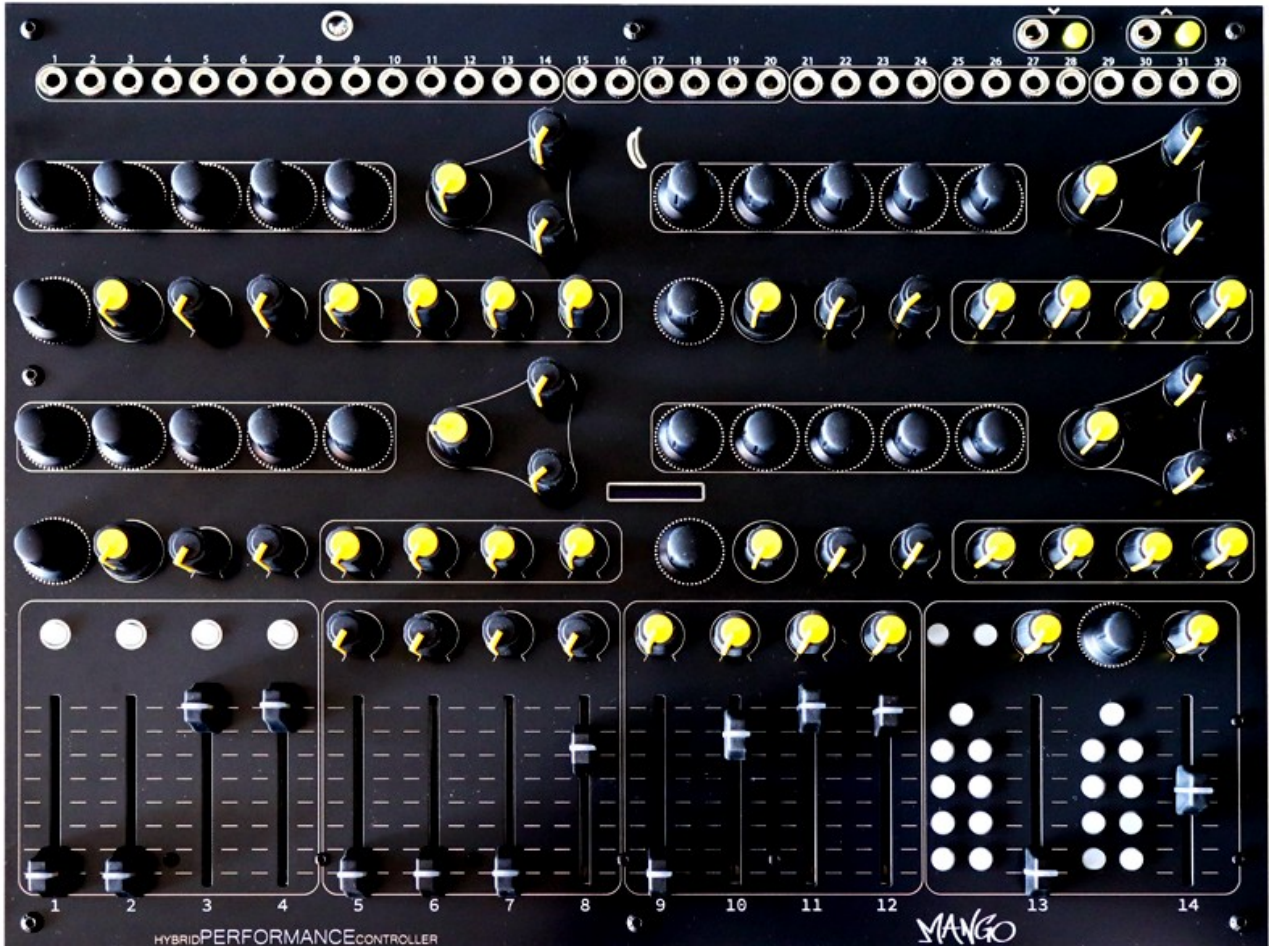


Mango – MIDI & CV Controller Manual V1.0 2025



Mango arrives to you flashed with the latest firmware by ShanteaControls and a NoisyFruits factory preset that covers all functions, controls and addressing of buttons and LEDs.

