CANVAS
CLOCK

Thank you for choosing the Canvas Clock to get all your time based effects in sync! With MIDI Input/Output, 4 fully configurable ¼" Jacks, metronome output, sync input/output, and USB-C connectivity, you are truly able to synchronize almost any device that is associated with tempo, time, and BPM. Be sure to visit walrusaudio.io to build your set and song lists online then save to the Canvas Clock!

Got questions or need a repair?
Email help@walrusaudio.com to talk with a real live human about your Walrus gear!

This product comes with a limited lifetime warranty.
Click Here for more info.

CONTROL NAVIGATION

HOME SCREEN

PRESET/MENU ENCODER

- Scroll to move between song presets in the current setlist. If no setlist is selected, this encoder scrolls through all songs in the master song list.
- Press to enter the main menu.

TEMPO/SAVE ENCODER

- Scroll to edit the BPM of the current song. The Canvas Clock automatically saves the new BPM to the current song.
- Press to toggle +0.5 BPM on/off to add half a BPM to the current song.

MENU

PRESET/MENU ENCODER

- Scroll to navigate up and down in the menu system.
- Press to move forward in the menu and to confirm selections.

TEMPO/SAVE ENCODER

- Scroll to adjust selected settings if applicable.
- Press to move backward in the menu system.

MENU - SONGS

Songs on the Canvas Clock can be thought of as “presets”. Each song can be custom-named and include a BPM, trigger a MIDI Macro, and engage the metronome with a defined meter. We will break down each of the song menu items below.

NAME
Use this to edit the name of the current song selected. The available characters are: Blank, A-Z, a-z, 1-9, and a selection of special characters. The maximum name length is 30 characters. To edit the song name, use the encoders to select a song to rename and enter the name menu option. From there, use the preset encoder to scroll to the character you wish to edit and use the tempo encoder to scroll to the desired character. Continue this process until the desired name is shown. Hint: pressing the tempo encoder will automatically replace the selected character with a space.

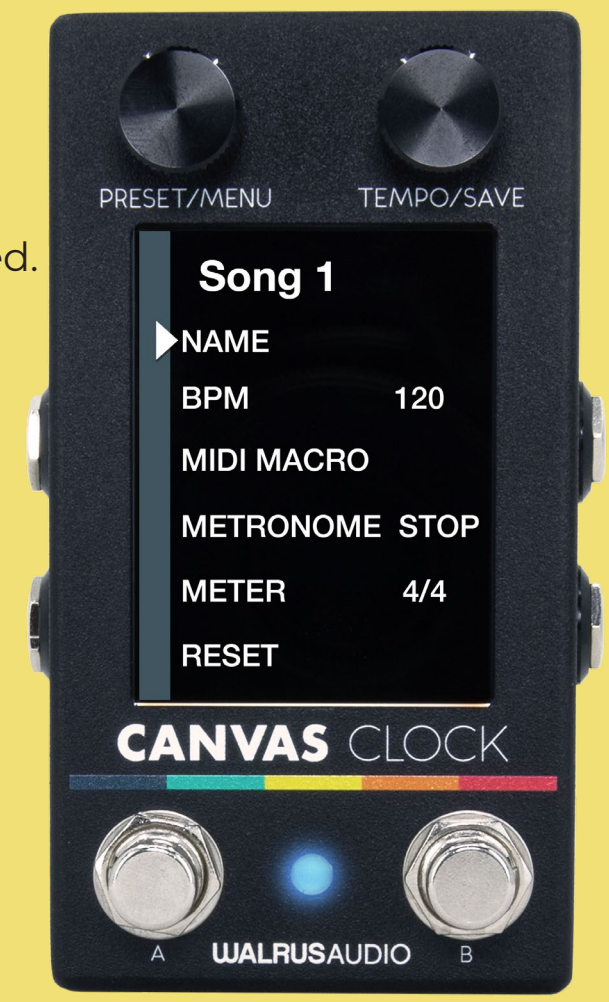
BPM
Displays the BPM that is associated and recalled with the selected song. BPMs can range from 20-400BPM in 0.5 increments. This value will automatically update if the BPM is changed while on the home screen.

MIDI MACRO
Choose which, if any, MIDI Macro is triggered when a song is recalled. *See MIDI Macro in Global Settings for more information.*

METRONOME
Choose if the metronome output is enabled or disabled for the current song when recalled. *See Metronome in Global Settings for more information.*

METER
Assign the time signature for the metronome output when the current song is recalled. Options include: 2/4, 3/4, 4/4, and 6/8.

RESET
Select this option to return the current song to its default settings. Default settings are: 80BPM, No MIDI Macro, Metronome Off, Name = Song + Index Number (“Song 1”).



MENU - SETLISTS

Setlists on the Canvas Clock are a collection of Songs that the user can curate and arrange in any order or combination that they would like in order to have the perfect timing for the gig, without the need to think about tapping in new tempos, changing presets, etc. Each setlist can be tuned for the specific needs of the band, event, instrument, etc. We will break down the menu functions for Setlists below.

By default, there will not be a setlist active on the Canvas Clock. To enable a setlist, enter the setlist menu then rotate the preset/menu encoder to scroll to the desired setlist. Once on the desired setlist, rotate the tempo/save encoder to activate or disable the setlist noted by a star icon. Press the preset/menu encoder to enter into a setlist and edit all aspects of the available parameters, details below.

NAME
Use this to change the name of the selected setlist. The available characters = Blank, A-Z, a-z, and 1-9, and a selection of special characters. Maximum length = 30 characters.

