds to a button on the MIDI Maestro.

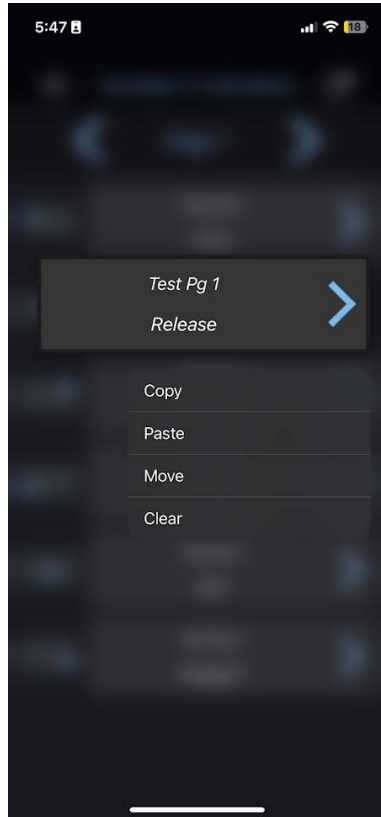
MIDI Maestro Smartphone App

Copy, Paste, Clear, and Move Buttons

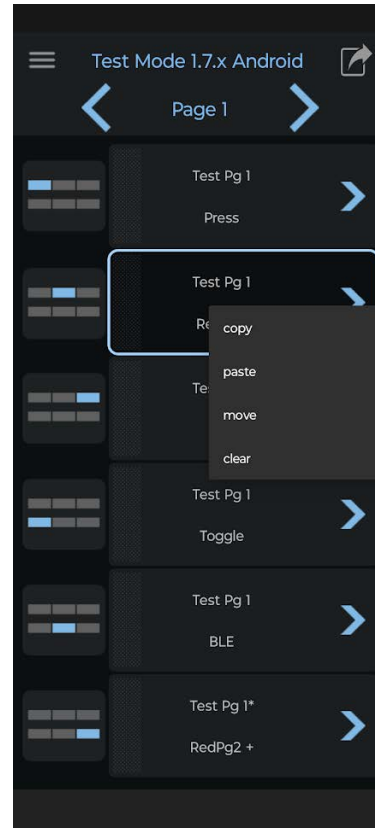
You can copy, paste, clear, and move a button. Pressing and hold your finger on a button setup to see the options.

Button Action Menu

iOS



Android



To see the Button Action Menu, press and hold a button from the button setup screen

A drop-down menu will show all possible options:

Copy - Copy a button and paste it anywhere, even on another page!

Paste - Paste a previously copied button into another button setup

Move - Enter the move state, you can move several buttons in this state. Hit done to confirm the changes or hit cancel to revert changes and leave the move state. On Android, you will need to press and hold a button to drag it once in the move state, not just press and drag.

- *Note: You can only move a button on the current page, to move a button to another page, use copy and paste.*

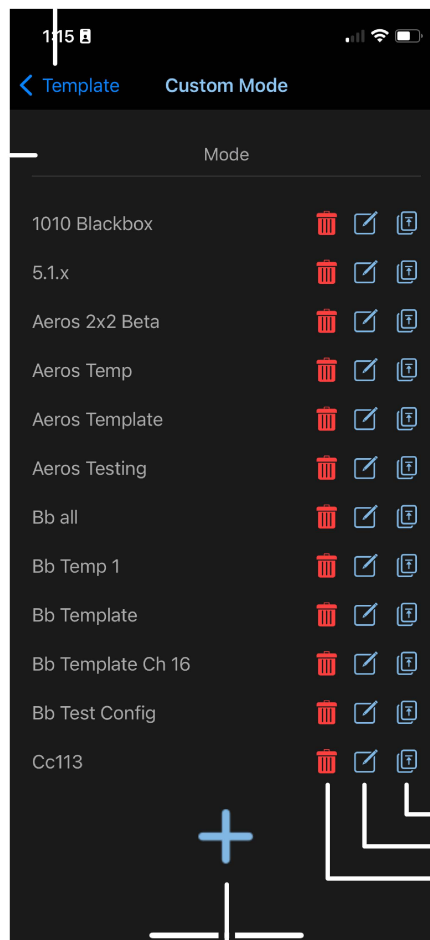
Clear - Clear the button. A confirmation pop up will appear to make sure you don't accidentally delete a button.

MIDI Maestro Smartphone App

My Custom Modes Screen

From this screen you can delete, edit, share and search for all locally saved custom modes. All downloaded modes will appear here.

Your app will automatically be open on your first blank Mode, it will be called “My First Mode”, you can change this name later, delete it, or create a new one by going to the My Custom Modes screen using the Main Menu.



You can also share and redownload your modes online! Or backup and redownload your content to use across devices, even cross-platform!

Simply tap the share icon next to the mode you wish to share in the My Custom Modes screen, the app will show a small pop up once the mode has been shared successfully.

You can find all online modes in the Browse Custom Modes screen, read more on [pg. 45](#).