OLED Display 128 x 16px

- minimum realtime indication of values, channels and addresses
- best to figure out which component is already addressed in the editor

Controls

14 x 45mm LED faders

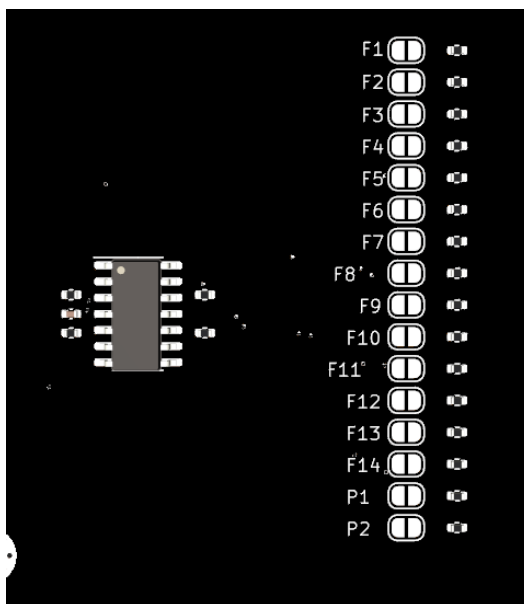
- fully MIDI mappable with custom ranging, addressing and polarity
- each fader is hardwired to a CV output (1-14) and covers a range from 0-5V or 0-10V.

Hint: the faders are meant as level control for VCAs and they mostly expect a range from 0-5V to cover full scale levelling.

The range for each fader range is customizable on the backside of the mainboard with solder bridges. Yes, this is pretty unconventional, but needed to save space and parts.

Don't worry! Jumping or breaking them is an easy task!

Just make sure you're not providing too much heat for a longer time. Blobbing and unblobbing a spot should work below a second.



IMPORTANT NOTE!!!

Please unscrew the unit from top! Don't remove the bottom plate!

There are spacers in between bottom and mainboard and after all you need to unscrew from top anyway to complete the assembly again properly.

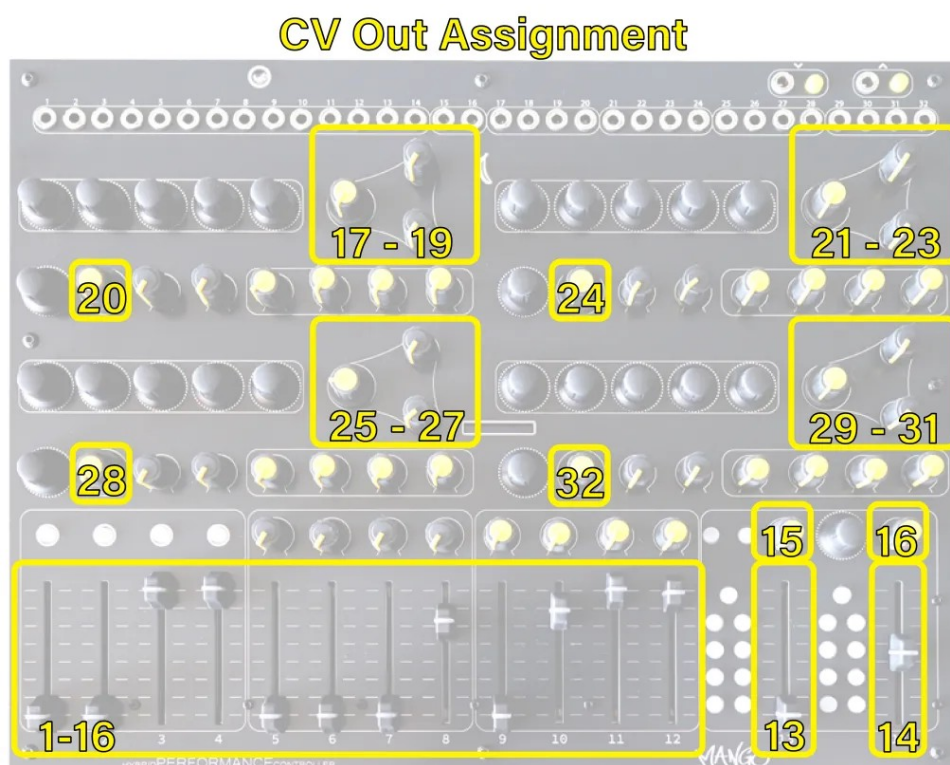
The faders are marked from F1 – F14 and you will also find P1 & P2. These are the 2 potentiometers above faders 13 & 14.