SONG LIST
Opens a list of all of the songs available on the pedal, 1-128. Use the preset/menu encoder to move to the songs you would like to include in the setlist, rotate the tempo/save encoder to toggle if the song is active or inactive in the current setlist. Star = Active, blank = Inactive. Note the songs will appear in the setlist in the order in which they are added.

SONG ORDER
Opens a list of all of the songs in the current setlist. Users can scroll to specific songs -> press the preset/menu button to select a song -> scroll to reorder the song -> press the preset/menu button again to confirm reorder.

RESET
Returns setlist to default name, songs, and song order. *Setlist + Index Number ("Setlist 1), 0 Songs active and sorted in numerical order.*

MENU - MIDI MACRO

MIDI Macros allow users to create one or a series of MIDI CC or PC messages that get sent out of the Canvas Clock when a specific song is recalled. With these menu options, or the web app, you can customize MIDI macros for any combination of MIDI enabled pedals or devices.

When you enter the Macro menu, you will have the option to edit messages within a Macro and add a custom name to the MIDI macro you have selected.

MESSAGES
There are 128 MIDI Macros that you can customize with 15 individual MIDI messages per Macro. To adjust, enter the MIDI macro menu and select the macro you would like to modify, then you can edit the specific MIDI messages. MIDI messages can be set to inactive, CC messages or PC messages.

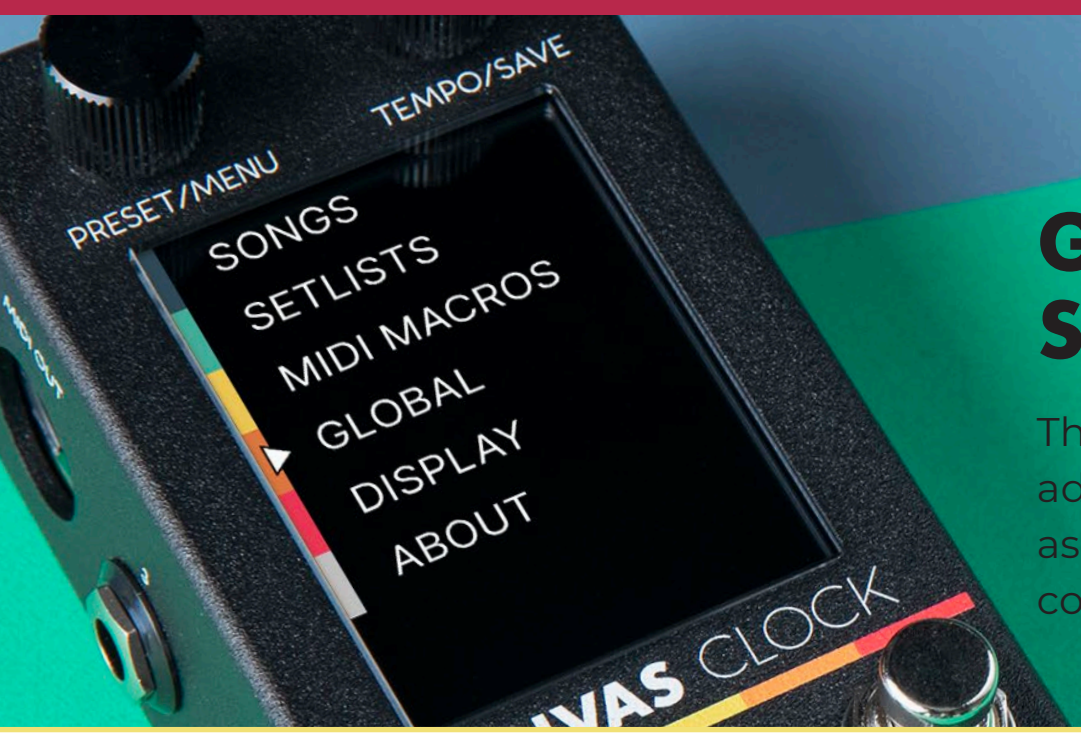
TYPE
Determine if the MIDI message is a PC message, CC message, or inactive.

NUMBER
For PC messages, assign the number associated with the preset you would like to recall (0-127). For CC messages, assign the number associated with the parameter you would like to control.

VALUE
For CC messages only, assign the CC value (0-127) corresponding to the position of the parameter you would like to control with the MIDI message.

CHANNEL
Determine which MIDI channel this specific message is sent out of the Canvas Clock (1-16).

NAME
Use this to change the name of the selected Macro. The available characters = Blank, A-Z, a-z, and 1-9, and a selection of special characters. Maximum length = 30 characters.



GLOBAL SETTINGS

The Global settings include the options to adjust the functionality of the Jacks, Footswitch assignments, Metronome sound settings, sync controls, and global MIDI options.

JACKS

A major part of the Canvas Clock is the multiple configurations, customizations, and functions that the user can assign to the ¼” jacks on the sides of the pedal. Each ¼” jack can be setup for a specific function. We will break down the specific functions below, the requirements to interact with external pedals, and some things to note.

TYPE

Allows users to quickly select the job of the selected 1/4” jack. Settings for specific enabled functions are determined below. Use the Preset encoder to select the Type menu inside a specific Jack. Scroll the Tempo encoder to select the desired function for the selected Jack.

There are 4 types of functions that you can assign to any of the ¼” jacks. Tempo Out, CV Out, Expression Input, and Switch Input.

TEMPO OUTPUT

With Tempo Out, the user can connect to any pedals or devices that accept analog external tap inputs or “clock” signals, like Synths, Pedals, etc. This does not replace the MIDI Clock, this allows the Canavs Clock to simulate the physical tapping of tap tempo switches. It works with standard TS patch cables, with some pedals requiring TRS cables.