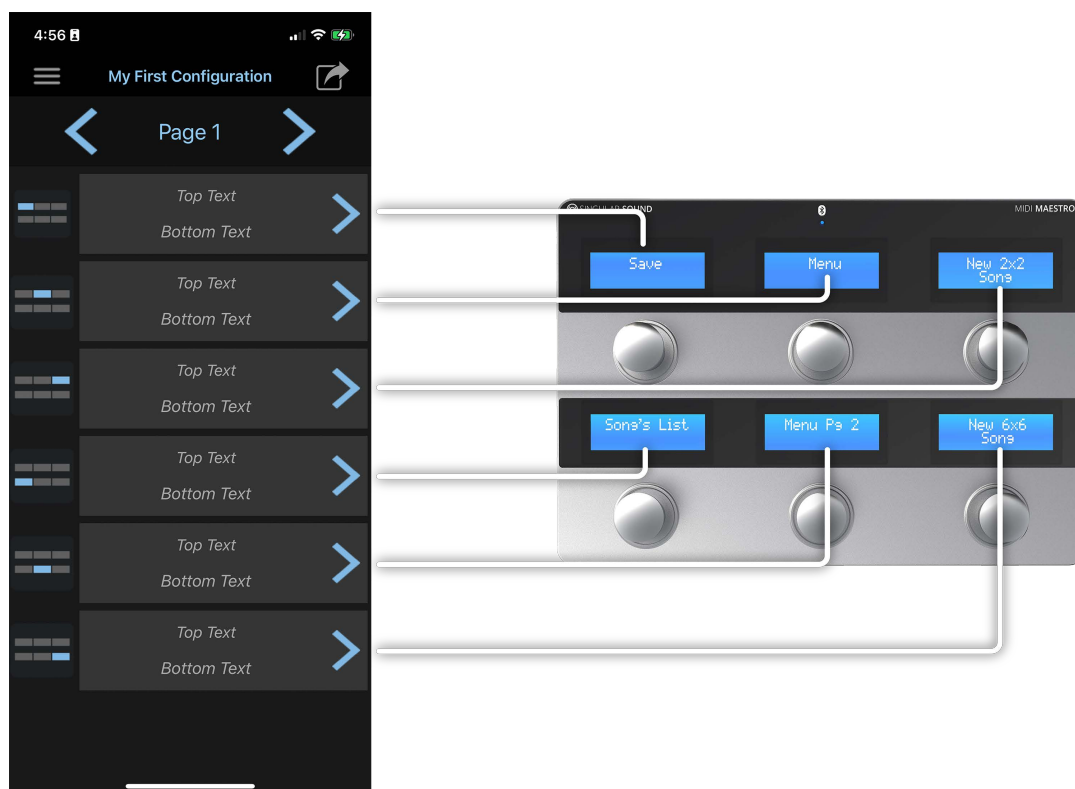
MIDI Maestro Smartphone App

Pages, Slots, and Button Layouts

A Page on the MM app is equivalent to a page on the MIDI Maestro, meaning page 1 on the MM app affects only page 1 on the MIDI Maestro. Each MM app page has 6 slots, meant to represent the 6 MIDI Maestro screens. You can switch pages by pressing the blue left and right arrows.

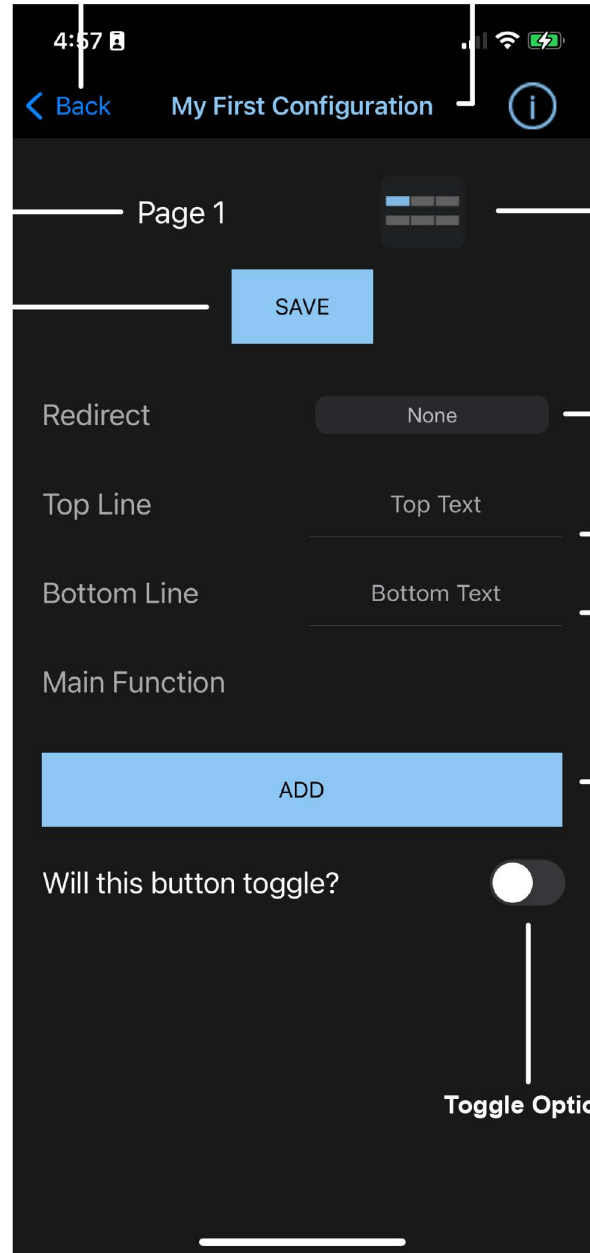
Slots are equivalent to a MIDI Maestro Screen, the top 3 screens are represented by slots 1-3 from left to right. The bottom 3 screens are represented by slots 4-6 from left to right. Each slot can hold one Button Setup.