For hardcore hackers and if you need a more customized voltage range:

The solder bridges act as simple voltage divider „switches“ feeded by 10V, divided in half by 10k resistors. Yeah, very small 0402 resistors ...

42 x Potentiometers (18 of them with CV output)

- fully MIDI mappable with custom ranging, adressing and polarity
- each potentiometer has a yellow cap or marking
- 16 potentiometers with fixed CV out range from 0-10V, 2 customizable (as mentioned before)



Hint: the potentiometers are meant to control all kinds of CV related inputs, mostly expecting a range of 10V. In many cases CV inputs are designed for bipolar signals like -5V to +5V. Depending on your input and if provided, you will need to adjust the offset properly to cover the full range.

NOTE: the analog controls (faders, potentiometers) can't be customized in the editor. They're purely analog without a digital resolution and not all of the potentiometers have a CV output!



25 x Encoders

- endless rotary encoders with push buttons and SIFAM caps
- fully MIDI mapable

Note: Encoders are considered as buttons in the editor and contain of two buttons. So their addressing can be found and changed in the button menu.



24 x Buttons & LEDs

- Momentary low profile buttons adressable to several events in the editor (toggle, preset switch, notes)
- Single LEDs adressable to several events like button activations, preset assignments
- RGB LED to indicate preset for example

NOTE: buttons & LEDs can be customized individually and LEDs (0-23) need to be adressed to specific buttons and their local MIDI ID to make em light up with the corresponding button. This can also be an external command, so the LEDs can light up with DAW commands for example over USB or DIN MIDI.

Internal button / led configuration:

Buttons > **Button 0**

Type

Latching

Button type can be momentary, which means that configured MIDI message is sent as soon as button is released, or latching, which means that MIDI message is sent on second button press. All buttons are configured as momentary by default. Depending on message type this setting can be ignored.

MIDI channel 1 - 17

1

MIDI ID 0 - 127

94

Setting the channel to value 17 will cause sending of data on each MIDI channel.

LEDs > **LED 0** next >

LED color testing

Red

Activation ID 0 - 127

94

RGB Enable

Control type

Local / CC (Multi value)

Activation Value 0 - 127

127

MIDI channel 1 - 17

1

Setting the channel to value 17 will ignore the specified MIDI channel.

