

eDrum*in*

USER MANUAL

eDRUM*in*

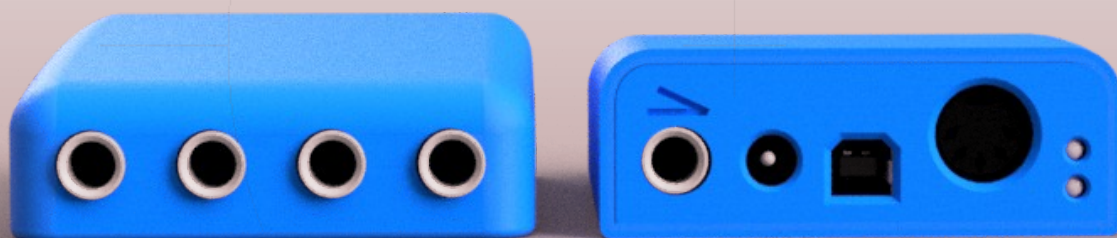


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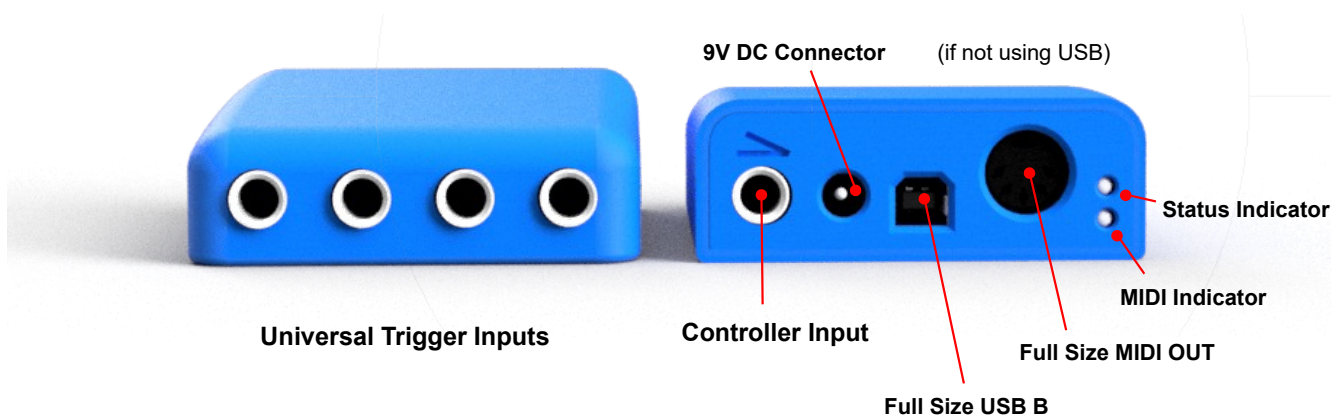
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Features at a Glance

- 4 universal pad inputs
 - Single Zone / Dual Zone / Dual Single Zone pads and triggers.
 - Supports Yamaha and Roland 3-way triggering.
 - Positional Sensing for mesh pads with center mounted piezos.
 - Bell sense for 3-Way triggering with Roland rides using a single input.
 - Hotspot suppression for mesh pads.
- Hihat Controller supporting both Roland and Yamaha style controllers.
- Full size MIDI out port.
- Compact and portable design.
- Powerful and intelligent UI for easy setup.

The Hardware and Connections



The pedal input on the back of the eDRUMin does not support drum pads or piezo based silent kick drum pedals. The Jack uses DC current which can damage the drum pads. Look on the following page for more information about the types of pedals you can connect.

Supported Pads

eDRUMin supports all kinds of e-drum pads and triggers. It doesn't matter if your pads are made by Roland, Yamaha, Alesis or anyone else. They are well supported. Here's a list of the gear I used during development.

Electric Drum Pads

Roland PDX-125k
Roland PD-8
Roland KD-8
Roland HD-1 Toms
Yamaha TP-65s
Yamaha TP-120SD

Electric Cymbals

Roland CY-13R
Roland CY-8
Roland VH-10 Hihat
Yamaha PCY155

Acoustic Triggers

Roland RT-30HR

Supported Hihat Controllers

The hihat controller input on the back of the device supports both Roland and Yamaha style hihat controllers, expression pedals, sustain pedals, and footswitches. Look in the [Appendix](#) for wiring diagrams for supported pedal types.

Pedal Sensing automatically set up your pedal. Look [here](#) to see what the various types of pedals can do. Here's a list of the pedals I used during development.

Hihat Controllers

Yamaha HH65
Roland FD-8
Roland VH-11

Expression Pedals

Moog EP-3
Roland EV-5
Yamaha FC7
M-Audio EX-P
Behringer FCV100
Line6 EX 1

Sustain Pedals

Yamaha FC3A
Yamaha FC4
Yamaha FC5A
Roland DP-10

Footswitches

Yamaha FC5
Boss FS-7
Marshall 90010



Getting Started

Because eDRUMin devices are class compliant, there's no need to install drivers. You will however want to install the Control Application to edit the device settings.

Installing the Control Application

The Control application is available for Windows, macOS, and iOS and can be downloaded from the Audiofront [downloads](#).

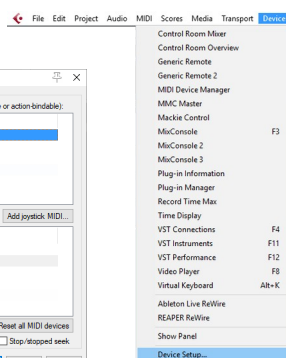
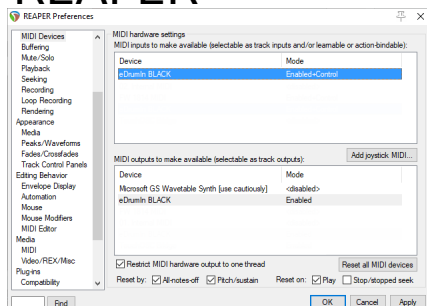
The [Control Application](#) is discussed in detail in the next section of the manual.



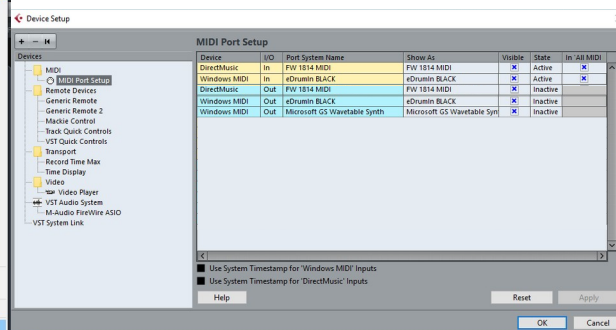
Enabling eDRUMin in your MIDI Applications

If you use your eDRUMin for the first time with a new application, you might need to enable it for input in the application's audio / MIDI setup. Here are some screenshots showing how to enable eDRUMin in various applications.

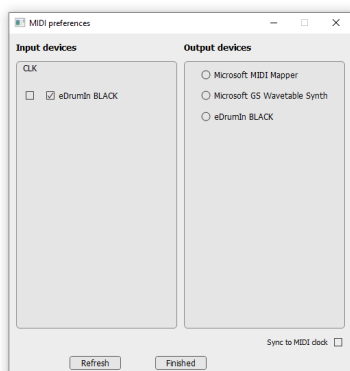
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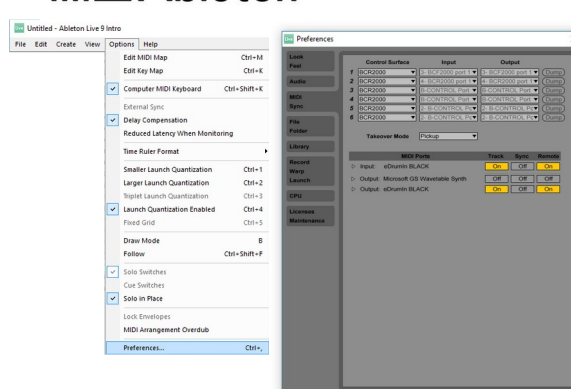
CUBASE



BFD3



Ableton



Connecting Drum Pads

The 1/4" inputs on the front of the device are for connecting drum pads. Make sure you connect your pads with TRS connectors. The device is not designed to work with TS connectors. Even if you are using a single zone pad, you should still connect it with a TRS cable.

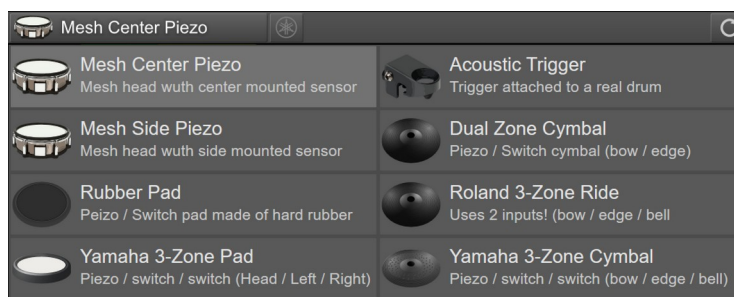


When plugging in a pad, connect the cable to the drum pad before connecting it to the eDRUMin. This allows the device to know when you are swapping pads and it can do some safety checks to ensure your pad is setup properly.