By holding your finger on the slot you can drag and rearrange the individual Button Setups to change the button layout on the MIDI Maestro. You can see which slot corresponds to which screen on the MIDI Maestro by referencing the graphic to the left of the slot.



MIDI Maestro Smartphone App

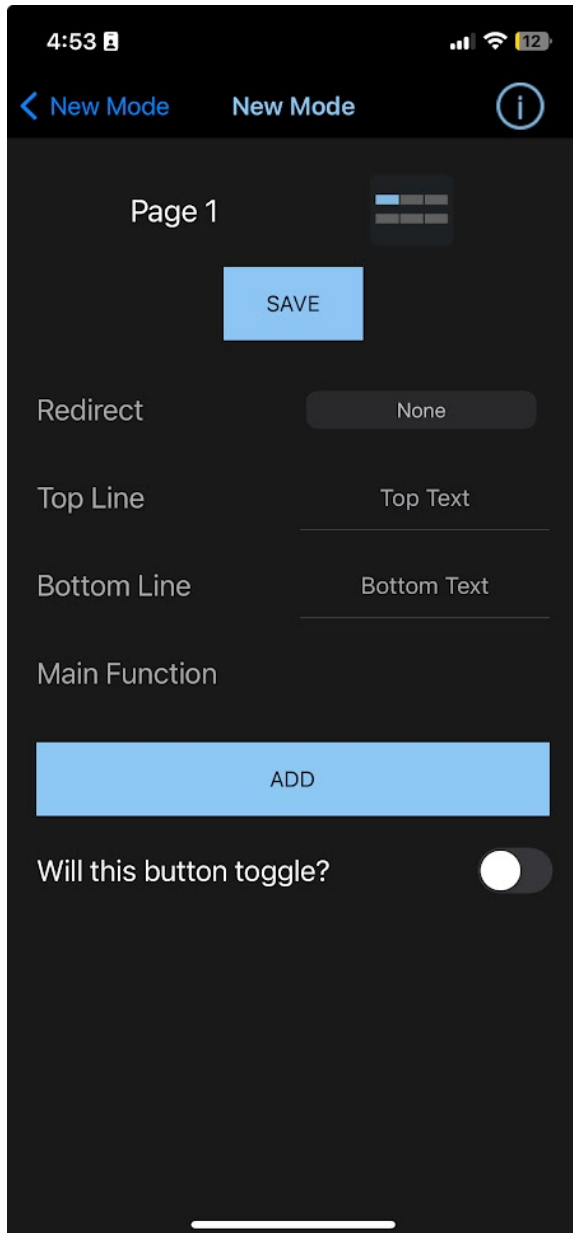
Button Setup



You'll notice the iOS app does not have a blue plus sign but uses a blue "Add" button to add commands instead. It Also uses a different mechanism than Android for selecting the Redirect page, on iOS there is a small option wheel, scroll up or down to select an option.

MIDI Maestro Smartphone App

By clicking on a slot you are brought to the **Button Setup screen**, in this screen you will name the Button Setup using the Top and Bottom text fields. The text you write here will be displayed on the corresponding MIDI Maestro screen once you upload your Custom Mode to the MIDI Maestro.



This is also where you will add all the commands that will be sent with this button action. Remember, a button action represents the button being pressed and released once. Your newly added commands will be placed in the **Commands List**.

You add a command to the Commands List by pressing the Blue Plus sign. This will take you to a list with all your created commands, you can search for a command, edit a command, or you can create new commands by pressing the blue plus sign.

Every Button Setup can have up to 8 different MIDI commands, and a button can toggle between two digital states (each state with up to 8 commands). You can also set up to four commands per toggle state to be sent as BLE commands. That means you have the option of having up to 16 commands sent via the MIDI Out on a single button. In order to add a command, press the big blue plus sign (Android) or the Add button (iOS) in the bottom right of the screen to go to the **My Commands Screen**.

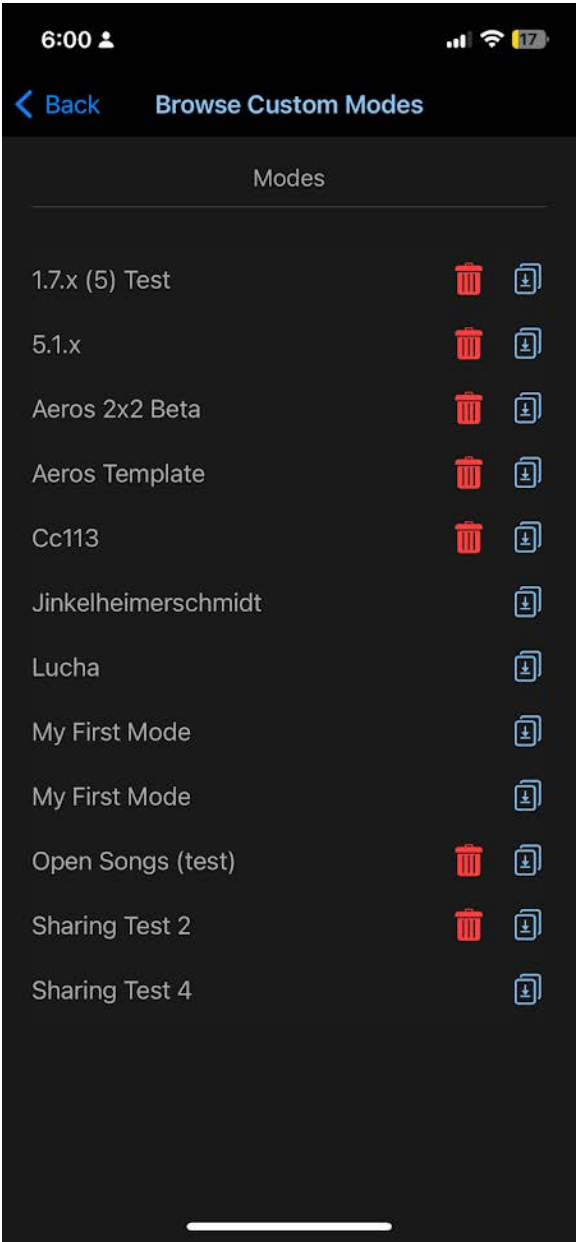
Note that when a toggle is enabled, the new button action state can have its own name. For example, the first state would show the name Pause, and the second name would say Unpause. So the screen on the MIDI Maestro would switch back and forth with every button action.