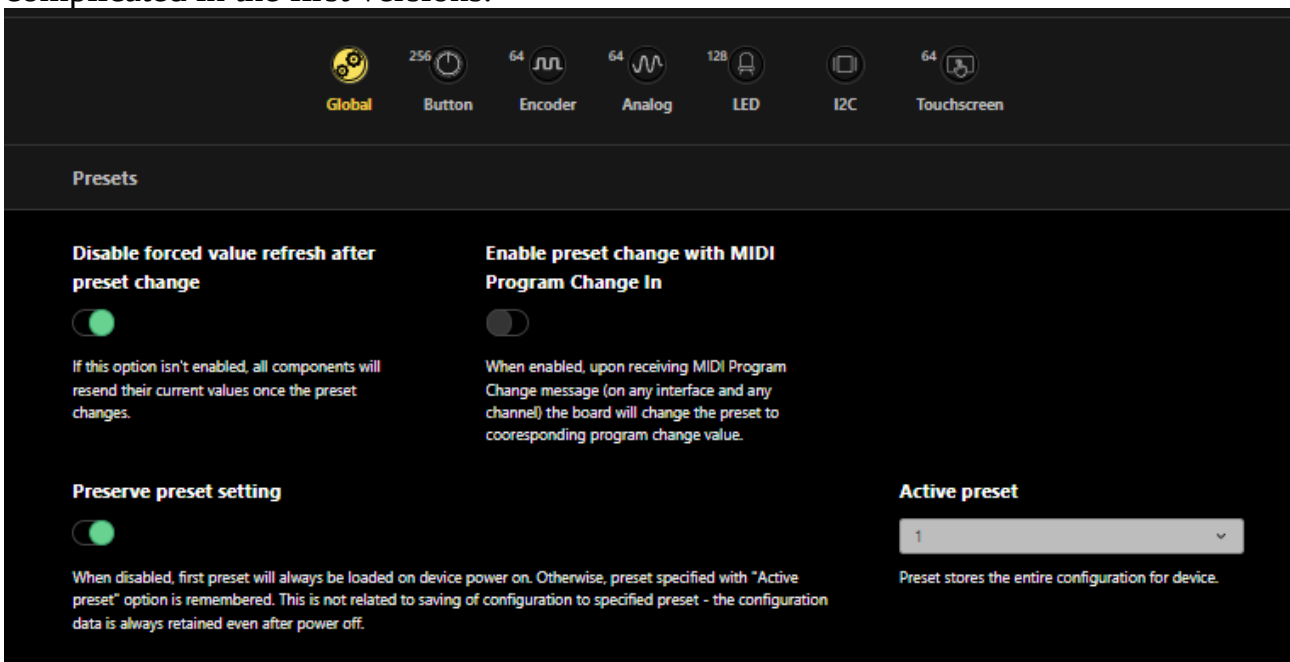
Choose color red, the correct activation id, local CC, activation value 127.

The RGB contains of 3 single LEDs and depending on which ones are activated the color changes. Their addressing is sadly confusing (24,32,40) but they need to be treated like 3 single leds.