DIVISION

Select the timing of the tempo being sent from the jack based on the current song’s BPM - ¼, .¼, ¼ triplet, ⅛, .⅛, ⅛t, 1/16th.

POLARITY

Determine which connections are made when a Tap Event is sent.

- Open = disconnects the tip by default and then momentarily connects it to the sleeve when a tap event occurs.
- Closed = Connects the tip by default and then momentarily disconnects it from the sleeve when a tap event occurs.
- TRS = Connects the tip and sleeve by default and then momentarily disconnects the tip and sleeve while connecting the tip to the ring when a tap event occurs.
- DIG = Connects the tip and ring by default and then momentarily connects all three tip, ring, and sleeve together when a tap event occurs.

TAP LENGTH

Determine the amount of time that the tap signal is pulled low/high, depending on polarity. This is a range of 40ms-200ms. This is important because some pedals recognize specific timings as a press vs a hold, etc. So, being able to adjust this and it remain the same regardless of BPM is vital. For example, the ARP-87 may need to have different timing than a Monumental or Julianna, etc. 100ms is a good starting point.

NUM PULSES

Determine the number of tap events sent each time the BPM is changed. From 2-20, or inf (infinite). Eight pulses is a good starting point.

JACKS CONTINUED

CV OUTPUT
With Control Voltage (CV) output selected, you can use a ¼" output as a CV output to control any device that accepts CV. This can be 3.3V or 5V and is in reference to the BPM. *For example, you could send a CV output to the expression input on the Monument in order to change the "Depth" of the tremolo based on how fast/slow the BPM is.*

START
Determine the reference point in BPM for the start range of the CV output.

END
Determine the reference point in BPM for the end range of the CV output.

OUTPUT
Determine if the CV output is assigned to the Tip, Ring, or both Tip and Ring of the associated jack. Sending CV on the tip is most common.

VOLT START
Assign a reference voltage associated with the Start BPM. 0-5V

VOLT END
Assign a reference voltage associated with the End BPM. 0-5V

EXPRESSION IN

CONTROL
Determine the parameter manipulated by the expression pedal input by assigning it to any MIDI CC number (0-127).

OUT CHANNEL
Set the MIDI channel on which to send the expression control messages.

HEEL DOWN
Set the MIDI CC value to send when the expression control is in the heel-down position.

TOE DOWN
Set the MIDI CC value to send when the expression control is in the toe-down position.

JACKS CONTINUED

SWITCH INPUT

Each jack can be configured to receive input from two external footswitch controls. The switches must connect to the tip (left) and ring (right) of the associated 1/4” jack. These can be assigned to the same functions available for the onboard footswitches.

L PRESS

Assign the action triggered when a left switch press is detected.

- None
- Next Song
- Prev Song
- Next Setlist
- Prev Setlist
- MET S/S (start/stop)
- Tap Tempo

L HOLD

Assignment the action triggered when a left switch hold is detected.

- None
- Next Song
- Prev Song
- Next Setlist
- Prev Setlist
- MET S/S (start/stop)

R PRESS

Assign the action triggered when a right switch press is detected. *Same options as L Press.*

R HOLD

Assignment the action triggered when a right switch hold is detected. *Same options as L Hold.*

FOOTSWITCHES

Use the onboard footswitches to control different functions of the Canvas Clock. These can be assigned to several functions available on the pedal.

A PRESS

Assign the action triggered when a left press is detected.

- None
- Next Song
- Prev Song
- Next Setlist
- Prev Setlist
- MET S/S (start/stop)
- Tap Tempo

A HOLD

Assign the action triggered when a left switch hold is detected.

- None
- Next Song
- Prev Song
- Next Setlist
- Prev Setlist
- MET S/S

B PRESS

Assign the action triggered when a right switch press is detected. *Same as “A Press.”*