MIDI Maestro Smartphone App

Browse Custom Modes (Online Library)

You can share and redownload your modes online! Or backup and redownload your content to use across devices, even cross-platform!

Simply tap the share icon next to the mode you wish to share in the My Custom Modes screen, the app will show a small pop up once the mode has been shared successfully. You can delete any modes you shared yourself.

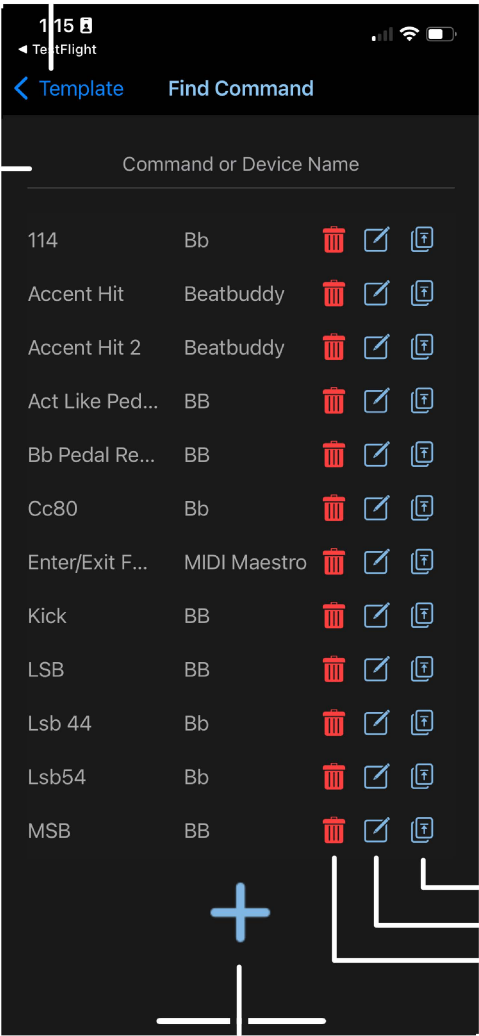


Press the download button to add the mode to your library!

MIDI Maestro Smartphone App

Commands

My Commands Screen



Here you will see a list of all the locally stored commands you have in the order they were added. From this screen, pressing the Blue plus sign  will create a new blank command. You can use the search bar to look for your command.

You can also edit existing commands by pressing the edit icon  or delete the command. 

MIDI Maestro Smartphone App

You can also share and redownload your commands online! Or backup and redownload your content to use across devices, even cross-platform!

Simply tap the share icon next to the mode you wish to share in the My Commands screen, the app will show a small pop up once the mode has been shared successfully.

You can find all online commands in the Browse Commands screen, read more on [pg. 53](#)

Command Editing

If you create a new command, you will see the following screen with empty fields:

Editing Command

SAVE

Command Name

Device(s) Device Name

Description

A longer description of this command

Type Control Change (CC) ▼

Channel 1 - 16

Command 0 - 127

Value 0 - 127

Fill in the text fields with the appropriate information.

MIDI Maestro Smartphone App

Common Fields

Command Name - Create a name for your command.

Device(s) - Name the device this command is mapped for.

Description - Describe what this command does.

Type - Choose the type of MIDI message being sent (CC, PC, PB, Note On/Off). Please refer to the [MIDI section](#) to learn more about MIDI channels.

Channel - Choose the MIDI Channel this command will be sent on. Please refer to the [MIDI section](#) to learn more about MIDI channels.

Specific Fields

Control Change (CC)

Type	Control Change (CC) ▼
Channel	1 - 16
Command	0 - 127
Value	0 - 127

- Command - The specific CC command number.
- Value - the value of the specific CC command.

MIDI Maestro Smartphone App

Program Change (PC)

Type	Program Change (PC) ▼
Channel	<u>1 - 16</u>
Value	<u>0 - 127</u>

- Value - Sets the specific PC command.

Note On/ Off

Type	Note On ▼
Channel	<u>1 - 16</u>
Note	<u>0 - 127</u>
Velocity	<u>0 - 127</u>

- Note - Sets the note played back by receiving device. Middle C= 60, half-steps are equal to 1.
- Velocity - Sets the Velocity of the note playback. This has to do with how loud the sound is played dynamically, it is related to volume but is not the same.