Some Roland Ride cymbals have two TRS connectors. If you plan to use both connections, connect them to two adjacent inputs with the BOW / EDGE connector on the left and the BOW / BELL bell on the right. Set the pad type of the BOW / EDGE input to 'Roland 3-Zone Ride' and the second input will automatically become its 'Slave'

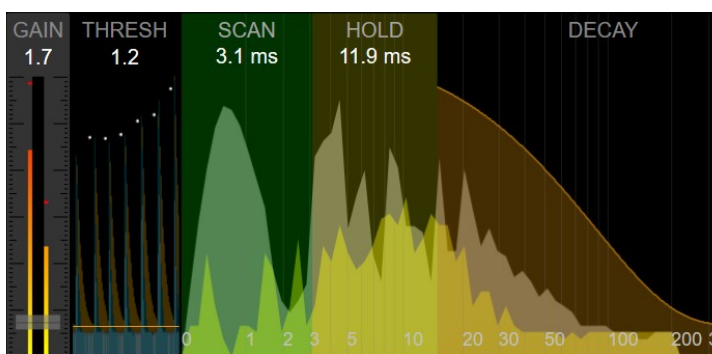
Setting the Pad Type

The default pad type for each input is set to a mesh head with a center mounted piezo. If you are connecting a piezo / switch type pad, you will need to change the Pad Type in order for it to trigger more than one articulation. Look here for more information about setting the [Pad Type](#).



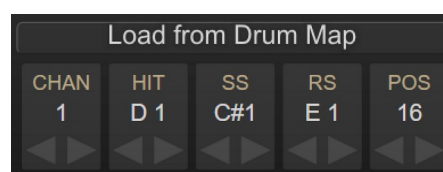
Adjusting Basic Scan Settings

To the right is an image of the default transient scan settings. These settings were chosen to work for a wide variety of pads, triggers and cymbals. While they work out of the box, you will need to adjust them to get the best performance from your pads. The Transient Scan controls are discussed in depth [here](#).



Changing Note Assignments

The default note assignments for each input are all the same. They are mapped to the MIDI note assignments of a Roland snare. You can change the assignment of individual articulations using the [Note Panel](#). To change the assignments for all the articulations at the same time, click on the [Load from Drum Map](#) button.

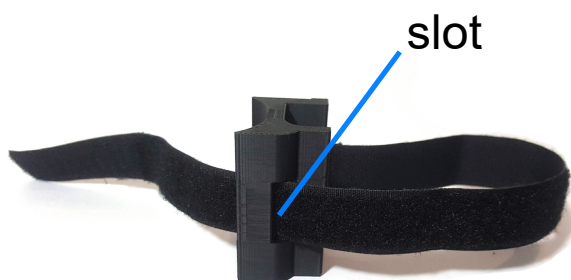


Attaching the Drum Stand Clip

You can use the optional drum stand clip to attach your eDRUMin to the frame of a drum stand or a hihat stand.

The texture of the clip mates with the texture of the device. Make sure your clip is very tight to ensure there's enough friction to prevent slipping.

1



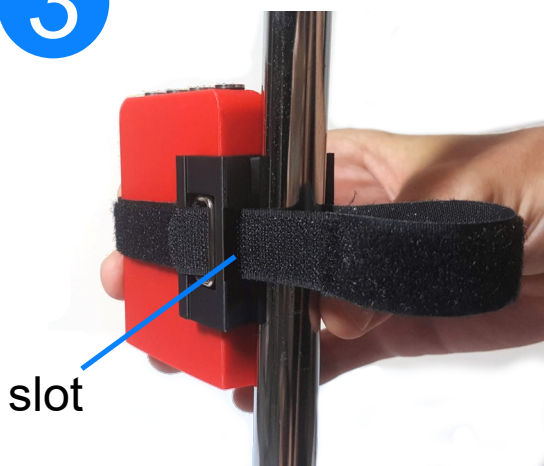
Insert the strap through the slot.

2



Place the eDrumIn inside the loop. With the clip centered on the device, pull the strap tight.

3



Place the device and clip against the frame of your drum stand. Wrap the strap around the frame and insert it through the slot.

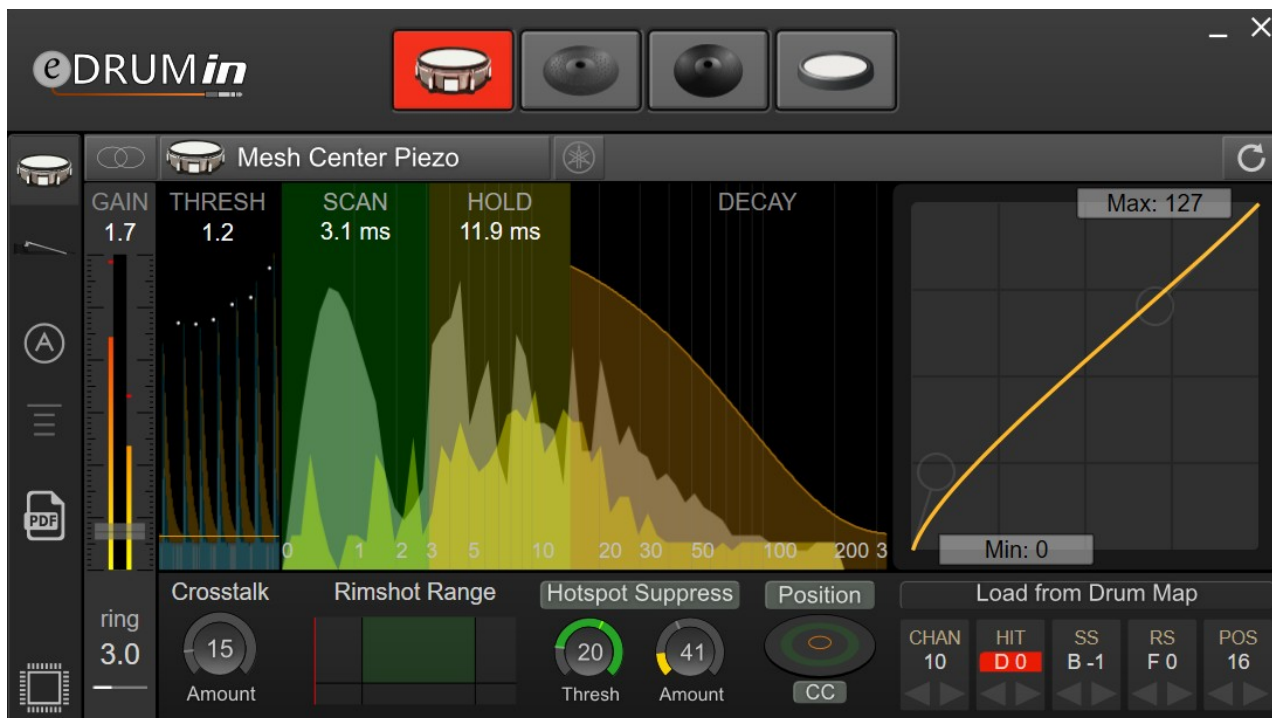
4



Pull the strap very tight and stick the Velcro to secure it in place.

The Control Application

As your eDRUMin has no buttons or controls, you'll need to use the software control application to edit settings on the device.



The Control Application doesn't need to be running for the device to work. All the processing and settings are saved on the device itself. Any changes you make with the Control Application are saved automatically 5 seconds after the last change. Make sure you wait a few moments after making a change before unplugging the device.

The Control Application can be resized as you see fit. Just grab one of the corners of the application with your mouse and drag it out to the size you want. The size and position of the application saved and restored the next time you open it. Also, you can easily move the application around by clicking and dragging on any empty space in the background of the application or controls.

The Input Selector

The topmost part of the eDRUMin control application is reserved for selecting the device and input you want to edit.

