# MIDISTOMP SIX

## USER GUIDE

Hi, Thanks for purchasing a midistomp six!
Your controller will work immediately in CC mode (profile 1), and no setup is required.
Plug-n-play, baby!

### Box Contents

Your fully assembled midistomp six arrives with the following items:

- midistomp six USB MIDI foot controller
- a 6ft USB cable

### 'midistomp six' Features

- 5 programmable latching footswitches with red/green LED rings
- 1 programmable momentary footswitch
- 1 red LED for tempo flash (also used for indicating which bank is being selected)
- 1 USB port which powers the device and transmits data
- 1 reset switch for loading profiles
- Multiple "Profiles" available to load onto the device ready for DAWs/Apps
- Class compliant USB MIDI compatibility with iOS, Mac, Windows 10 and other USB MIDI hosts
- Expression Pedal port (optional extra) able to be calibrated to any expression pedal
- TRS MIDI out (optional extra) to send MIDI to devices that use TRS or 5-pin MIDI cables

### Connection and Power

Midistomp is class compliant. That means there are no drivers needed. It just needs to be plugged in. The USB MIDI drivers which are built into your operating system will run your midistomp six.

### Using 'midistomp six' with your DAW/iOS App/Audio App

Please refer to the setup videos and articles (www.midistomp.com/setup) for information on selecting a profile and customising the controller numbers for your needs. Midistomp six has been tested with Logic Pro X, Ableton Live, Mainstage 3, Reaper, and supports all other DAWs

which accept MIDI CC control. Midistomp is also tested in multiple iOS apps which use MIDI control.

## iOS Apps

Midistomp is class compliant. That means there are no drivers needed. It just needs to be plugged in. To plug a USB MIDI device into your iOS device, you will need to select the correct "Camera Connection Kit" for your device. For older devices, a 30-pin connector to USB camera kit is needs. For newer devices which use the lightning connector, you will need a lightning to USB camera connection kit. These are readily available at your local Apple distributor/retailer or online.

Simply plug the connector into your iOS device, connect your USB cable to your midistomp six, and then connect the USB cable to the iOS USB connector. Your midistomp will boot up and the LEDs will turn on, giving you an indication that the device is working properly.

The iOS device should be awake when connecting your midistomp six.

## Loading Profiles On Your 'midistomp six'

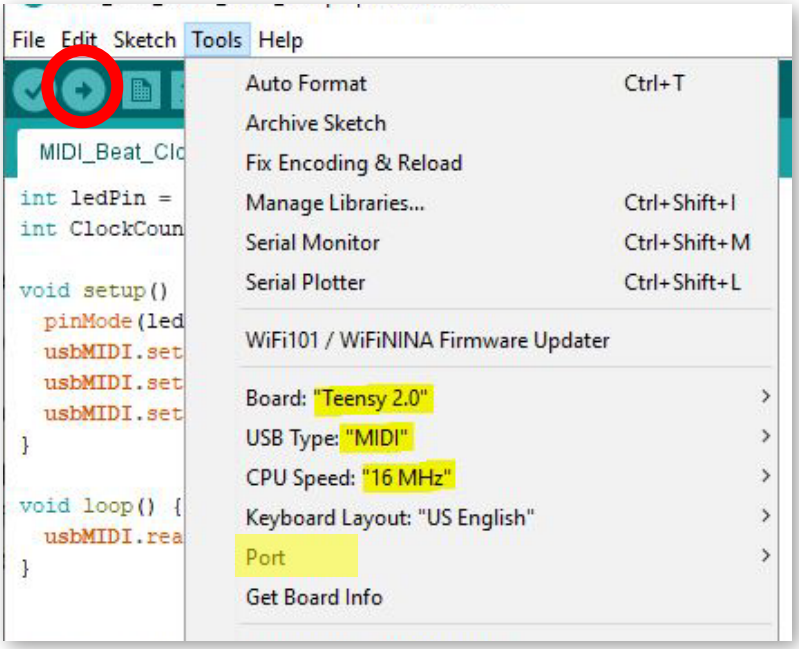
Midistomp six is an extremely versatile piece of equipment. It can send latching or momentary signals, CCs or Notes, and you can add multiple banks of controls to give you 20+ switches on the one device.

There are multiple profiles available online (www.midistomp.com/setup). Some are set up for specific apps and some are generic DAW control profiles.

To begin customising your midistomp six, please download and install the Arduino IDE, and the Teensyduino add-on by clicking these links which will direct you to the relevant web pages. This software is what will allow you to open the .ino files, edit them, and load them on your midistomp six.