Pitch Bend (PB)

Type	Pitch Bend ▼
Channel	<u>1 - 16</u>
MSB	<u>0 - 127</u>
LSB	<u>0 - 127</u>

- MSB - Chooses the MSB Bank
- LSB - Chooses the LSB Bank

Editing an Existing Command

Any existing command can be edited from the My Commands screen by pressing this icon  , you can access the My Commands screen from the MM app Main Menu (press 'My Commands'), or when adding commands to the Button Setup.



Editing Command

SAVE

Start New 2x2 Song

Device(s)

Aeros

Description

Start new 2x2 song and enter loop studio. Same

Type

Control Change (CC)

Channel

1

Command

34

Value

0

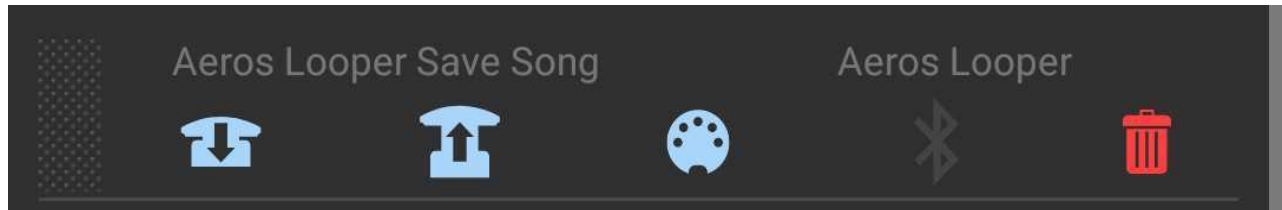
Deleting an Existing Command

Any command can also be deleted by pressing on the Trash Can icon  on the My Commands screen.

MIDI Maestro Smartphone App

Editing Commands List

Each command that you add to the Button Setup will show 5 interactive symbols as shown below:



Once commands are added, pressing and holding anywhere on the command will allow it to be dragged and reorganized.

Commands will be sent in order from top to bottom.

The Commands List has three distinct parts: The trigger (what causes the message to be sent), the medium (how the message is sent), and the option to remove.

Trigger

On-Press  - This command will be sent when the MIDI Maestro Button is pressed. Up to 8 commands can be sent on the press.

On-Release  - This command will be sent when the MIDI Maestro Button is released. Up to 8 commands can be sent on the release.

MIDI Maestro Smartphone App

Medium

Via-MIDI Out 🎨 - This command will be sent via the MIDI Maestro’s MIDI Out port.

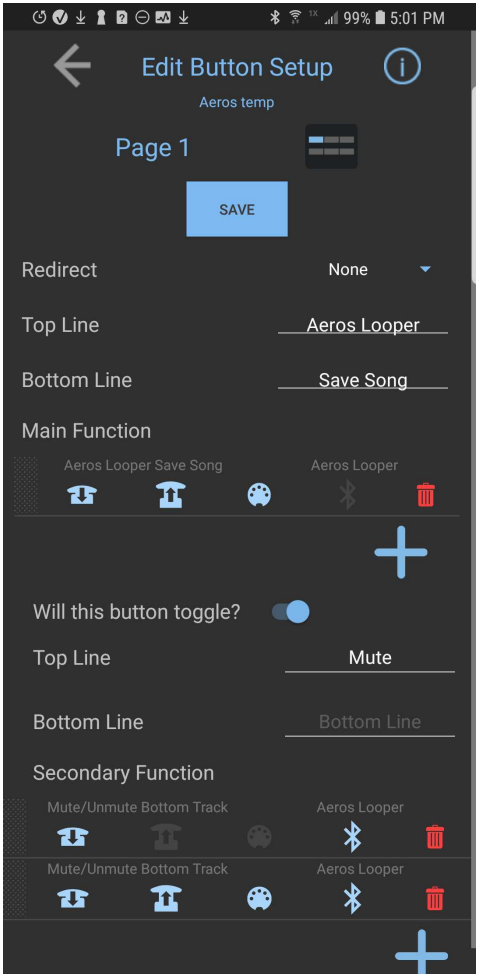
Via-BLE MIDI 📶 - This command will be sent wirelessly via BLE (Bluetooth Low Energy) MIDI from the MIDI Maestro. There must be a BLE MIDI connection for this to work. There can be up to 4 BLE commands sent per toggle state.

Remove 🗑

If the Button Setup is saved, this command will be removed from the Commands List.