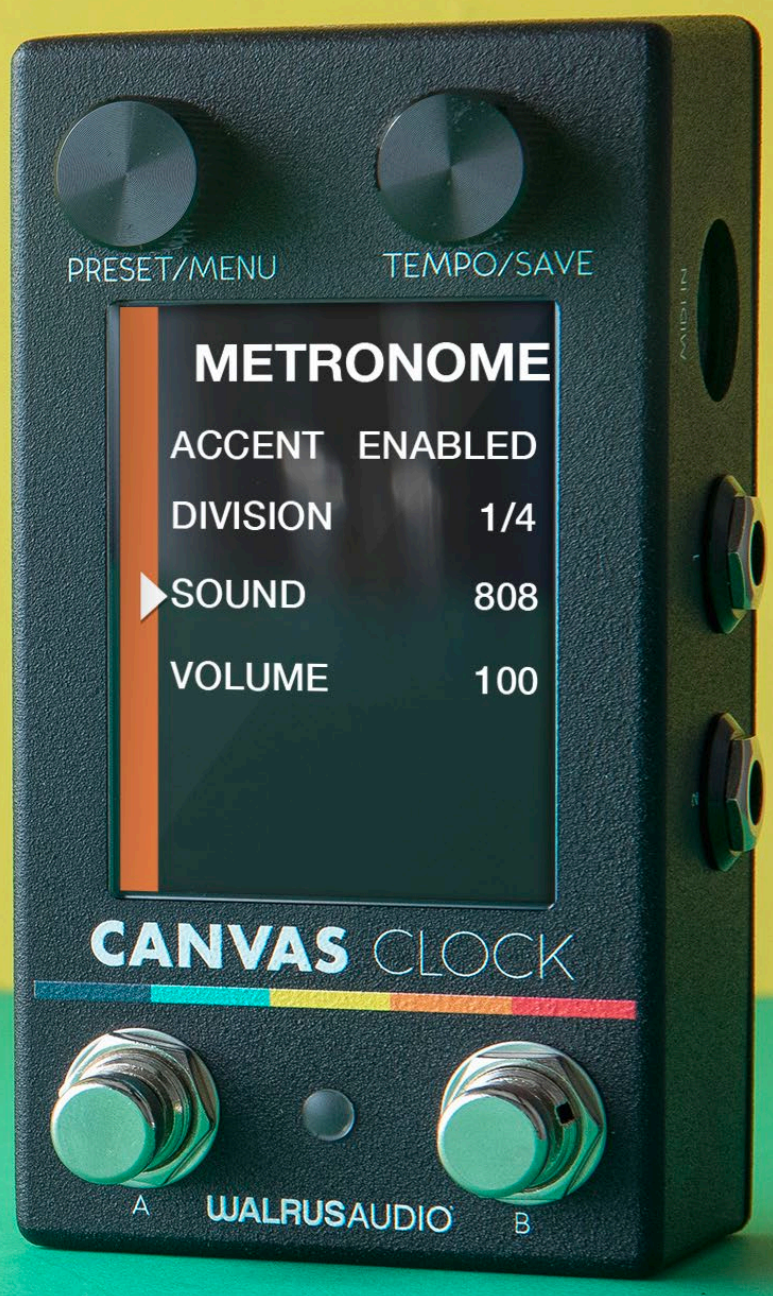
B HOLD

Assign the action triggered when a right switch hold is detected. Same as “*A Hold*.”

RESET

Press to rest footswitch functions to default.

METRONOME



ACCENT
Choose whether to enable or disable the accent note for the metronome output.

DIVISION
Determine the subdivision of the metronome output based on the current BPM.

- ¼
- .¼
- ¼t
- ⅛
- .⅛
- ⅛t
- 1⁄16

SOUND
Choose between a selection of sounds for the metronome.

- Click
- 808
- Clap
- TRI

VOLUME
Adjust the output volume of the metronome.
1 = minimum volume, 100 = maximum volume.

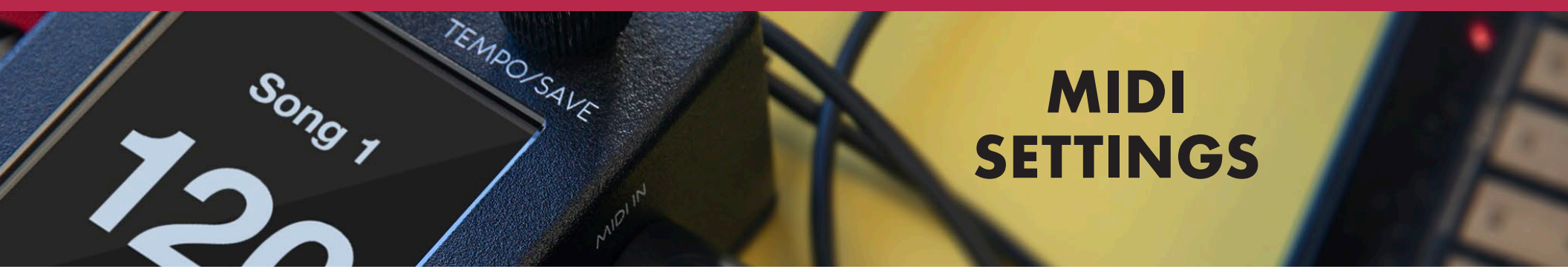
SYNC

Use a 1/8th inch TRS jack to send a “sync” (clock) signal to an external device, like a Roland Volca Synth, Eurorack gear, and many other devices. Some external devices send/receive clock signals that are “double” the standard timing signals, so we included the option to send/receive a 1x or 2x signal, depending on the specific device’s needs.

I/O
Determine if the sync jack is configured as an input, which will determine the BPM of an incoming Clock, or as an output to send a clock signal to sync external devices (synth, etc.)

DIVISION
Determine the subdivision of the current BPM to send out.

CLOCK FREQUENCY
Determine if the sync input or output translates clock signals sent at 1x or 2x values. Some devices send/receive 2x clock signals - this allows for the sync to work based on specific device requirements.



MIDI SETTINGS

This menu allows you to adjust the global MIDI functionality of the Canvas Clock. These settings are important for your pedals to “talk” to each other properly. These are “rig” dependent and could need to be adjusted based on your setup.

SEND CLK
Choose whether to generate and send MIDI CLOCK or not (ON/OFF).

THRU
Choose whether to send incoming MIDI messages to the MIDI output jack, including MIDI clock, that the Clock receives (ON/OFF).

CHANNEL IN
Choose the MIDI channel assigned to the Canvas Clock itself (1-16). This is the channel on which the Clock will listen for incoming MIDI PC messages. PC messages (0-127) can be sent to the Clock to recall Songs based on the master song index. PC 0 recalls Song 1, PC 1 recalls Song 2, etc...

THRESHOLD
Choose the threshold at which to listen to incoming MIDI clock. For example, if set to 3, the Clock will only update when it detects a change in BPM of at least 3BPM. This can help avoid unwanted changes of BPM from less stable incoming MIDI clock signals.

RECEIVE CLK
Choose whether to receive MIDI clock or not (ON/OFF). If set to ON, the Clock will update its current BPM anytime it detects a change in incoming MIDI clock.

CLK THRU
Choose if the incoming MIDI clock is blocked from passing through to the MIDI outputs. Clock Thru and Send Clock cannot be active at the same time. *The pedal will automatically disable the option that is not in use when a change is made.*

CLK PULSES
Choose the number of pulses, or “beats”, sent any time the BPM is changed (5-20, Infinite). This is helpful to allow you to send enough MIDI clock beats for your pedals to lock on to the new tempo, while still allowing you to manually override a pedal’s tempo with its onboard tap switch later in a song if desired.