Next, you will need to open your desired profile with the Arduino software. Plug your midistomp six into the computer you are using – do not use a USB hub and avoid adaptors if you can. Navigate to the "Tools" Menu, and make sure that the "Board" is set to "Teensy 2.0" and the "USB Type" is set to "MIDI." Then check under to "Port" setting to make sure that the teensy 2.0 device is being recognised – the device will have "HID" in the name and will say "(Teensy 2.0)"

(see screenshot below)




When these options are set, your software is configured to load the Profile to your midistomp six.

Press the "Upload" Button (circled in red above) and the Teensyduino loader will open. Press the button on the back of the midistomp (next to the USB port) if prompted by the Teensyduino window. Your midistomp will reboot, and the profile you have opened (and possibly edited) will be ready to go! You can safely unplug your midistomp after the device has rebooted.

**DO NOT UNLPUG YOUR MIDISTOMP SIX WHILE PROFILE IS UPLOADING TO THE DEVICE!**

## Editing A Profile

There are several options available to you when editing a profile. After opening your selected profile in the Arduino IDE you will notice a section of code near the top of the page with a title above it "MIDI DEFINITIONS – MODIFY THIS SECTION TO CUSTOMISE YOUR MIDISTOMP"

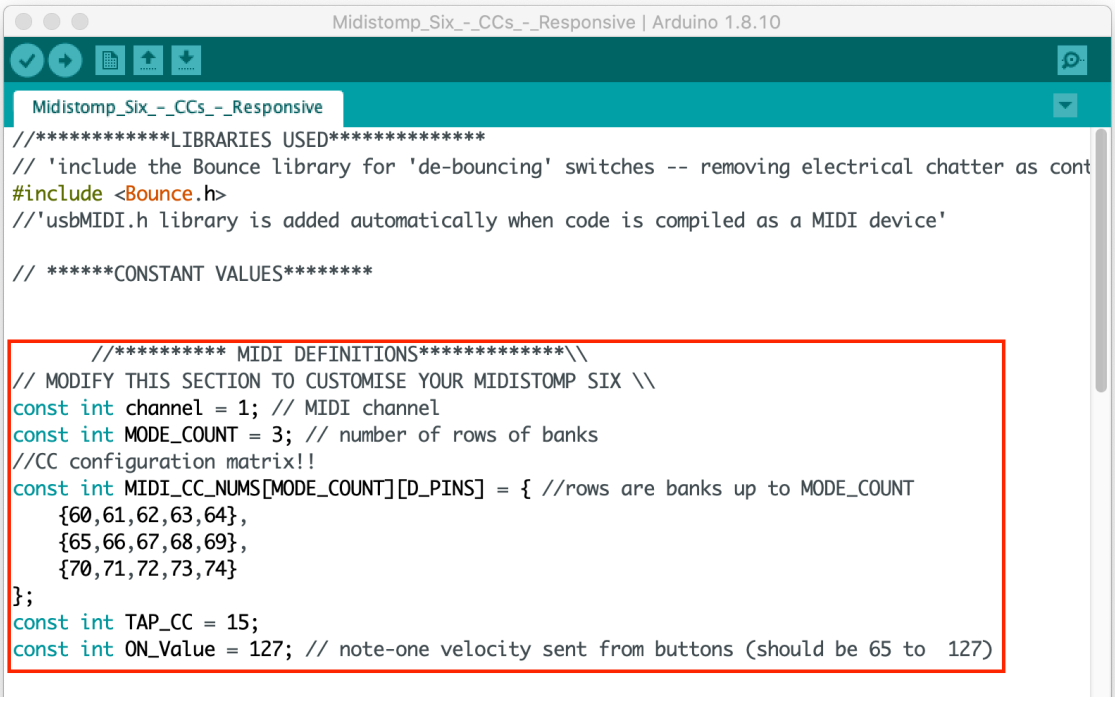
**channel** – Change this to modify which midi channel your midistomp uses. (note, that this may also be "firstchannel" and "secondchannel" for sending two different channels over USB and TRS MIDI).

**MODE_COUNT** – Change this to modify the number of banks to cycle through. Default is three banks of switches. (please note if you change this, you must also change "MIDI_CC_NUMS")

**MIDI_CC_NUMS** – Each row, bound by "{" and "}" defines the 5 switches with LED rings. The first row is the initial bank of controls, the second row is the second bank and so on. If you add more banks in "MODE_COUNT" then you will need to add more rows to this area. Some MIDI CCs are set aside for certain functions (like sustain pedal=64) but many are undefined and many which are defined are not used. There are very few restrictions really. View the official list here. *Note: you can define the same control for the same switch across 3 banks, this effectively will keep a switch the same no matter which bank is selected.*

**TAP_CC** – Change this to set the CC for the momentary tap tempo switch.

**ON_Value** – If you want your switches to send a value other than fully on (127) change this value.




After doing this process once or twice it will only take you minutes to do this. It is not difficult and when looking past the "scary" code it is no more complicated than any other MIDI device's software editor. Just change the Numbers!