All changes are applied once the Button Setup is saved. SAVE

Toggle



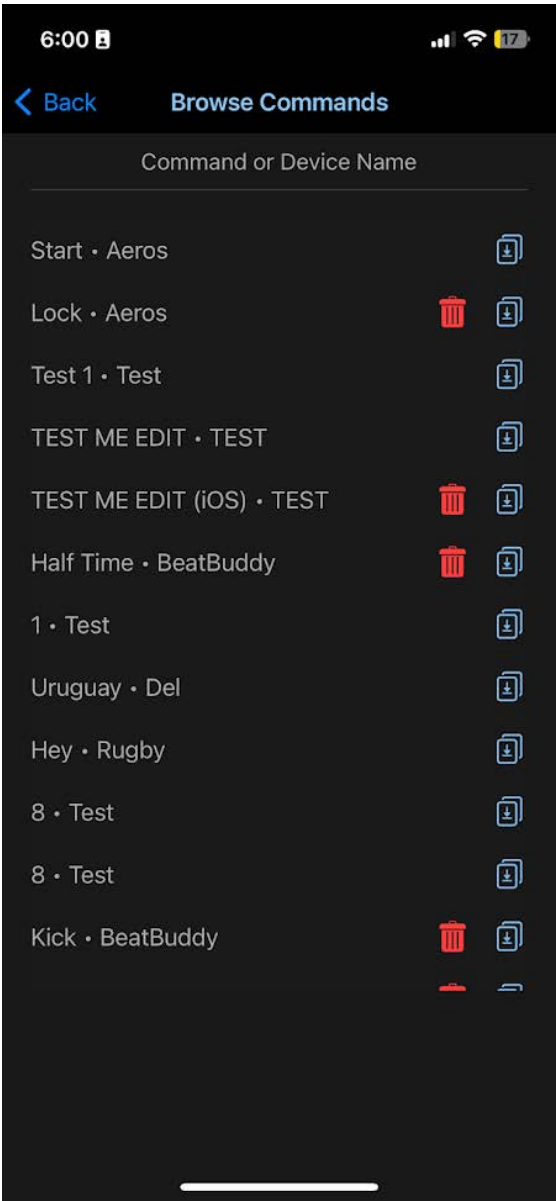
If the Button Setup includes a toggle, there will be two Commands Lists as shown below. Remember, each button action (press/release) can have up to 8 commands on it.
Don't forget to always hit "Save" at the top of the Edit Button Setup screen before leaving a Button Setup that has been modified.

MIDI Maestro Smartphone App

Browse Commands (Online Library)

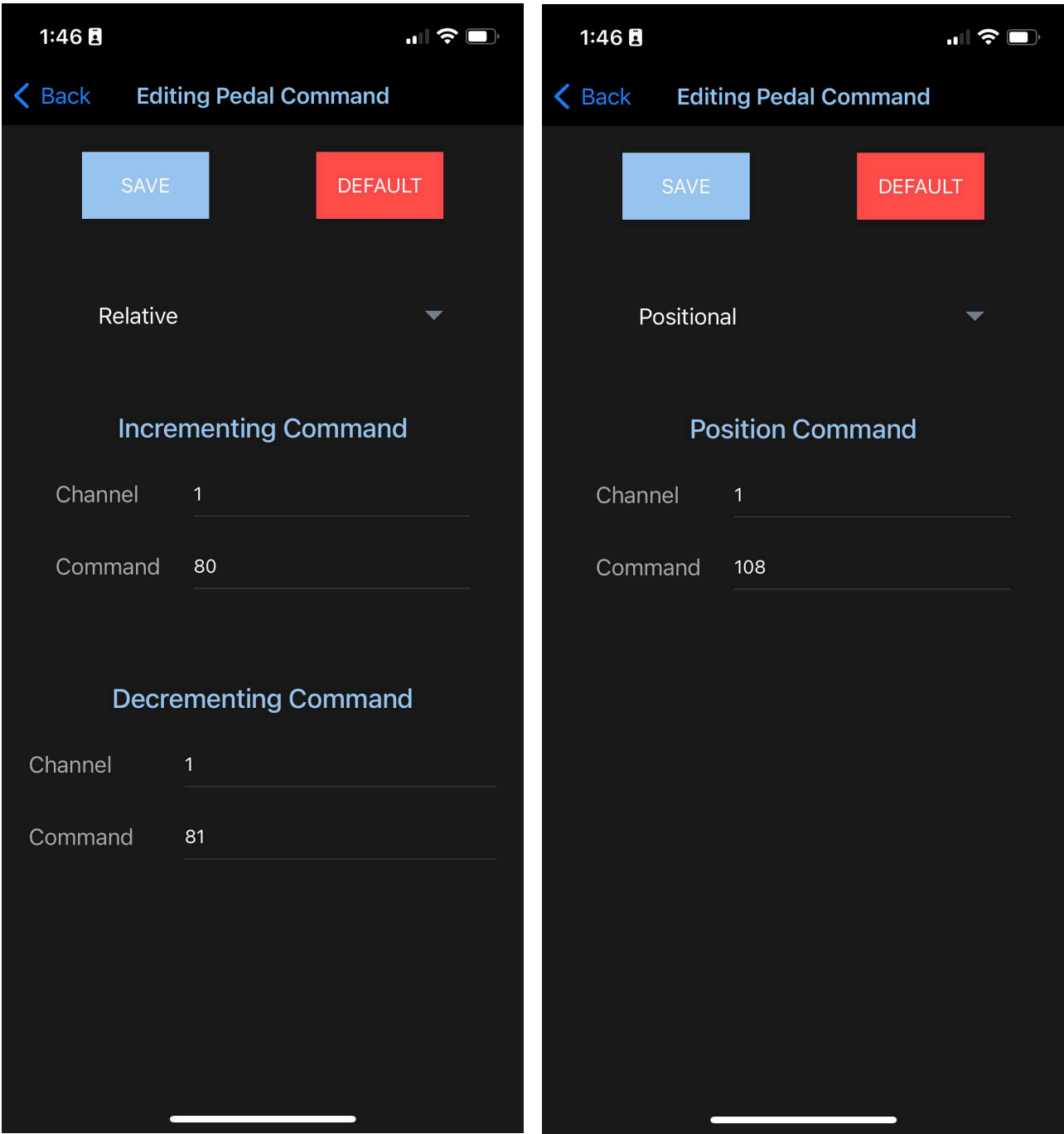
You can share and re-download your commands online! Or backup and re-download your content to use across devices, even cross-platform!

Simply tap the share icon next to the mode you wish to share in the My Commands screen, the app will show a small pop up once the command has been shared successfully. You can delete any commands you shared yourself.