DISPLAY

BRIGHTNESS
Change the display brightness from (1-10).

TEMPO LED PULSE
Determine the amount of LED pulses that happen when the BPM is changed (2-20, INF).

ABOUT

Display the current firmware version loaded onto the pedal.

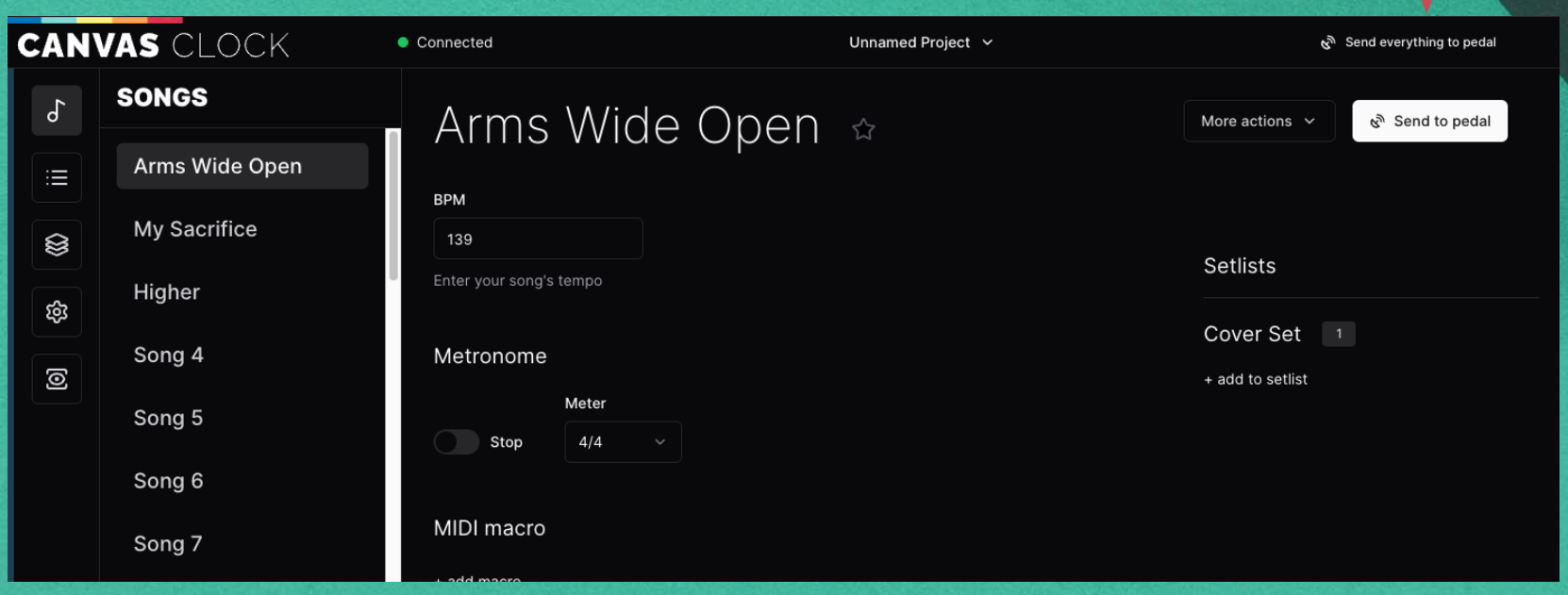
WALRUSAUDIO.IO

Walrusaudio.io is a simple interface to update your pedal's firmware.
canvasclock.app is a web app allowing you to customize songs, build setlists, MIDI macros and more! Always navigate to the website you would like to use fist, then connect the pedal with USB-C.

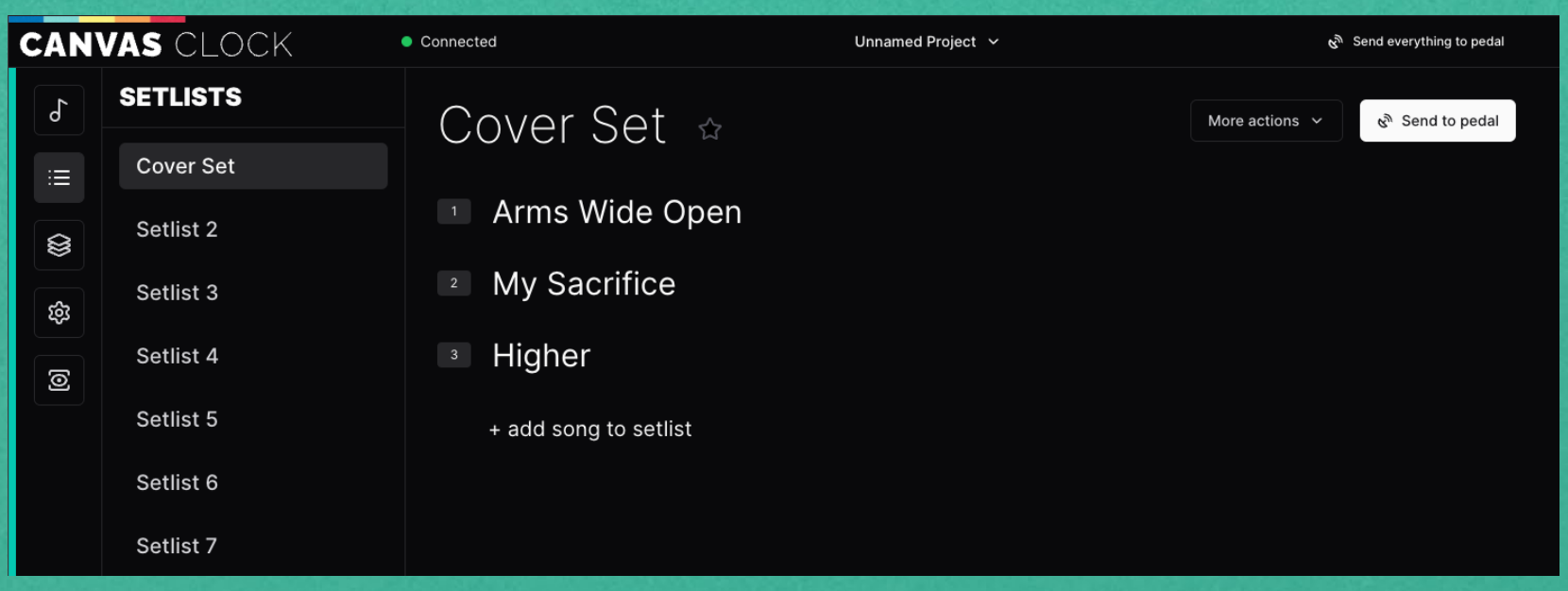
To use the web editor, first open a CHROME web browser, navigate to canvasclock.app, then connect your pedal with a USB-C cable.