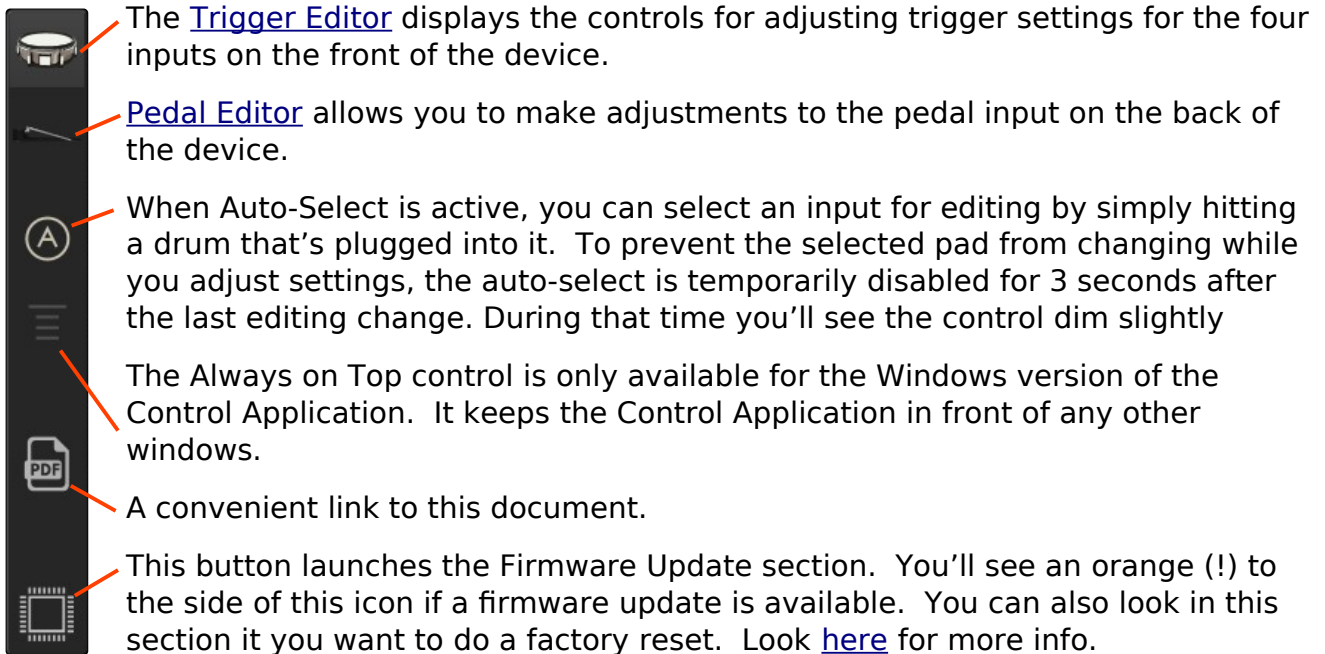


An input can be selected for editing by clicking on its graphic. Assuming the Auto-Select control is on, you can simply hit a pad and it will be automatically selected and ready for editing.

If you have more than one device connected, icons for each device become visible on the right hand side, allowing you to select which device you want to edit. The control application supports editing up to four devices at one time.

Sidebar

The Sidebar gives quick access to pages of settings as well as a few useful settings.

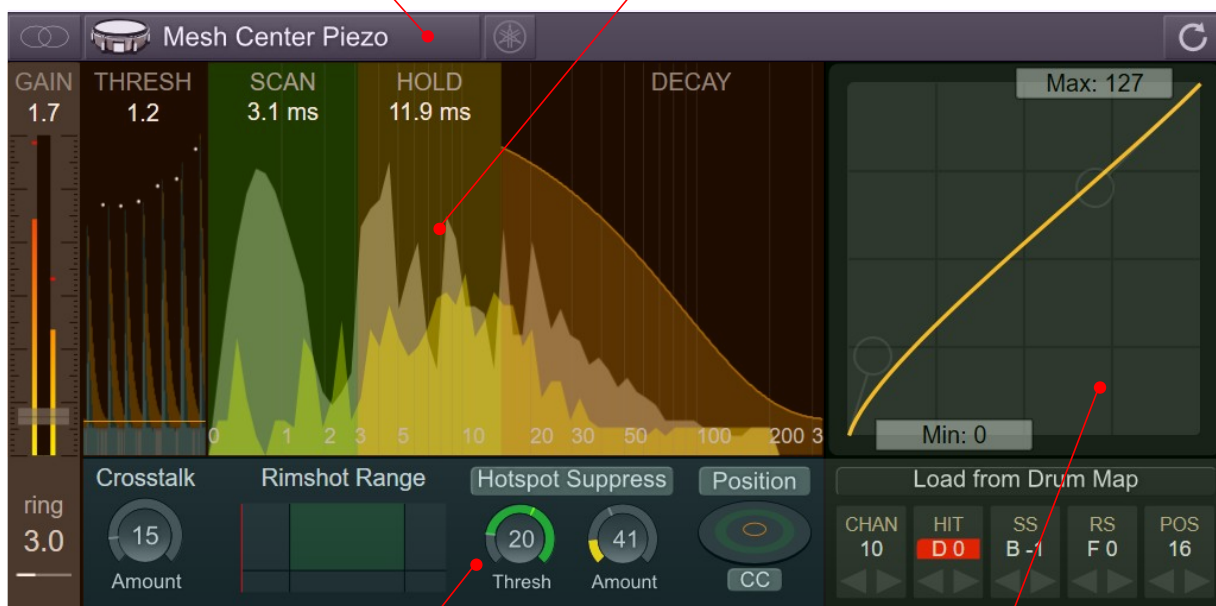


Trigger Editor

The Trigger Editor contains all the controls for scanning the transients from your pads, processing sense data, and controlling the MIDI the device outputs. The functional sections are outlined in the image below.

Pad / Input Type Settings

Transient Scanning Controls

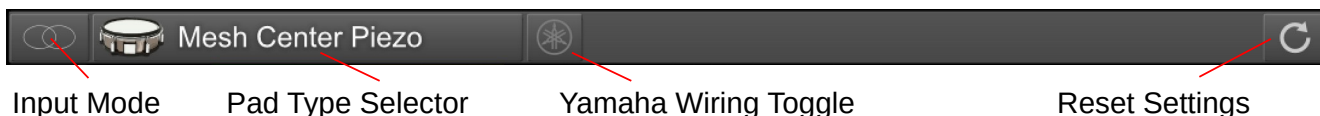


Sense Settings

Output Settings

Pad / Input Type Settings

Whenever you connect a new pad to the device, these are the settings you should adjust first. In fact, you'll want to set the pad type even before you connect a pad.



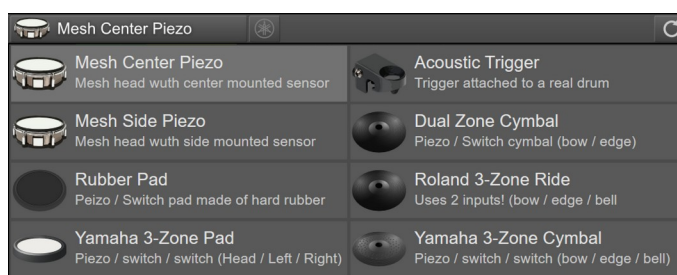
Input Mode

Each input on the device can function as a stereo input (for dual / triple zone pads), mono (single zone pads), and dual mono (two single zone pads connected to a single TRS cable). The default setting is stereo, and for 95% of users, you can just leave it set to stereo. Take a look in the appendix for [wiring diagrams](#).

Pad Type Selector

The pad type selector determines how the input jack will be wired electronically, and determines what kind of notes and controls are available.

When you press the Pedal Type Selector, the following panel appears and you can select the type that best matches your pad.



Even before you plug in a pad, you should probably adjust this setting. There are two general kinds of pads: piezo / piezo and piezo / switch. These two kinds of pads have different wiring requirements. If the input is set to a piezo / switch pad, but you connect a piezo / piezo pad, the wiring of the input can, over a long period of time, cause damage to the piezo / piezo type pad. To protect your pads, make sure you unplug the TRS cable from the eDRUMin when changing pads. This allows the eDRUMin to identify the type of pad when it's plugged in and prevent any possible damage.



Yamaha Wiring Toggle

eDRUMin devices support both Roland and Yamaha style wiring. Some of the [Sensing Controls](#) need to know how the pad is wired in order to work properly. If, for example, the Hotspot Suppression is not working well for you, it could be that you need to toggle this switch. Look at the [Wiring Diagrams](#) in the appendix for more information about how pads should be wired.

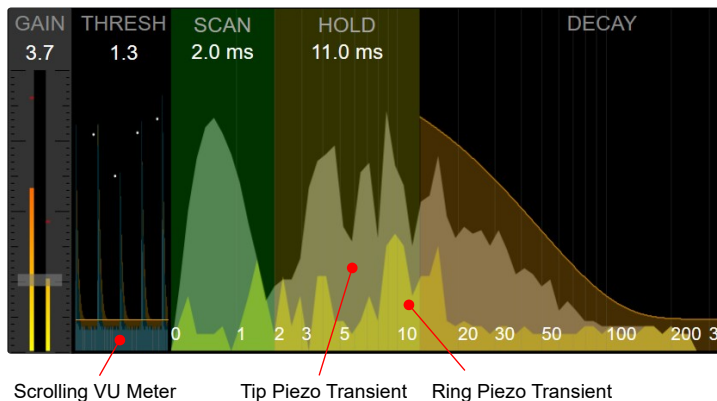


Reset Input Settings

This control loads the factory default settings of the currently selected input.

Transient Scanning Controls

eDRUMin provides a very clear graphical representation of the transients from your pads making setting the values of the controls intuitive and easy.



The amplitudes and time scales in the graphics are not linear. The amplitudes are exponentially scaled so that more detail and resolution is available for low amplitudes, making it easier to properly set the Thresh control. Similarly, the time scale is also scaled exponentially to give more detail and resolution at the very start of the transient, making it easier to accurately set the Scan control.

Gain

The Gain control is a master gain. For a dual piezo pad, this gain is applied to both piezos. There is however a separate Ring Gain control below the Master Gain that allows you to set the balance between the two piezos. Once the Ring Gain is set, adjusting the master gain will not disrupt the balance. For piezo / switch type pads, the Edge Gain control appears in the place of the Ring Gain. This control will scale the amplitude of 'sidestick' or 'rimshot' articulations for pads, and 'edge' articulations for cymbals. No gain scaling is applied to 'bell' articulations.

Master Gain



Ring / Edge Gain

Thresh

This is the minimum amplitude required to start scanning a transient. Make sure you set it a bit above the noise floor or you will get false triggers, especially when the Control Application is running.