Press the download button to add the command to your library!

EXP Pedal Setup



The app can set up what commands will be sent as the EXP pedal is manipulated when using the Custom Mode. You can find this setup page in the menu. On the setup page you will see a dropdown option at the top allowing you to set the EXP pedal mode.

MIDI Maestro Smartphone App

Note: You must be on app version 1.6.0 or later and on MIDI Maestro firmware versions 1.1.9 or later for this to work.

There are two possible setups:

- Positional - The EXP pedal will send the values of a single Continuous Change (CC) command based on the pedal's current position. The app default is CC108, which controls the BeatBuddy's volume
- Relative - The EXP pedal will send values equal to the range of the change made when moving the Expression pedal. You can set two CC commands, one for incrementing and one for decrementing.
 - By default, the incrementing command is CC:80 and the decrementing command is CC:81; these are also the values sent when using the Aeros or BeatBuddy Default Modes. These commands control the BeatBuddy tempo.

When you are done editing the commands don't forget to hit the 'Save' button to confirm the change. Every time you write the custom mode to the MIDI Maestro using the app, the EXP pedal setting for the loaded custom mode will be updated and rewritten.

Using Positional Mode

1. First, set the channel you wish to send the command on
2. Next, set the Continuous Change (CC) command that will be sent, the values sent will be based on the position of the pedal.
3. Save the EXP setup and write the Custom Mode to the pedal

This mode is best used for controlling things like:

- Volume
- Wet/Dry Mix
- Any linear parameter

You can click on the Default button to reset to the app's default values.

Hit 'Save' to confirm the change

Remember, you must write the custom mode to the MIDI Maestro again for this change to be seen on the device. The EXP pedal will only exhibit this behavior when the custom mode is open on the MIDI Maestro. The Default Modes will still send the default values.

Using Relative Mode

1. First, select the increasing function, by default this is CC80
2. Next, decide on which channel it will be sent, by default this is channel 1
3. Do the same steps to set up the decreasing command
4. Save the EXP setup and write the Custom Mode to the pedal

Likely both will send to the same channel

You can click on the Default button to reset to the app's default values.

Hit 'Save' to confirm the change

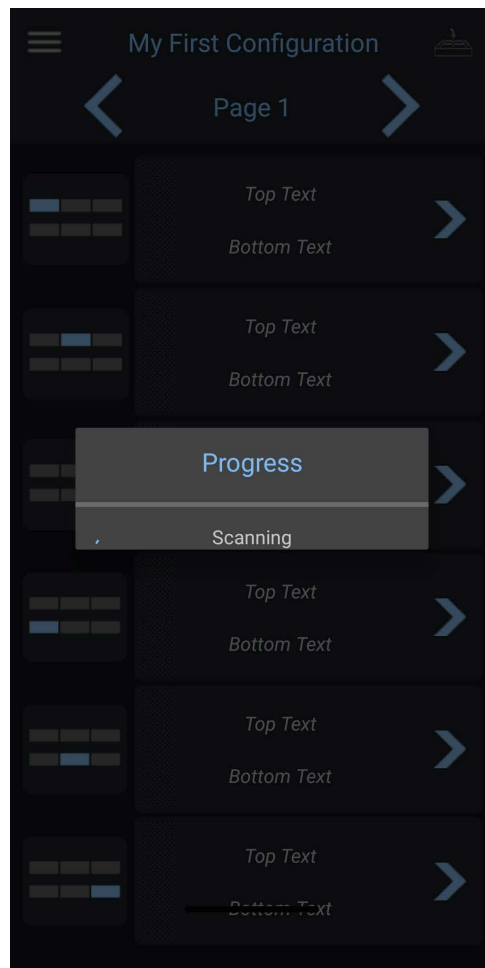
Remember, you must write the custom mode to the MIDI Maestro again for this change to be seen on the device. The EXP pedal will only exhibit this behavior when the custom mode is open on the MIDI Maestro. The Default Modes will still send the default values.

MIDI Maestro Smartphone App

Uploading to the MIDI Maestro

Once you have finished mapping the Custom Mode on the app, you can upload it to the MIDI Maestro. Turn on the MIDI Maestro and press the Pairing button on the back panel until the Blue LED light on the front panel is blinking. Then, using the MM app, hit the Upload button in the top right corner of the screen to begin the upload.

The App will show a progress bar for the upload and will read “write completed” when it is done. Power cycle the unit (turn on and off) to see changes written into the MIDI Maestro



If there is an issue with connection, try restarting the MM app, if that doesn't work, try turning off the MIDI Maestro and power-cycle (turn off and on) your phone's Bluetooth.

If you have issues connecting still, please contact support@singularsound.com for assistance.

Technical Specifications

- Dimensions: 8.375" x 5.75" x 1.875"
- Weight: 1 lb 12 oz
- Anodized Aluminum
- Easy to press, barefoot ready buttons
- Expression pedal + extension pedal ports
- Standard 5-pin MIDI IN/OUT ports
- Durable metal housing
- 3 presets that can be switched quickly using a small "mode" button on the back, BeatBuddy Mode, Aeros Mode, and Custom Mode (requires app)
- Custom mode can contain up to 10 pages of 6 individual button setups, each button setup can contain up to 16 MIDI commands
- Wireless MIDI over Bluetooth BLE
- Input Power: 9v, Center Negative, 300 mA

Warranty

Your MIDI Maestro comes with a full two year warranty on parts and workmanship from the date of purchase. During this period we will repair or replace (at our option) defective units free of charge.