The Canvas Clock editor has five easy to use, main menu options: SONGS, SETLISTS, MIDI MACROS, GLOBAL, DISPLAY.

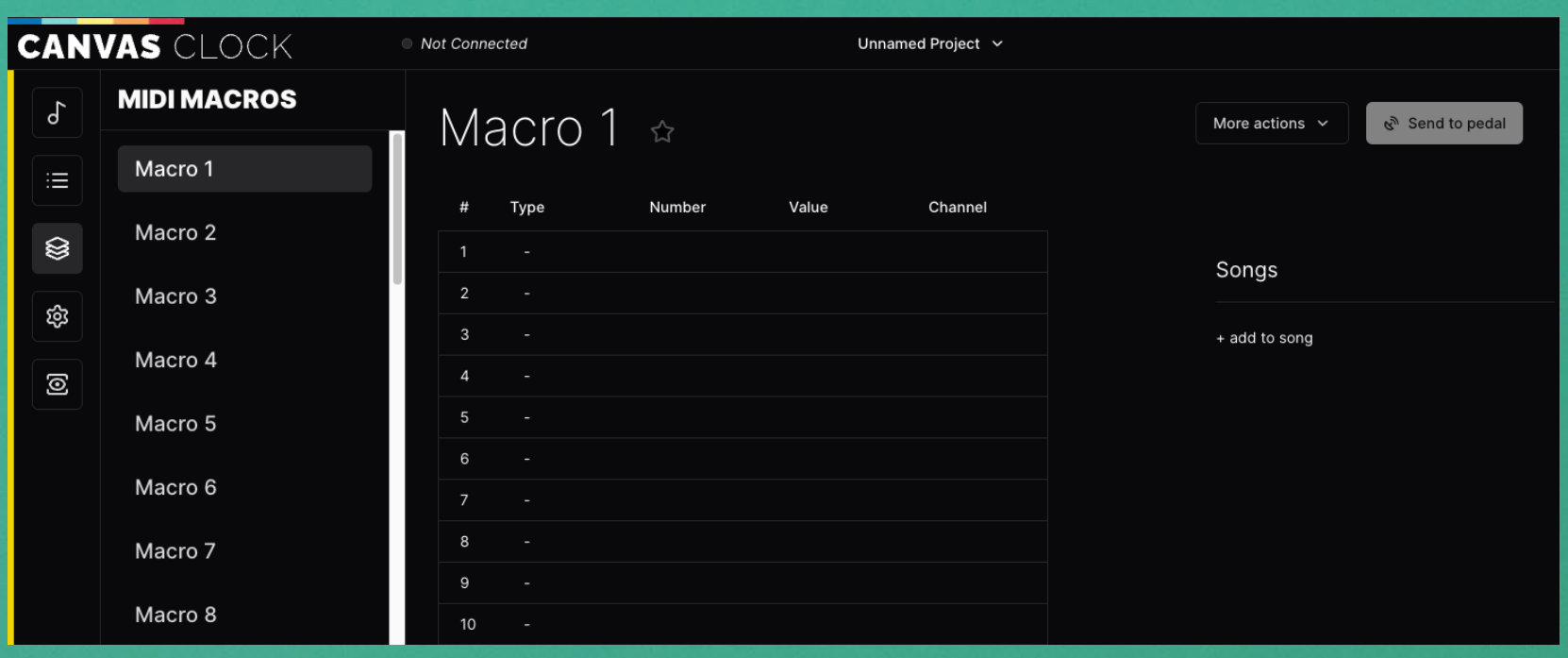
After making any changes, click the "Send to Pedal" button to send one change at a time to the pedal or click "Send Everything to Pedal" to send all changes you've made in a session to the pedal.



SONGS MENU - Use this menu to set up your song list. Name the song title, set BPM, add MIDI macro commands, and add to set lists.