Scan

Dragging anywhere on the green scan area will allow you to change the Scan time. You want to keep the Scan time as short as possible, while ensuring that it covers the major parts of transients. Scan time adds to the overall latency of the generated MIDI notes, so a compromise between velocity accuracy and note latency has to be made.

The [Hotspot Suppression](#) feature needs at least 3 ms of scan time to function properly. If the scan time is less than 3 ms, it will be disabled.

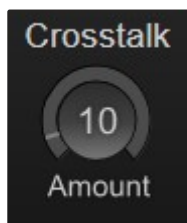
Hold

Often a high peek arrives late in a transient. In the graphic above, you'll see that the highest peek actually comes at about the 9 ms mark. Its important that all late peeks be covered by the yellow Hold control. If one of those late peeks arrives past the yellow accent, it will cause a second hit to be registered. Keep in mind that long Hold times limit the device's ability to trigger accurately during drum rolls.

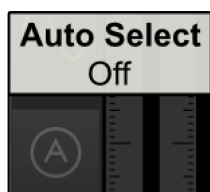
Decay

The last of the transient scan controls is the Decay control. You need to adjust it to loosely follow the envelope your transients. If you are too aggressive (try to follow the envelope too closely), you could end up with double hits. At the same time, if you leave this control too relaxed, the device's ability to track fast drum rolls will be compromised.

Crosstalk Cancellation



Sometimes vibrations from hitting one pad can travel through a drum stand and into an adjacent pad, registering a hit even though it hasn't actually been hit. This is called crosstalk. The Crosstalk control is designed to prevent those vibrations from triggering notes.



To better see the effect of this control, turn Auto Select off, and watch in the Scrolling View as you hit adjacent pads. The amount of crosstalk cancellation is shown in red. Adjust the Crosstalk Cancellation control until the red covers the blue vibrations.

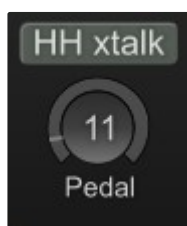
Vibrations from hitting adjacent pad



Crosstalk cancellation applied

MIDI coming into the device from the USB port is also used in the calculation of crosstalk. If for example you are using 2 *eDRUMin* devices, you can use a DAW environment to route the output of one device into the other and vice versa. This will help prevent crosstalk between the two devices.

Hihat Crosstalk



Another type of crosstalk comes from using a hihat controller that is mounted on a hihat stand, such as the Roland VH series of hihat controllers as well as the Yamaha RRH135.

With these kinds of hihat controllers, pressing the pedal sends vibrations through to the hihat cymbal, which can trigger a hihat note, masking the foot chink sound.

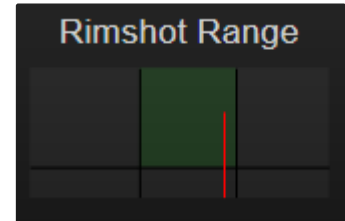
To prevent this from happening, use the Hihat Crosstalk control to tell the device to apply crosstalk cancellation from the movement of the hihat controller plugged into the back of the device.

Sense Controls

The type of sense controls available depends on whether an input is in [Stereo mode](#) or not, as well as the [Pad Type](#) setting. These are advanced controls and you should make sure you have your pad triggering well before looking to adjust these controls.

Rimshot Range

The Rimshot Range control allows you to fine tune rimshot detection on dual piezo pads. It contains three controls. The left edge of the green square is the cutoff between 'Head' and 'Rimshot', and the right edge is the cutoff between the 'Rimshot' and 'Sidestick'. The bottom sets the minimum velocity of a hit that can be registered as a rimshot.



The red indicator represents the velocity of a hit and the ratio of magnitudes of the head and rim piezo sensors. When the indicator falls inside the box, the rimshot is triggered.

Hotspot Suppression

One of the annoying qualities of a mesh pad with a center mounted piezo is a sensitive region of the drum head directly over of the piezo. The Hotspot Suppression control detects impacts over the piezo and suppresses their amplitudes, evening out the response of the entire playing surface.



The hotspot suppression needs about 3 – 4 ms of data to work properly. If you have the [Scan](#) control set below 3 ms, the control will become disabled.

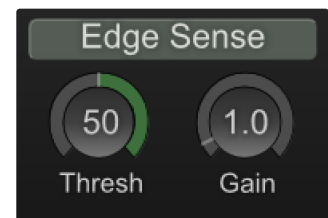
Start by adjusting the Amount control to zero. Next, watch the meter of the Thresh control as you hit different parts of the drum head. As you hit the pad around the hotspot, you should see the meter values increase. Set the thresh control so that hits away from the hotspot register in the dark part of the meter, and hits over the hotspot register in the green part of the meter.

After you have properly set the Thresh, adjust the Amount control to reduce the amplitude of the hits that register in the green part of the meter.

Note: If you are using Yamaha style wiring for your piezo, you will need to activate the [Yamaha Wiring](#) switch for Hotspot Suppression to work.

Edge Sense

When the [Input Mode](#) is set to 'Mono' or 'Dual Input', and the [Pad Type](#) is a pad, Edge Sense becomes visible. This control is designed to detect a second articulation for a pad that uses a single piezo. By activating the power button, a second 'Note' will appear in the [Note Panel](#).



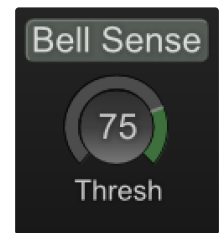
This feature will not work with all pads. When you hit the edge of your pad, check the meter in the Thresh Control. Does it increase? If it does, adjust the Thresh control so that hits on the center of the pad register below the thresh, and hits to the edge of the pad register inside the green meter.

Having adjusted the Thresh, set the gain to increase the velocity of the second articulation as well as the amount of crosstalk cancellation that is sent to adjacent pads.

Bell Sense

Roland ride cymbals are notorious for having issues triggering bell notes. On Roland modules, two inputs are required and even then, getting consistent and dynamic bell triggering is not possible.

Bell sense improves bell triggering on Roland ride cymbals. Not only does it allow you to get 3-way triggering using only a single connector from the cymbal, but it also allows you to trigger a much greater range of velocities and with much greater consistency.



To use Bell Sense with your Roland Ride, set the Pad Type to 'Dual Zone Cymbal' and connect only the BOW / EDGE connector the cymbal.

Adjusting the thresh control to fine tune the cutoff between Bow and Bell articulations.

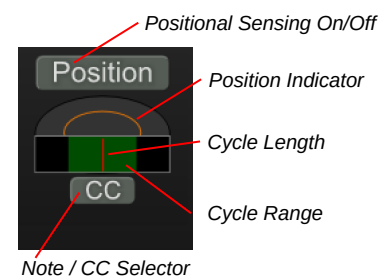
NOTE: You can also connect a Roland ride using the 'Roland 3-Zone Ride' and both connectors plugged into adjacent inputs. In this configuration, the second input acts as a slave to first input and the triggering will have behave much like it does on a Roland module.

Positional Sensing

eDRUMin supports positional sensing for pads using the 'Mesh Center Piezo' Pad Type. The device can send out a Control Change message (CC) to indicate the position, or a separate Edge Note.

The CC or Note can be set in Notes Panel.

To get positional sensing working, you'll need to adjust the Range control. In the picture on the right, the Range is represented by the green bar, and a red line represents the positional measurement.

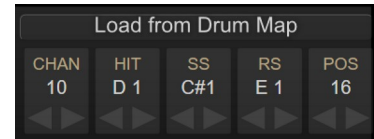


If the indicator falls to the left of the green bar, the positional CC is assigned a value of 127. If the indicator for a hit falls to the right of the bar, the positional CC is assigned a value of 0. If the indicator falls within the green bar, the CC is assigned a value between 0 and 127.

NOTE: To get the best positional sensing results, a scan time of around 3ms is recommended. Positional sensing can work with lower scan time values, but the size of the 'edge' portion of the pad will be significantly reduced.

Note Panel

Depending on the Input Mode, Pad Type, Positional Sensing, Edge Sense, and Bell Sense, you will see anywhere from 2 to 5 of these Note Controls in the Note Panel.



For the sake clarity, 'SS' means Sidestick (sometime refereed to as cross-stick), 'RS' means Rimshot, and 'POS' means positional sensing.

Adjusting the Controls

The values of these controls can be changed in a variety of ways. First you can drag them up and down. Holding the SHIFT key while you drag them will give you more precise control. In fact, the SHIFT modifier works for most of the UI controls.

Secondly, you can click on the two arrows to increment or decrement their values. Lastly, you can double-click a control and enter the value as a note name 'C3' or as a note number '60'.

For controls that represent notes, the device will audition the notes as they are changed, allowing you to setup and test note assignments without any pads connected. You can switch between displaying note numbers and note names by right clicking on them (long press to touch devices).

(CHAN) Channel

This is the MIDI Channel for all the MIDI messages the selected input generates. Unless you have a good reason to change it, you should probably leave it as its default value of 10.

(POS) Positional Sensing

Positional Sensing on *eDRUMin* is communicated by either sending out a Continuous Control (CC) message corresponding to the position of the hit, or as a separate Edge note. corresponding to the position of the hit. Look [here](#) for more information about setting up positional sensing.