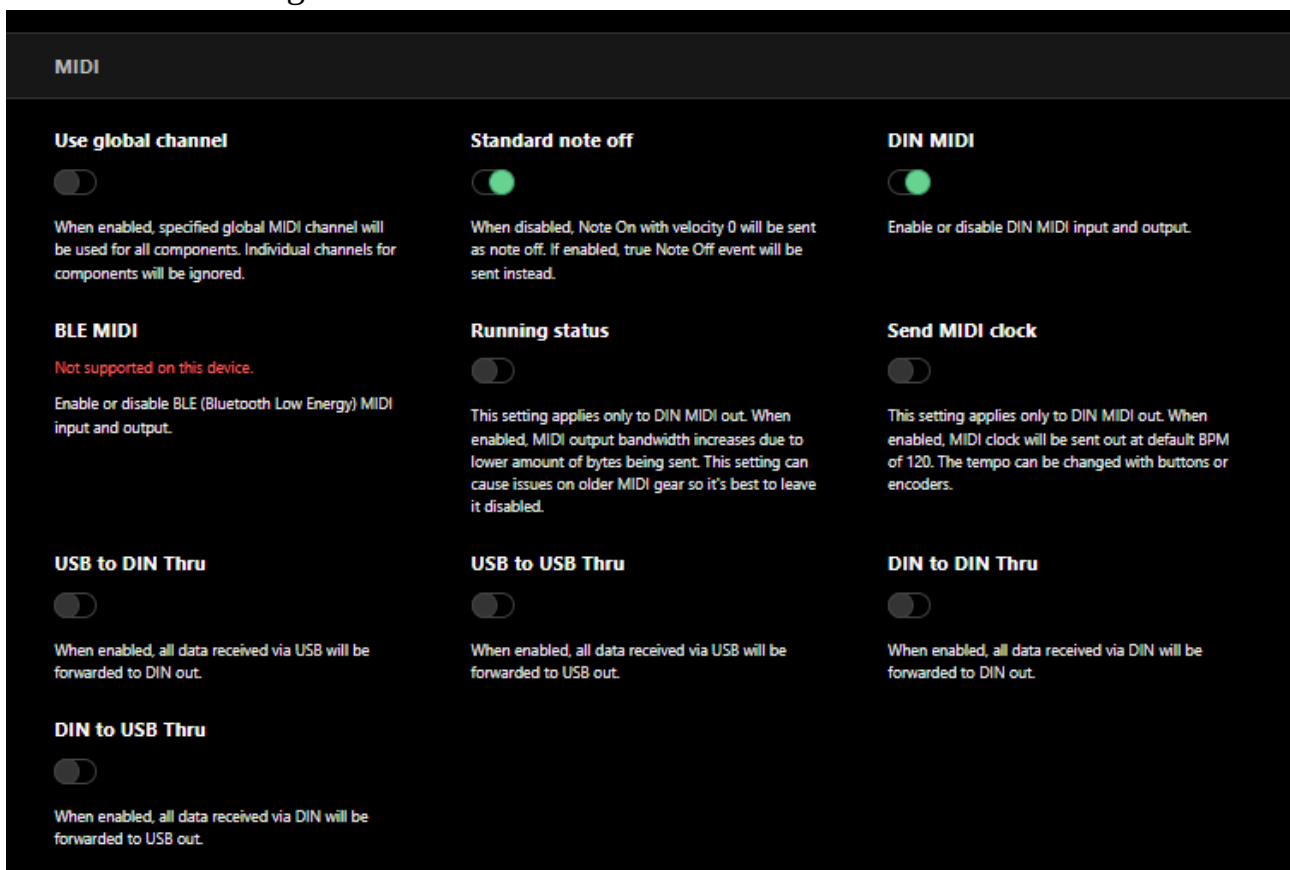
The Editor

The editor can be used over a webbrowser or desktop and provides an interactive overview over all adjustable aspects. The provided factory preset already covers almost all functions and customized addressing. It's possible to store 10 different presets onto Mango.

If you're just working with a DAW with MIDI learn function you most likely don't need the editor. If it's about addressing specific components to specific channels and IDs, things become a bit more challenging. We've been thinking a lot about the most senseful addressing of all components, but the result is: we've made things more complicated in the first versions.



Global MIDI configurations



Backup & Restore presets

If you've messed up your configurations restore to the factory preset as starting point again.

The screenshot shows a settings menu with two main sections: 'Hardware settings' and 'Backup & Restore'. Under 'Hardware settings', there are three options: 'Reboot' (with a description: 'Rebooting the device will make the UI temporarily unavailable.'), 'Reset to factory settings' (with a description: 'Resets the device to its factory settings.'), and 'Firmware section' (with a description: 'Section used to reboot the device into bootloader mode and update the firmware.'). Under 'Backup & Restore', there are two options: 'Backup' (with a description: 'Download a backup of your configuration (incl presets).') and 'Restore' (with a description: 'Select a backup file to restore your device configuration.').