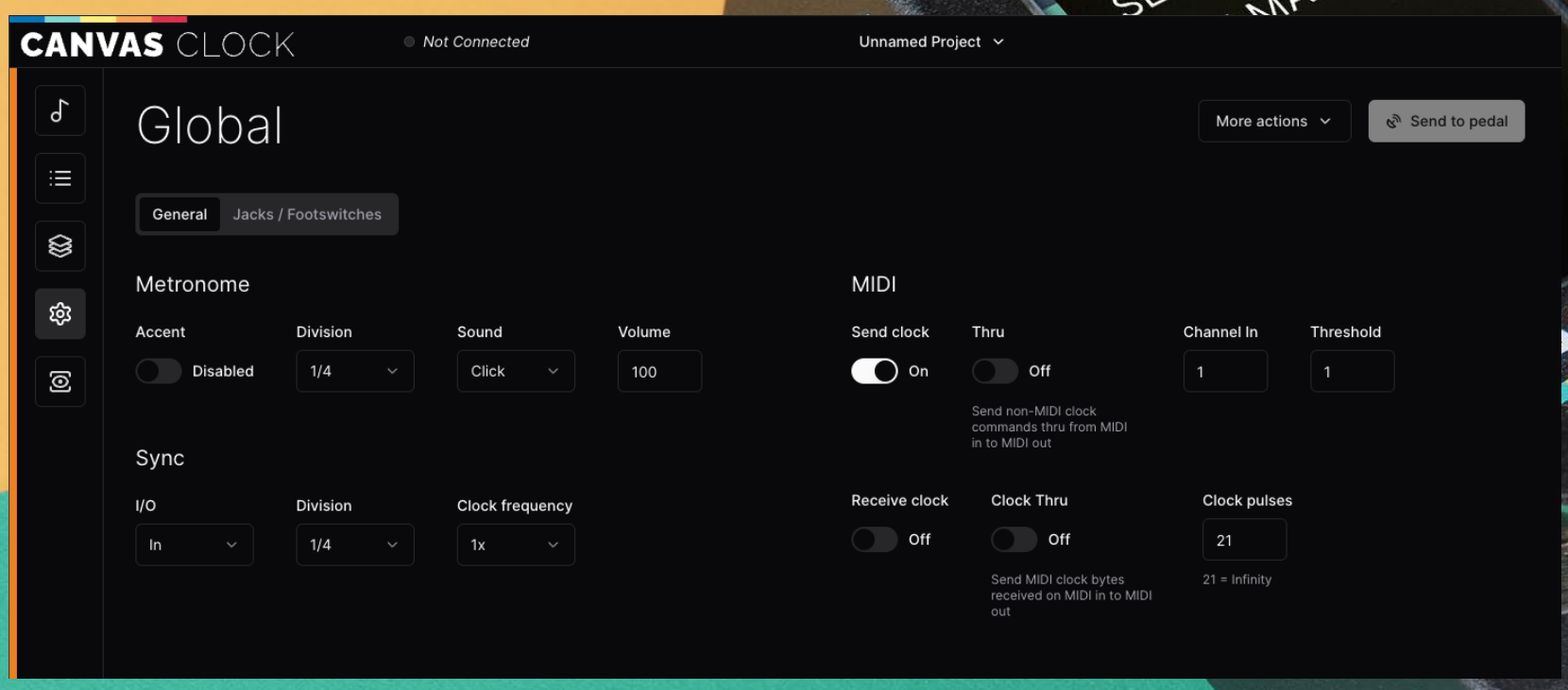


SETLISTS MENU - Use this menu to name your Setlists and add songs to a set. Click the "More actions button to remove, clear or reset all songs.