(CHOKE) Cymbal Choking

Roland and Yamaha modules use 'aftertouch' messages for choking dual zone and triple zone cymbals. *eDRUMin* also sends aftertouch messages for choking, but that can be a problem in some audio sequencers that filter aftertouch messages (Ableton Live). For this reason, the device allows you to specify a MIDI Note for choking your cymbal in addition to sending aftertouch messages.

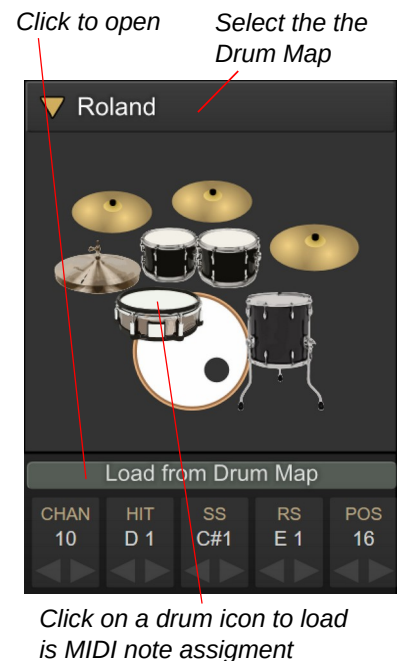
Load Notes from a Drum Map

It can be tedious to input note values, especially when you need to consult a manual to figure what values to use. Using a drum map, notes for all the different articulations of a single pad can be assigned using a few clicks of a mouse.

First, click on the 'Load from Drum Map' button to reveal the drum map and kit piece selectors.

Next, select the drum map you would like to use. Currently there are drum maps for Roland, Yamaha, Drummit, Alesis, BFD3, Superior Drummer 3, and Addictive Drums.

Lastly, click on the kit piece you want to load notes from. The Map Panel will remain open until you close it so that you can easily and quickly load assignments for all your pads.



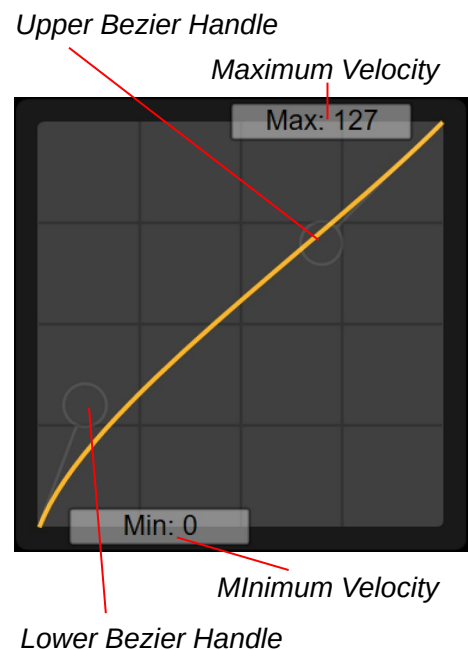
Response Curves

Getting an electric drum pad to have the same dynamics as a real drum is a big challenge. Getting realistic drum rolls from a mesh drum pad, for example, can be tricky because the dynamics of mesh and a real drum head are quite different.

To overcome this challenge, *eDRUMin* devices implement a Cubic Bezier curve to remap the velocity curve of your hits. The Bezier handles let you draw all kinds of curves while ensuring a smooth transition from the lowest to the highest velocities.

In the image on the left, the curve is being used to make drum rolls on a mesh head feel like a proper drum. After you've gotten your pad triggering well, the Response Curve is the most powerful tool to get it sounding as natural as possible.

Note: The articulations for a single pad all share the same velocity curve.



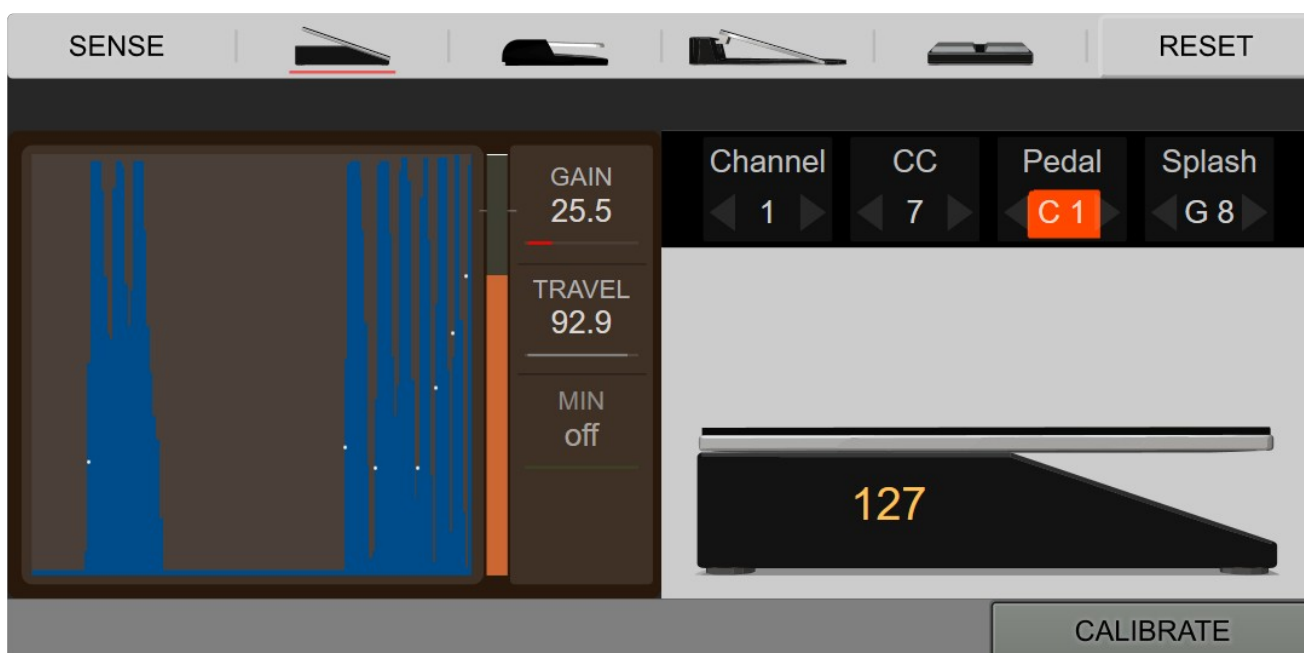
Pedal Editor

The pedal input on the back of the *eDRUMin* supports a wide array of pedal types including hihat controllers, expression pedals, sustain pedals, and footswitches.

Each pedal type (expression, sustain, hihat, footswitch) has its own independent preset. This, combined with the pedal sensing feature, allows you to connect and use different kinds of pedals without needing to edit or reprogram any settings.

Hihat Controllers and Expression Pedals

When an expression pedal or hihat controller is plugged into the back of the device, the pedal is automatically setup to function as a hihat controller.

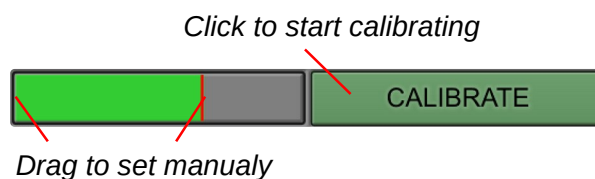


In this mode, the device sends out CC messages corresponding to the position of the pedal, as well as velocity sensitive 'Pedal' notes based on how hard you press the pedal. You'll also be able to trigger 'Splash' notes if you release the pedal quickly enough.

Calibrating Your Pedal

One of the first things you'll want to do is to calibrate your pedal. The default calibration is for a Roland FD-8, so any other hihat controller will likely need to be calibrated to work optimally. By clicking the Calibrate control, the calibrate indicator will flash and an indicator representing your pedal's response range appears. Take the pedal through its full range of a motion, pressing it all the way up and down a few times. After you are done, click the calibrate switch again and the settings will be stored in the device.

While calibrating, the automatic calibration can be overridden by dragging either side of the green range indicator.



Adjusting the Responsiveness of your Pedal

The three stacked control in the brown panel are used to fine tune the responsiveness of your pedal.

Gain

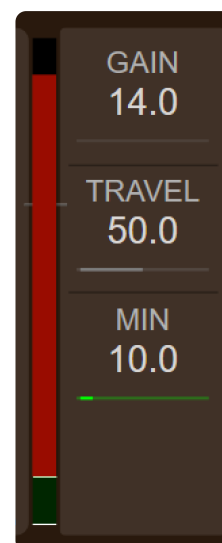
This Gain control is actually a measurement of time describing how fast a pedal changes values. Generally speaking, the faster your pedal can move, the lower you will need to set the Gain Control. Hihat controllers typically work best with a gain set to 14-20 ms. Expression type pedals work best with times closer to 65 ms.

Travel

The travel control determines the point along a pedal's travel where a note is generated. For hihat controllers, higher travel settings work best. For expression pedals, you'll likely need to turn this value down a bit closer to 60.

Min

If you find your pedal is triggering on low velocity notes when you don't want it to, try increasing the Min to filter them out.



Adjust the MIDI settings for your Pedal

Channel

This is the MIDI Channel the Control Change values and Notes will be transmitted on. The default channel for drums is 10.