**Please make a copy of your profiles in a safe location for convenience before editing - in case you make a keyboard error while editing.**

## The Profiles

The default profile loaded on the controller when you open the box is MS6_CCs_Basic. If you ordered any add-ons the profile loaded will correspond to the highest number of

features. (e.g. If you ordered a single expression port, MS6_CCs_x1Expression will be loaded, if you ordered 2 TRS Jacks with TRS MIDI, MS6_CCs_TRSMIID_x1Expression will be loaded)

The Profiles are sorted into MIDI message types:

CC – Continuous Controller (with responsive red/green LEDs)
CC – Momentary (with custom LED arrangement)
Notes – (with responsive red/green LEDs)
Notes – Momentary (with custom LED arrangement)
PC – Program Change

Within each message type there are 5 profiles based on extra features:
*Note: only 3 profiles for the NON TRS MIDI models*

MS6_**_Basic
MS6_**_TRS MIDI
MS6_**_TRS MIDI_x1Expression
MS6_**_x1Expression
MS6_**_x2Expression

## Message Types Description:

### *CC - (with responsive red/green LEDs)*

- Toggle MIDI CCs (127 on first press, 0 on second press)
- Can receive MIDI to change the red/green LED rings
- Can receive MIDI clock for tempo flash LED
- Momentary switch sends MIDI CC "on" (127) when tapped and then cycles through banks when held down. The LED will flash showing which number profile has been selected. There are 3 banks by default.

### *CC Momentary - (with custom LED arrangement)*

- Send MIDI CCs as momentary messages (sends 127, then immediately sends 0)
- Red/Green LED Rings defined as on or off in the "LED COLOR SELECTION" of the code – about 1/3 way down the page. *Note: This is useful for choosing which color you want for each switch (i.e green for play/pause, red for stop etc) The color selection for each switch will be the same across all banks. They will **not** respond to incoming MIDI to change colour.*
- Receives MIDI clock for tempo flash.
- Momentary switch sends MIDI CC "on" (127) when tapped and then cycles through banks when held down. The LED will flash showing which number profile has been selected. There are 3 banks by default.

### *Notes – (with responsive red-green LEDs)*

- Sends MIDI Notes
- Can receive MIDI to change the red/green LED rings
- Can receive MIDI clock for tempo flash LED
- Momentary switch sends MIDI CC "on" (127) when tapped and then cycles through banks when held down. The LED will flash showing which number profile has been selected. There are 3 banks by default.

***Notes** – Momentary (with custom LED arrangement)*

- Send MIDI Notes as momentary messages (sends 127 NoteOn, then immediately sends 127 NoteOff)
- Red/Green LED Rings defined as on or off in the "LED COLOR SELECTION" of the code – about 1/3 way down the page. *Note: This is useful for choosing which color you want for each switch (i.e green for play/pause, red for stop etc) The color selection for each switch will be the same across all banks. They will **not** respond to incoming MIDI to change colour.*
- Receives MIDI clock for tempo flash.
- Momentary switch sends MIDI note "on" (127) when tapped and then cycles through banks when held down. The LED will flash showing which number profile has been selected. There are 3 banks by default.

***PC** - (with responsive red/green LEDs)*

- Send MIDI Program Change (every time you press you will send the PC)
- Can receive MIDI to change the red/green LED rings
- Can receive MIDI clock for tempo flash LED
- Momentary switch sends MIDI CC "on" (127) when tapped and then cycles through banks when held down. The LED will flash showing which number profile has been selected. There are 3 banks by default.

## Profile Types Description:

*_**_Basic:*

No extra features – only as stated in above descriptions

*_**_TRSMIDI:*

Only available if your pedal has been ordered with the TRS MIDI add-on or you have followed the TRS MIDI modification tutorial. This profile assumes no expression pedals connected – only a TRS MIDI connection

*_**_TRS MIDI_x1Expression:*

This profile is used when you have two TRS jacks and you are wanting to use one for an expression pedal and the other for TRS MIDI out. This is only possible if you have ordered your midistomp with TRS MIDI add-on or have followed the tutorial for adding this feature. Note: as noted in the "Expression Pedals" section below – sometimes having an expression pedal profile loaded but no expression pedal plugged in will cause a stream of random MIDI data from that empty expression port. If you are not using the pedal, please use the _**_TRSMIDI profile for your desired MIDI message type (e.g MS6_CCs_TRSMIDI)

*_**_x1Expression:*

Use this profile if you are only using one expression pedal (even if you have two expression ports) See the expression pedals section below for more information about the need for this.