Most issues can be solved by writing to us at support@singularsound.com

If we cannot help you fix the problem, we may have you send the MIDI Maestro in for servicing.

The warranty remains valid only if the serial number on the unit is not defaced or removed. It does not cover damage due to misuse, unauthorized tampering, accident or neglect.

To validate your warranty please register your MIDI Maestro within 30 days of purchase at singularsound.com/warranty

Thanks for reading the manual, now you're the maestro of MIDI with your MIDI Maestro!

If there is anything you don't understand, or think that can be explained better, please contact us at support@singularsound.com, or visit our Forum at <https://forum.singularsound.com/>

Changelogs

MIDI MAESTRO

1.1.9 Changelog

- Built in the ability to use the new Positional Expression Pedal feature

1.1.7 Changelog

Bug Fix

- Allow MIDI Time Signature Sysex command (e.g. from BeatBuddy, Aeros, etc.) to pass through the MIDI Maestro

1.1.6 Changelog

Bug Fix

- Allow MIDI Clock to pass through the MIDI Maestro

Android App

1.7.0 Changelog

- Added the ability to copy, paste, and clear buttons
- Changed the way moving a button is done to allow for more button actions
- Allow deleting user's own shared modes and commands from the online library
- Edited order of options in hamburger menu

Bug Fixes

- Forces Button setup and toggle state to have top and/or bottom text before saving a button.
- Commands were not sending correctly as shown on the app when written to the MIDI Maestro

1.6.1 Changelog

- Fixed sharing and downloading modes
- Added Positional setting for the Expression Pedal. This allows you to send the values of one CC command based on the position of the pedal when using a custom mode.
- Added ability to create a template of the BeatBuddy or Aeros default modes on a specific channel

Bug Fixes

- Various improvements

Android App 1.5.1 Changelog

- Added link to Tutorial video in menu

Android App 1.5.0 Changelog

- Added Expression Pedal Configuration
- Removed all Online components
- Added notification that save was successful
- Incomplete fields will be highlighted in red
- Commands and Custom Modes can be deleted
- Reworked the process for deleting a command from a button
- Added a faster device scan timeout
- Command Creation improvements:

Changelogs

- When a command is created, it will be scrolled to in the commands list
- When text is written in the search bar of the My Commands list and you click the Plus sign to create a command, the text in the search bar will autofill as the name for the new command
- If command creation is started but then cancelled the search bar will be retain its text, if the command is made, the search bar will be cleared
- Commands and modes organized in alphabetical order

Bug Fixes

- A newly opened mode will always open for the first time on Page 1 on the app
- The BeatBuddy Previous Part and Next Part commands were previously not sending on both Press and Release when creating a template of the BeatBuddy, this is fixed

Android App 1.4.7 Changelog

Fixes:

- Fixed major Default Mode template bugs. You can now create templates of either the BeatBuddy or Aeros Default Modes.
- App crashes resolved
- Fixed expression pedal bug caused by internal beta
- Old Custom mode pages will no longer show if a new mode is loaded to the MM
- Empty pages are no longer being cycled through when using the footswitch

iOS App

1.7.0 Changelog

- Added the ability to copy, paste, and clear buttons
- Changed the way moving a button is done to allow for more button actions
- Allow deleting user's own shared modes and commands from the online library
- Edited order of options in hamburger menu

Bug Fixes

- Forces Button setup and toggle state to have top and/or bottom text before saving a button.
- Commands were not sending correctly as shown on the app when written to the MIDI Maestro

1.6.1 Changelog

- Updated icon for uploading to online libraries

1.6.0 Changelog

- Added the ability to reorganize commands in the commands list of the button setup screen
- Fixed sharing and downloading modes
- Added Positional setting for the Expression Pedal. This allows you to send the values of one CC command based on the position of the pedal when using a custom mode.
- Added ability to create a template of the BeatBuddy or Aeros default modes on a specific channel

Changelogs

Bug Fixes:

- App stops duplicate commands from being redownloaded
- App no longer replaces old commands with newly downloaded commands
- Fixed issues when downloading modes made on Android
- Other improvements

iOS App 1.5.1 Changelog

- Added link to Tutorial video in menu

iOS App 1.5.0 Changelog

- Added Expression Pedal Configuration
- Removed all Online components
- Added notification that save was successful
- Incomplete fields will be highlighted in red
- Commands and Custom Modes can be deleted
- Reworked the process for deleting a command from a button
- Added a faster device scan timeout
- Command Creation improvements:
 - When a command is created, it will be scrolled to in the commands list
 - When text is written in the search bar of the My Commands list and you click the Plus sign to create a command, the text in the search bar will autofill as the name for the new command
 - If command creation is started but then cancelled the search bar will be retain its text, if the command is made, the search bar will be cleared
- Commands and modes organized in alphabetical order
- Added quick field selection arrows when keyboard is open

Bug Fix

- A newly opened mode will always open for the first time on Page 1 on the app

iOS App 1.4.2 Changelog

Fixes:

- Fix : Templates pages order
- Fix : Being able to edit commands
- **Able to move buttons in mode editor**

iOS App 1.4.1 Changelog

Fixes:

- Description field is no longer forced
- Correct autocapitalization of text in input fields
- Fixed major Default Mode template bugs. You can now create templates of either the BeatBuddy or Aeros Default Modes.
- Real Time Stop is now supported
- App crashes resolved

Known bugs: Commands can not be edited or deleted