Control Change

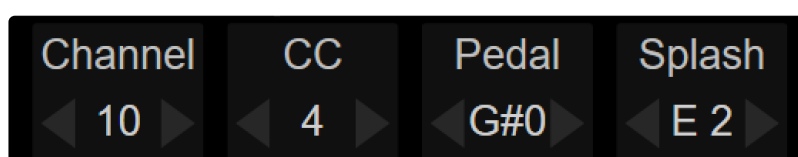
This is the Control Change value that the pedal outputs as it moves. Most, if not all, drum modules expect hihat pedal position to be transmitted as CC 4 so you probably shouldn't change this.

Pedal Note

This is the note value that is output when the pedal is pressed down quickly.

Splash Note

If you are using a hihat controller, you will also be able to trigger a second note by releasing the pedal very quickly after triggering a pedal note.



Setting up your Hihat for use in Virtual Instruments

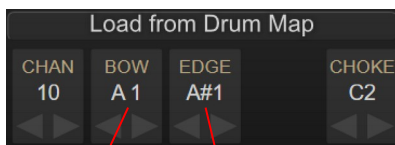
Getting your hihat working in a software drum sampler involves:

- Assigning Tip and Shank notes for you Hihat Pad/Cymbal
- Assigning Pedal and Splash notes for your hihat controller
- Adjusting settings in your software drum sampler

For hihats, *eDRUMin* employs a system where only 1-3 MIDI notes (tip / edge / bell) are used in combination with a MIDI CC message corresponding to the position of the pedal. The actual sound that is triggered is handled by the drum sampler.

Most virtual drum samplers (BFD, Superior Drums, Addictive drums, etc.) support this system, but you will likely need to adjust the settings inside the software.

Assigning Tip and Shank Notes for your Hihat Pad/Cymbal



Tip Note

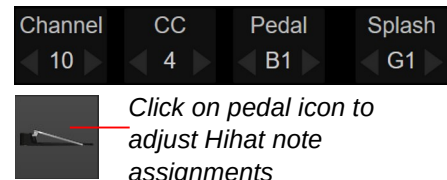
Shank Note

Typically a Piezo / Switch type pad is used for hihats. You'll need to set the 'BOW' and 'EDGE' articulations to match the 'Tip' and 'Shank' articulations in your drum sampler or drum module. It doesn't matter which note values you use, as long as both *eDRUMin* and sampler notes match.

You can use the "Load from Drum Map" feature to load notes that match the default settings in the respective applications.

Assigning Pedal and Splash Notes for your Hihat Controller

You can assign these notes using the [Pedal Editor](#). You'll need to make sure these note values match those in your virtual drum sampler. Also, you'll want to make sure your pedal is sending out CC 4. Look on the following pages for instructions for specific drum samplers.



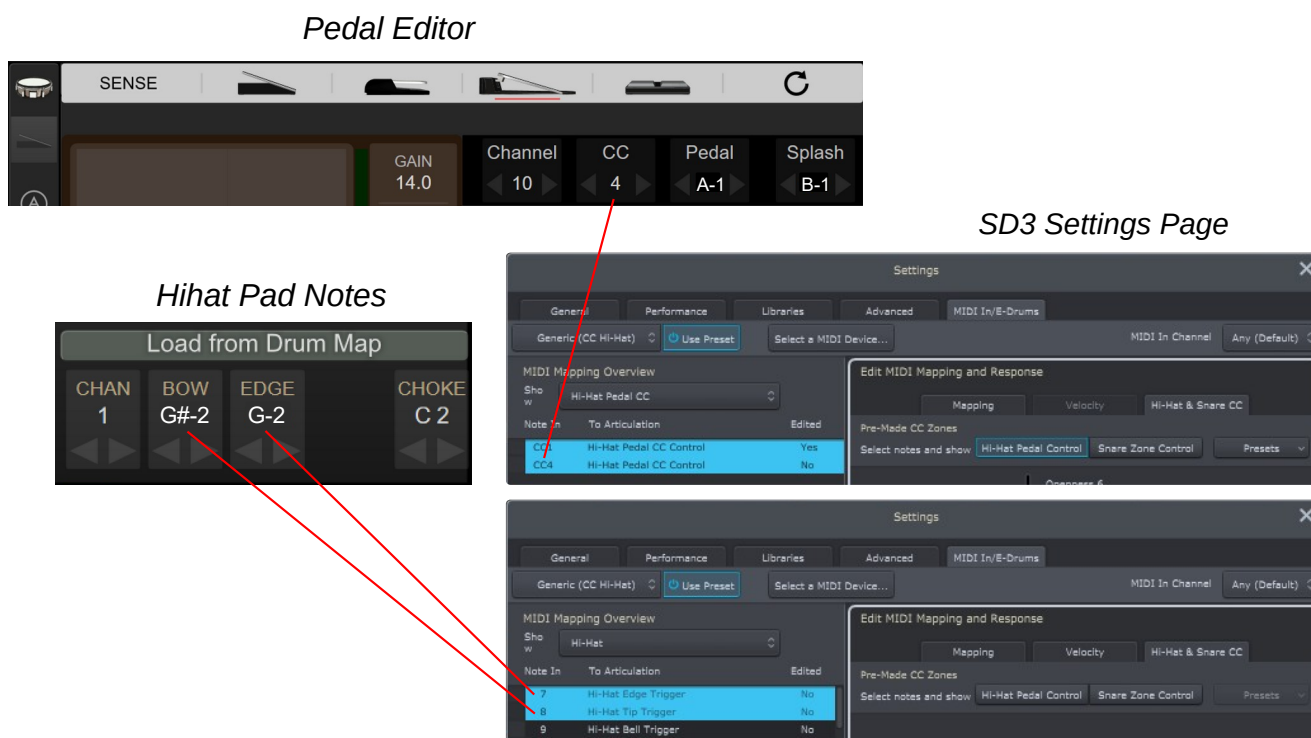
Setting up your Hihat in BFD3

For hihats in BD2/3, you only need to setup the 'Variable Tip', 'Variable Shank', 'Pedal', and 'Splash' articulations. You can use the 'learn' feature inside BFD to makes these assignments, or you can input them manually by selecting the note in the piano key bar on the left of the UI and clicking 'Assign to Selected'.



Setting up your Hihat in Superior Drummer 3

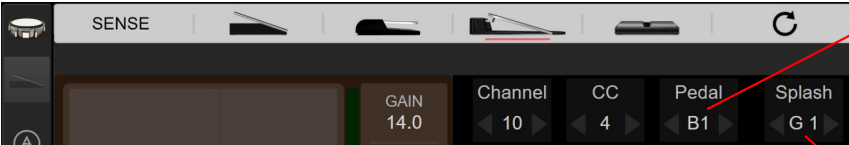
Go into the MIDI In E-Drum tab of the Settings page and select the Generic (CC-Hi-Hat) preset. Superior drummer has articulations called 'Hi-Hat Tip Trigger' and 'Hi-Hat Edge Trigger', and if you are using 3-Zone pad, there's even a 'Hi-Hat Bell Trigger' you can assign.



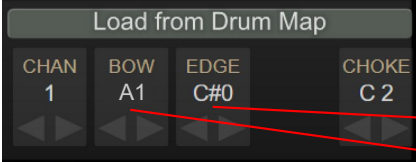
Setting up your Hihat in Addictive Drums

Addictive Drums 2 has CC Hihat Bell, CC Hihat Shaft, and CC Hihat Tip articulations. The CC part of the naming indicates these articulations trigger different levels of openness depending on the hihat pedal CC position. You can either use the learn buttons in Addictive Drums to change the mapping to match the settings stored in the eDRUMin, or more easily, you can set your eDRUMin [drum map](#) to “Addictive Drums” to load the default note assignments for your hihat.


Pedal Editor



Hihat Pad Notes

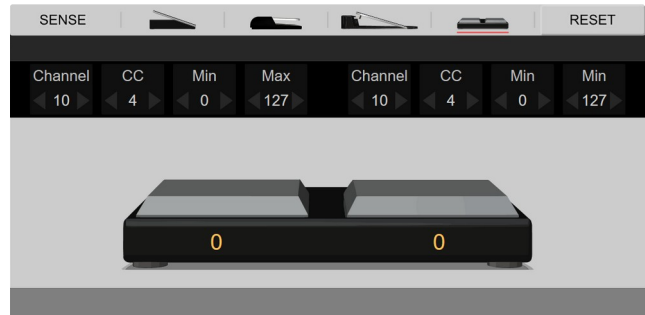


Addictive Drums Map Page



The Addictive Drums Map Page displays a list of articulations with learn buttons. The articulations are organized into sections: HH (Hi-Hat) and CC (Closed/Closed2). The HH section includes HH Foot Close, HH Closed2 Shaft, HH Closed Bell, HH Open A, HH Open B, HH Open C, HH Open D, HH Open Bell, and HH Foot Splash. The CC section includes CC Hihat Bell, CC Hihat Shaft, and CC Hihat Tip. Red lines connect the learn buttons for 'CC Hihat Bell', 'CC Hihat Shaft', and 'CC Hihat Tip' to the corresponding parameters in the Hihat Pad Notes interface.