*_**_x2Expression:*

Use this profile if you are using two expression pedals. If you are not using two pedals, use the x1Expression profile (or Basic profile if you have no pedals plugged in) See the expression pedals section below for more information about the need for this.

## App-Specific Message Types:

Some apps require certain types of midi messages to correctly interface with the midistomp six. Here is the list of tested apps. If a program is not listed, it is either untested, or will accept many different types of MIDI messages (such as a DAW like Logic Pro X, Reason, Ableton Live etc)

**Loop Community's PRIME app**
requires "Momentary Notes" profiles

**Multitracks.com's PLAYBACK app**
requires "Momentary CC" profiles

**ONSONG app**
requires either "CC" or "Momentary CC" profiles

**Planning Center's MUSIC STAND app**
requires "Momentary CC" profiles

**BiasFX/BiasFX2**
requires "CC" or "PC" profiles

**DAWS (Logic, Ableton, Reaper etc)**
Generally any MIDI message type will be useful in a DAW, but Generally "CC" or "Momentary CC" profiles are best suited to controlling DAW parameters and functions.

## Expression Pedal Add-On and Customisation

Midistomp six can be ordered with optional expression pedal ports. Alternatively, you can install expression ports yourself up to a maximum of 2 (two) expression ports (see the tutorial article at www.midistomp.com/resources . If you ordered a midistomp with expression ports already installed, it will be configured and ready to go. Plug-n-play baby!

There is a second profiles pack on the midistomp website which is for units with an expression port.

Follow these instructions to get the most out of your expression pedal add-on:

1. **Calibrate your pedal/s range**
   Unfortunately, there is no standard for expression pedal design. Most brands are different in resistance and range. Without calibrating the code in the midistomp profile, you may have limited MIDI data range. (e.g. You may find that your pedal only sends 3-120 rather than 0-127 in the 'min' and 'max' position)

   To alter this, scroll down in your profile of choice and find the "ANALOG SECTION" (it's more than halfway down – see screenshot below). There you will find default minimum and maximum values of "60" and "890" respectively. Change these numbers in increments of 5 or 10 to adjust the range of your pedal. You may need to increase the high number (890 to 920) if your pedal maxes out too quickly or perhaps decrease it (890 to 870) if the pedal does not reach 127 consistently. The same process applies for the lower number.

```
//************ANALOG SECTION**************

void getAnalogData() {
  int valX;
  int adcValue = 0;
  for (int i = 0; i < NUM_PEDALS; i++) {
    // update the ResponsiveAnalogRead object every loop
    analog[i].update();
    // if the repsonsive value has change, print out 'changed'
    if (analog[i].hasChanged()) {

      adcValue = analog[i].getValue();
      valX = (map(adcValue, 60, 890, 0, 127)); //Change the upper first two numbers -
      //upper and lower - to adjust the midi range of your expression pedal
      valX = constrain(valX, 0, 127); //map all numbers to 0-127 to avoid negative numbers
      data[i] = valX;
```

Once you have made these changes, save the file for future reference, and perhaps copy these same data values to the other 5 profiles for future use. Then upload the profile to the midistomp as described above.

2. **Edit the MIDI CC number sent by the pedal/s**
   This is an easy one. It's in the "MIDI DEFINITIONS" At the top of the page and is included with all the other MIDI values you might want to change.

3. **Usage Limits**
   When an expression port does not have anything plugged in, it may transmit random noise in a stream of constant MIDI messages. To avoid this, only use an expression profile that corresponds exactly to what is plugged in (i.e. if nothing is plugged in, use a standard profile, not an expression profile. If you have two expression ports and you're only using one, use a single expression pedal profile)

   Plugging and unplugging an expression pedal while the pedal is powered will cause it to short power to ground and reboot – you will notice the LEDs flicker on and off – that's ok, but you should avoid it wherever possible. Just plug and unplug expression pedals when the USB is unplugged!

## TRS and 5-pin MIDI

There are two different TRS MIDI add-ons available. The first gives a dedicated TRS MIDI jack, and the second gives you a little switch inside the bottom cover (unscrew to access) which you can use to switch between a TRS MIDI jack and an expression port.

When using your TRS MIDI jack (dedicated or switchable), use the "TRS MIDI" profiles which you can download at https://midistomp.com/setup/filedownloads/

Please read section 3. "Usage Limits" of the expression pedal section above and follow those same principles here. If you are not using an expression pedal, please do not load an expression profile. Use a TRS MIDI profile which does not include the expression pedal code.

If you have flipped the internal switch to go to dual expression pedal ports, load a dual expression port profile. Not a TRS MIDI profile.

## Troubleshooting and Questions

Contact us at midistomp@gmail.com or through our Facebook page with any questions or troubles you're having.

Please let us help you resolve any issues before leaving bad feedback on our public pages.