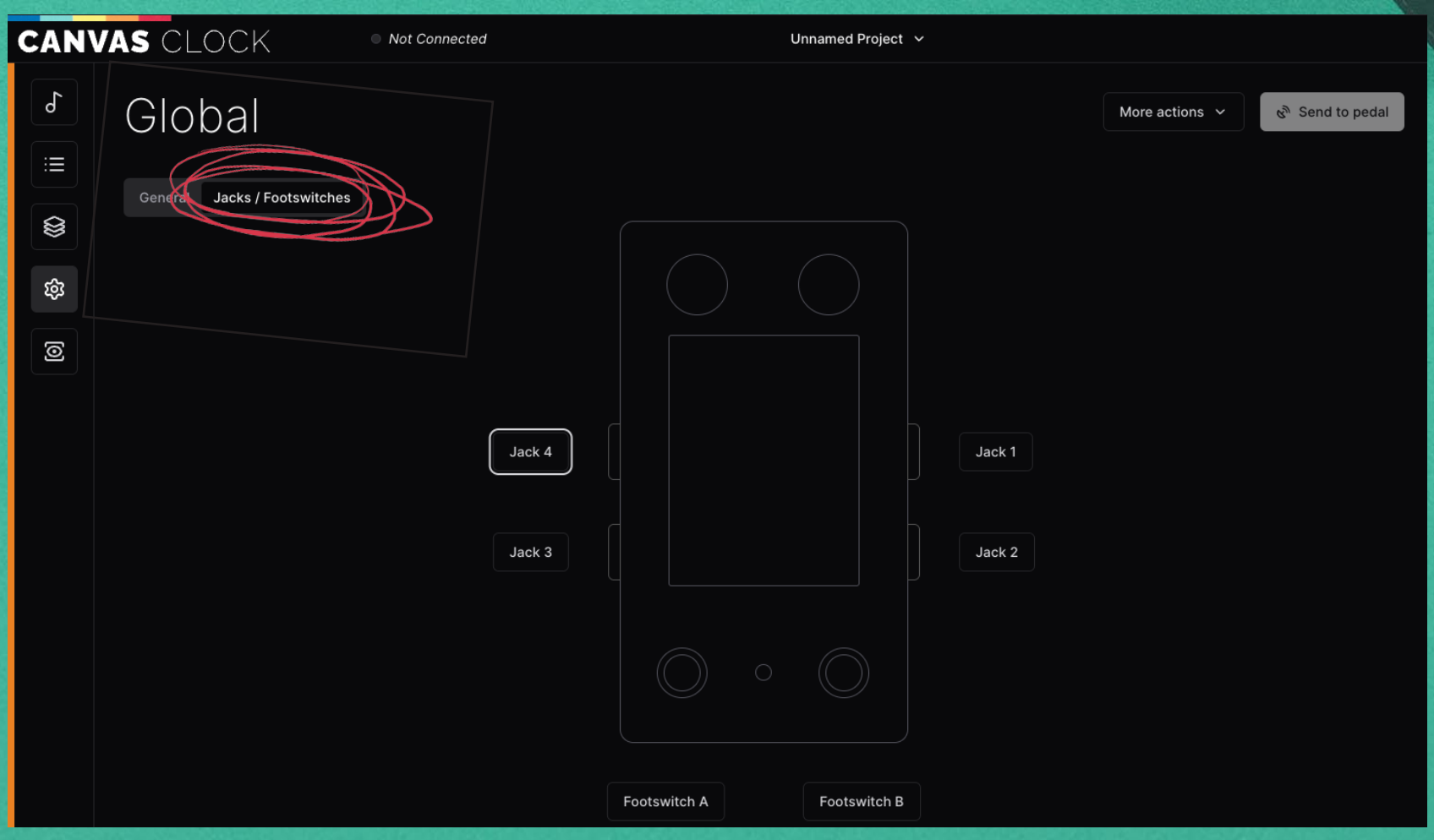


MACROS MENU - Use this menu to set up MIDI macro commands. Want a pedal to turn off during a certain song? This is the place to do that. Assign specific CC or PC values and click "+ add to song" to assign the macro to one or more songs.

WALRUSAUDIO.IO



GLOBAL MENU - Use this menu to edit all of Clock's global settings based on how your rig is configured and configured.



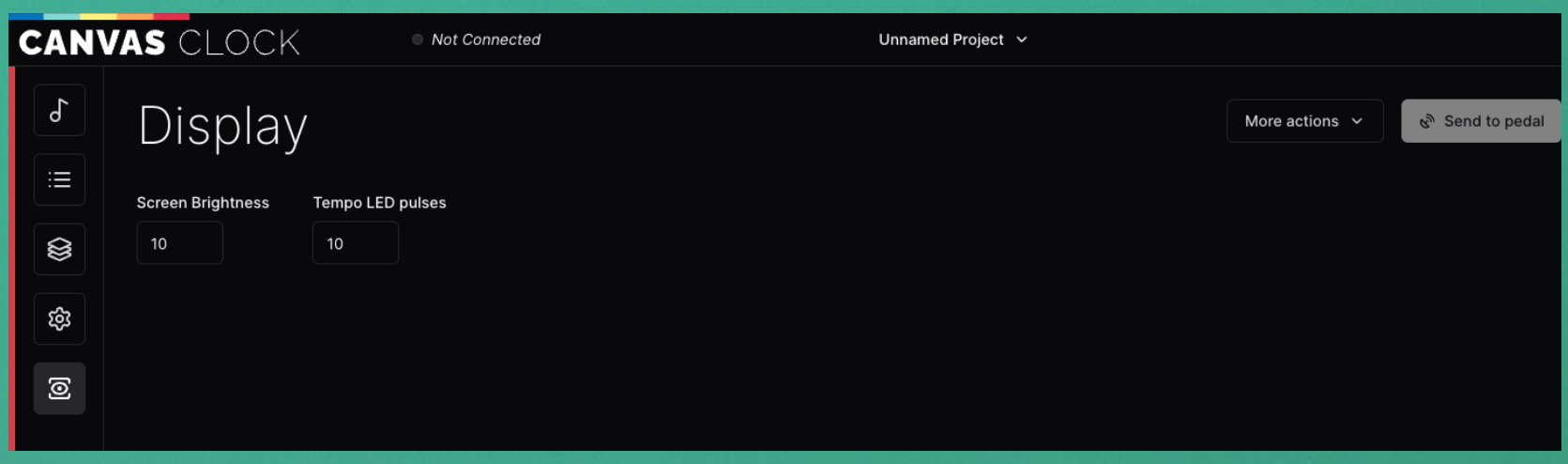
JACKS/FOOTSWITCHES - This is where you get to tell the 1/4" jacks and footswitches what to do.

Jacks can be assigned the following settings:

- Tempo Out
- CV Out
- Exp In
- Switch In

FOOTSWITCHES can be assigned press or hold the following settings:

- None
- Next Song
- Prev Song
- Next Setlist
- Prev Setlist
- Metronome Start/Stop
- Tap Tempo



DISPLAY MENU - Use this menu to change the screen brightness of the Rehearsal and Tempo LED pulses

TECHNICAL INFO

POWER:

- 9v 300mA Minimum
- Center Negative, 2.1mm center pin, 5.5mm barrel OR powered via USB C.

Max CV voltage output - 5V.

COMPUTER CONNECTIVITY:

Use the Clock web app* to quickly customize songs, setlists, and more. See page 10 for more info on the web app.
*Requires Chrome web browser on either Windows or Mac OS.

Exact size of the diecast enclosure is
2.3" x 2.96" x 4.84" including jacks.

FACTORY RESET

To reset your pedal to factory settings, before applying power to the pedal, hold down both footswitches. While holding down the footswitches, plug power into the pedal and continue holding the switches. Release them when the LED flashes red and blue. The pedal will then boot up in a factory reset state.

HARDWARE:

- Preset/Menu Push-button Encoder
- Tempo/Save Push-button Encoder
- Footswitch A
- Footswitch B
- ¼" Jack 1
- ¼" Jack 2
- ¼" Jack 3
- ¼" Jack 4
- MIDI In/Out DIN
- MIDI In/Out ⅛"
- Sync
- Met Out
- USB-C
- Power