Sustain Pedals and Footswitches

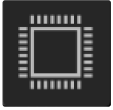


Sustain pedals and footswitches are both configured to send Control Change 4 on MIDI channel 10. This is the standard message that hihat controllers output.

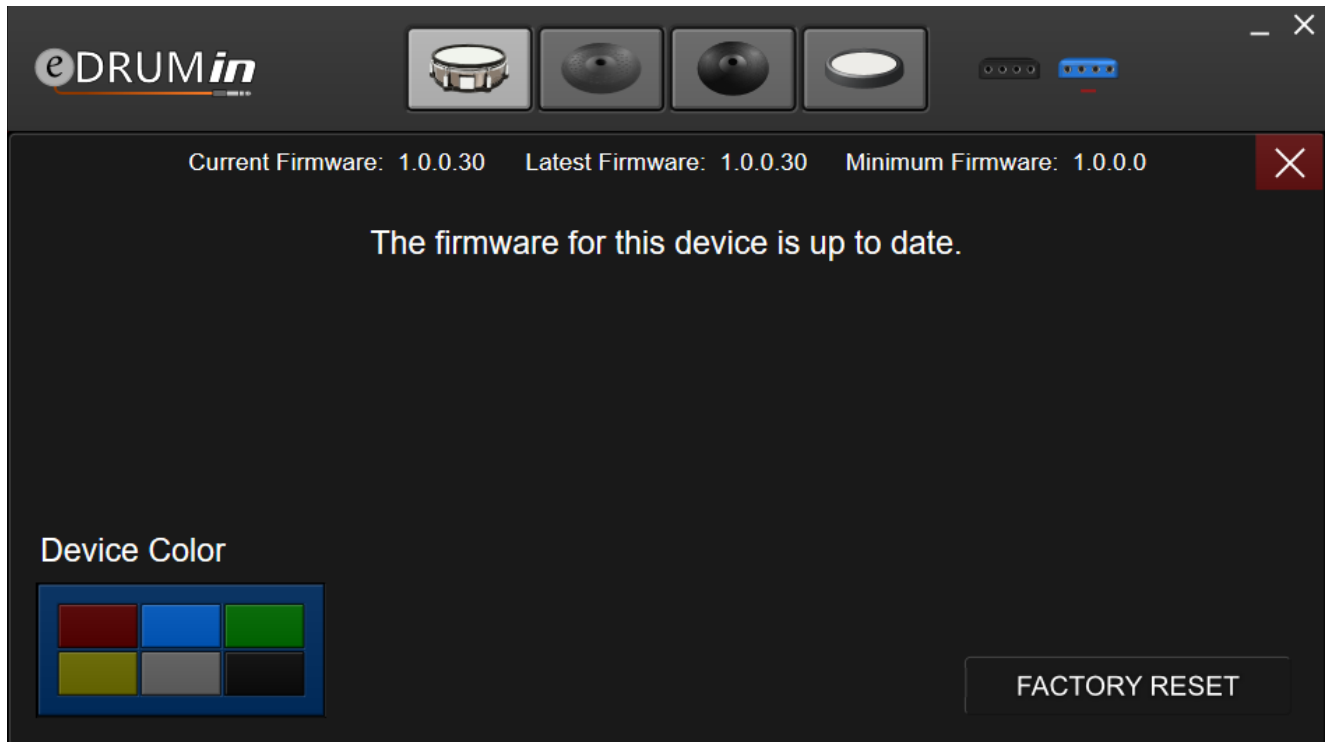
You might want to use the pedal to control some other feature of your drum module or sampler, so 'Toggle' and 'Invert' control are also included.

Updating Firmware

The *eDRUMin* firmware is periodically updated to add new features or fix bugs. The latest firmware for *eDRUMin* is always included with the *eDRUMin* Control application.



The firmware can be updated or changed by clicking on the Firmware Update icon located at the bottom of the sidebar. Please note that the iOS version of the Control Application does not support updating device firmware.



The latest version of the Control Application can be downloaded at www.audiofront.net/downloads.php

Changing Colors

If you have more than one *eDRUMin* of the same color connected to the same computer, you might want to change the 'color' of one of the devices in order to change the name of its MIDI port to prevent your host sequencer and yourself from getting the devices mixed up.

After changing the color, the device will automatically reboot itself. PC users will likely need to restart any applications that are accessing the *eDRUMin*.

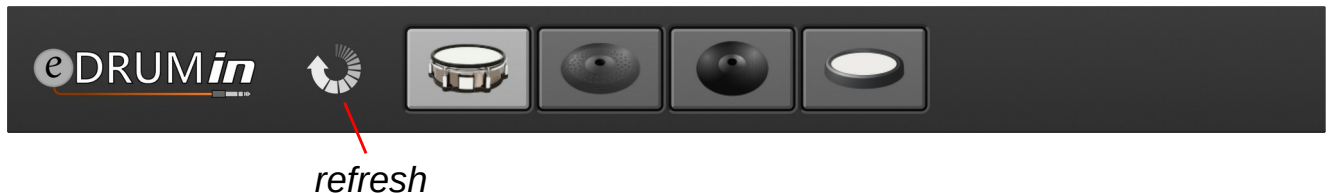
iOS Control Application

The control application is available as an iOS app from the Apple App Store.

Getting Connected

The iOS version of the Control Application can communicate with the *eDRUMin* using the camera connection kit, or Network MIDI,

When the Control Application is opened, any connected to devices will automatically be detected. You can manually re-sync devices by clicking on the refresh icon.



Camera Connection Kit

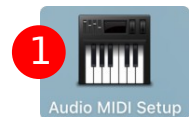
Using the Apple Camera Connection kit, you can connect a *eDRUMin* directly to your iOS device. Using a USB hub is also supported, but if you plan to connect more than 2 *eDRUMin* devices, it will likely need to be a powered hub.



Simply plug in the devices and the Control Application should find them automatically.

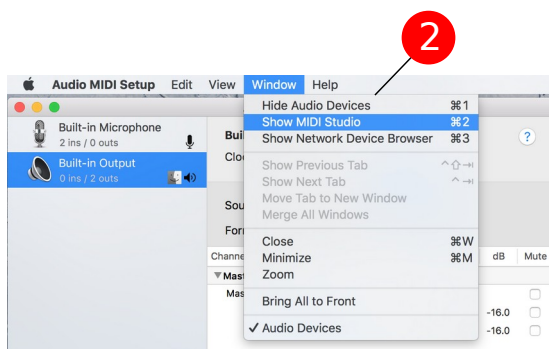
Network MIDI

You can also use the iOS Version of the Control Application to remotely control *eDRUMin* devices connected to a computer on your local network.

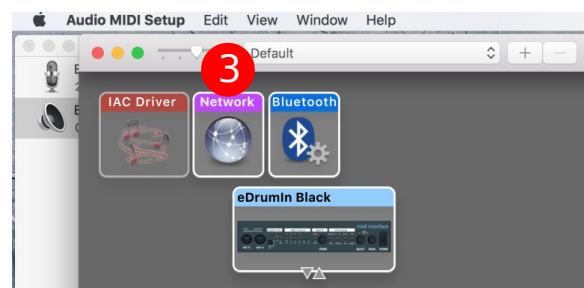


This is done using the Audio MIDI Setup

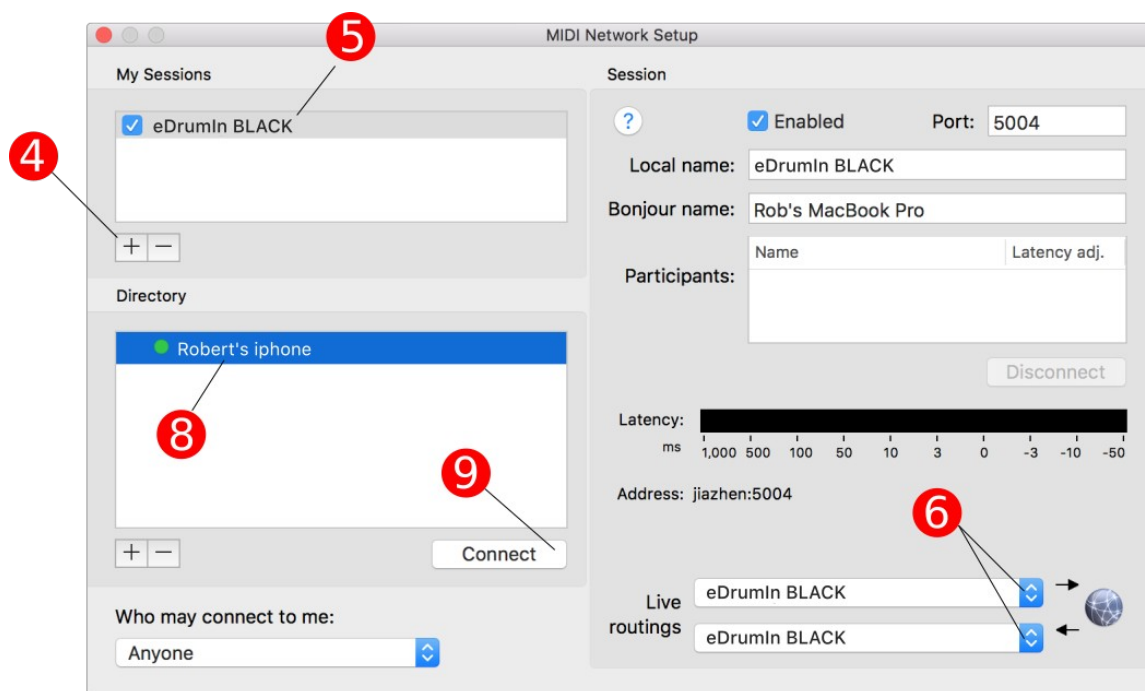
1. Open the Audio MIDI Setup, found in Utilities.



2. From the "Window" menu, select "Show MIDI Window".



3. Double click on the "Network" object.



4. Click on the + sign to create a new session.
5. Give it a meaningful name and check the checkbox to enable it.
6. Setup the Live Routings. Be careful to pick the right MIDI Inputs. Do not chose the 'Network' MIDI connections.
7. Open the Control Application on your iOS device.
8. Select your iPhone or iPad.
9. Click on the Connect button.

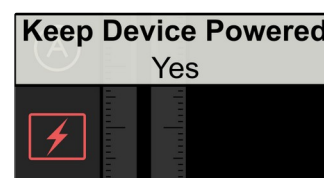
The Control Application should automatically find and connect to your *eDRUMin*. You'll need to create and connect to a different session for each *eDRUMin* you want to connect to over the network.

About Power in iOS

iOS powers down USB devices when it goes to sleep. If you would like to keep your *eDRUMin* powered and running, you can enabled the 'Keep Device Powered' switch from the sidebar.

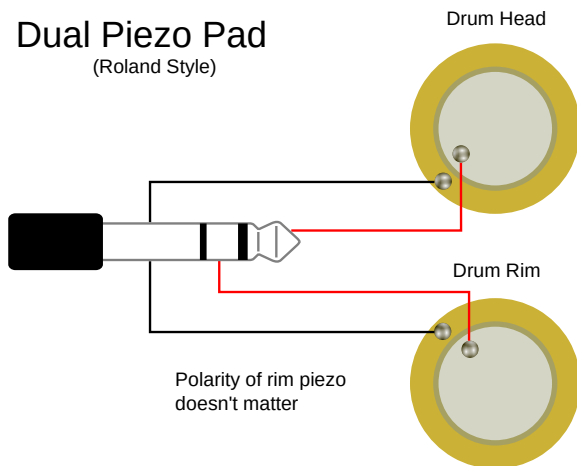
This will keep the iOS device awake and the *eDRUMin* powered as long the *eDRUMin* is actively being used. If no activity is detected for 1 minute, the iOS sleep function is re-enabled and the device will go to sleep as normal.

You can also chose to power the device with an external 9V power adapter while connected to iOS. This keep the device powered and functional even after the iOS device goes to sleep.

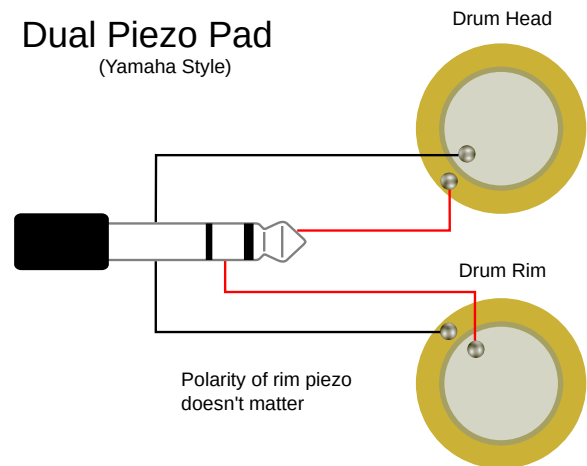


Drum Pad Wiring Diagrams

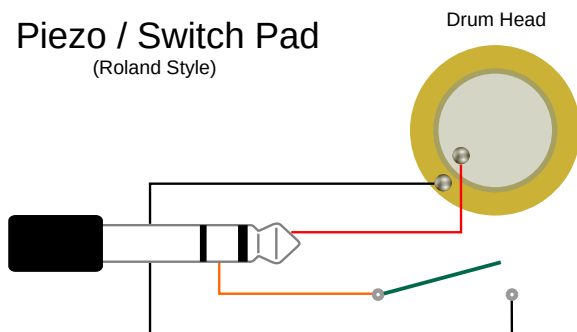
Dual Piezo Pad
(Roland Style)



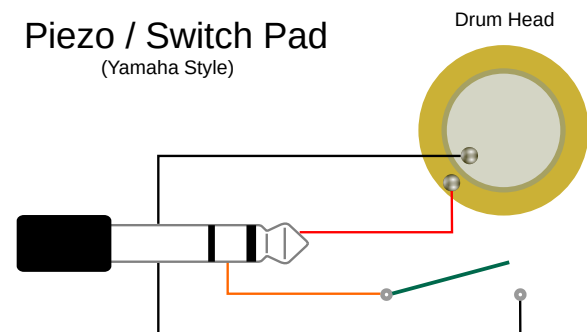
Dual Piezo Pad
(Yamaha Style)



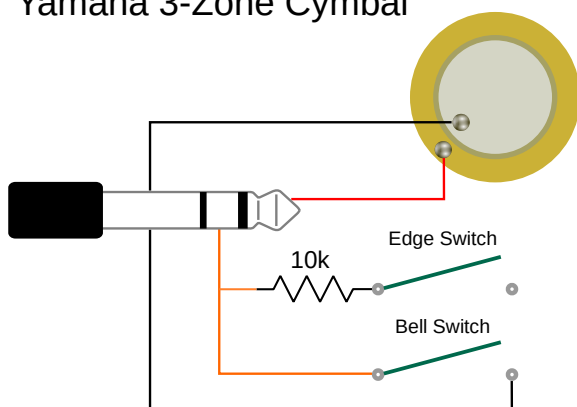
Piezo / Switch Pad
(Roland Style)



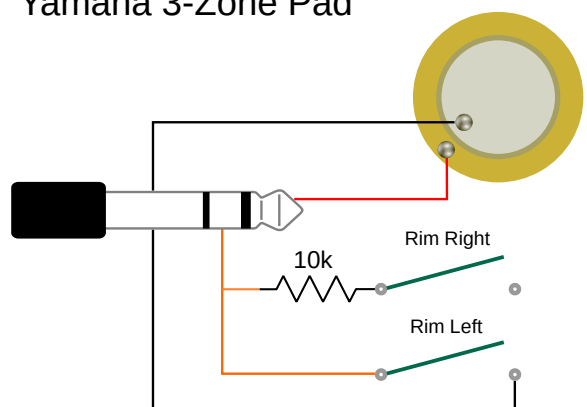
Piezo / Switch Pad
(Yamaha Style)



Yamaha 3-Zone Cymbal

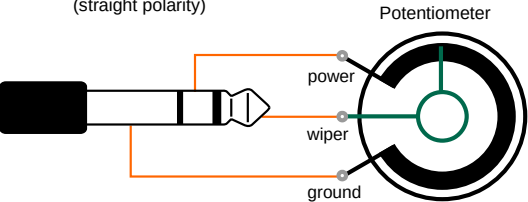


Yamaha 3-Zone Pad

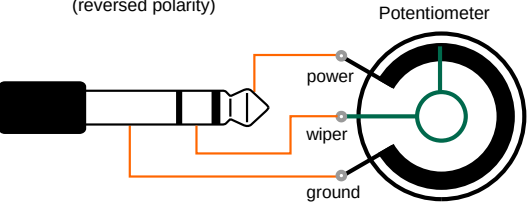


Pedal Input Wiring Diagrams

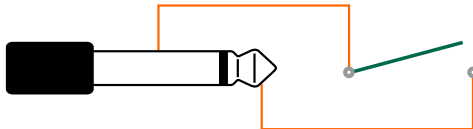
Expression Pedal
(straight polarity)



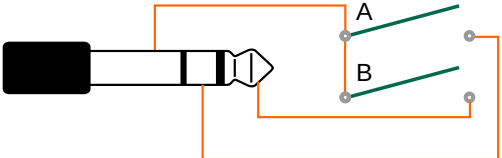
Expression Pedal
(reversed polarity)



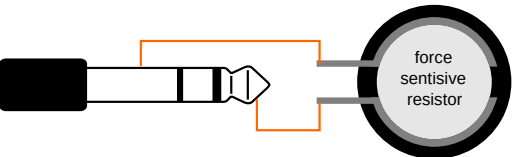
Sustain Pedal



Dual Footswitch



Hihat Controller



MIDI Implementation

MIDI Expression MIDI Implementation

Function	Transmit	Respond	Passthru	Remarks
Channel	1 - 16	1 - 16	1 - 16	Learn Note
Notes	0 - 127	0 - 127	0 - 127	Learn Note
Velocity	1 - 127	X	0 - 127	
Aftertouch	X	X	O	
PitchBend	O	X	O	14 bit
Control Change	0 - 127	0 - 127	0 - 127	Parameter Feedback
Program Change	0 - 127	X	0 - 127	
System Exclusive	O	O	O	Control, Display
System Real-Time	X	X	O	
System Common	X	X	O	
RPN / NRPN	X	X	O	

X - Not Used

O - Used

Updated October 4th 2016