Activity Log

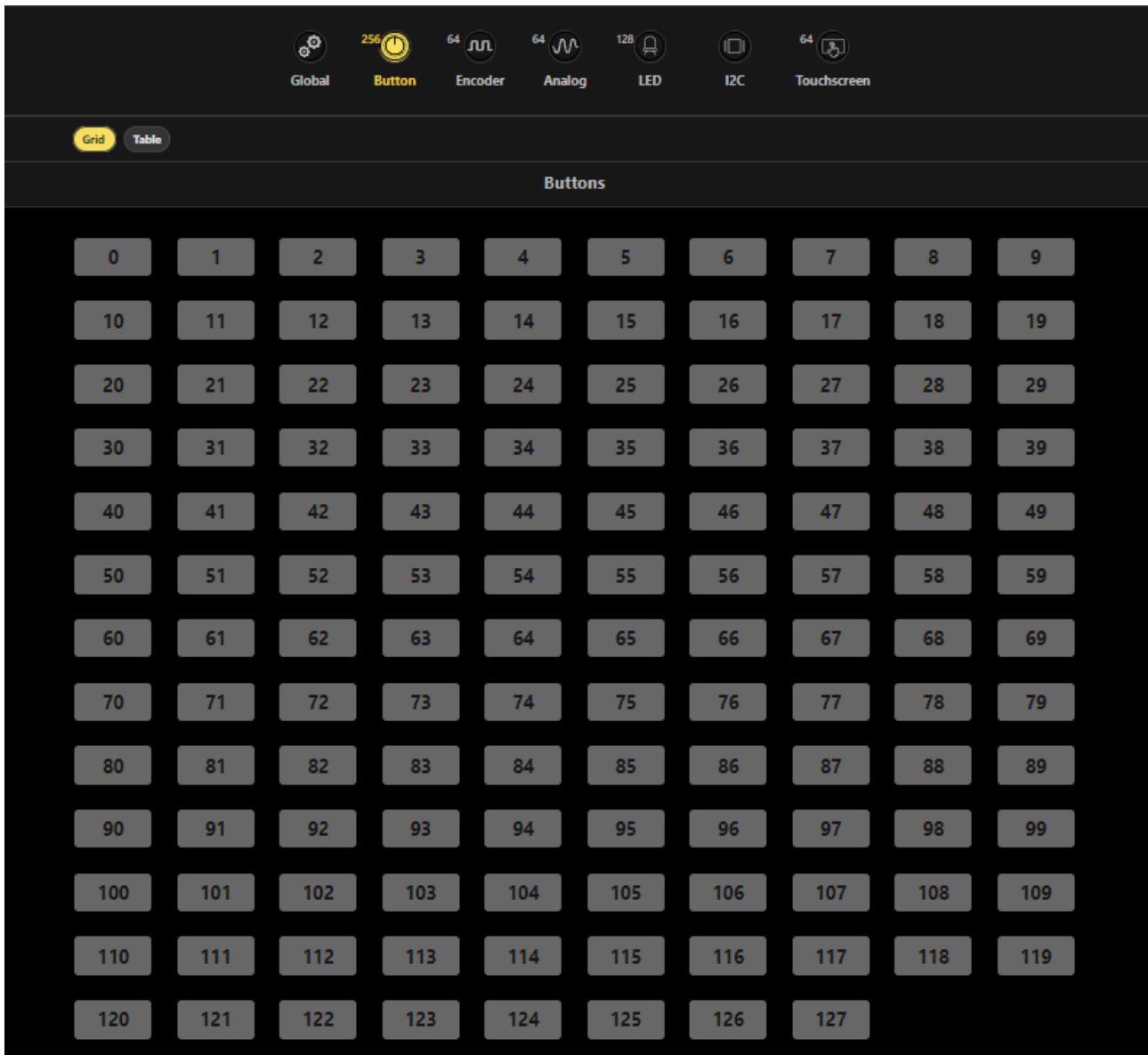
Realtime activity list

The screenshot shows an 'Activity' log interface. At the top, there is a toggle for 'Activity' (which is turned on), a 'clear' button, and three filter toggles: 'hex' (off), 'midi' (on), and 'system' (off). Below this is a table with two columns: 'Time' and 'Event'. The table contains two entries:

Time	Event
11:16:56.902	Control Change channel 1 controller 0 value 19 Raw data [176 0 19] Dec
11:16:56.892	Control Change channel 1 controller 0 value 18 Raw data [176 0 18] Dec

Grid View

Best view to find the correct buttons, faders and encoders in the editor. The correct number lights up on interaction.



In most cases you will need Notes or CC numbers to control other gear.

Typical configuration of Fader 1

Analogs > **Analog 0** next >

<p>Enable</p> <p><input checked="" type="checkbox"/></p> <p>Enables or disables analog input. Disabled by default to avoid sending erratic values when nothing is connected to the input.</p>	<p>Invert direction</p> <p><input type="checkbox"/></p> <p>Inverts the direction of the analog input. For example, if CC MIDI message is used, when the potentiometer is at its left edge, sent CC value is 0, and when it's at its right edge, sent value is 127. If inversion is enabled, vice versa applies.</p>	<p>Message type</p> <p>Control change 7-bit</p>
<p>MIDI ID 0 - 16383</p> <p>0</p>	<p>Lower limit 0 - 16383</p> <p>0</p> <p>Specifies the minimum value which is sent by the analog input. Scaling is used here, so this value will be sent when the analog input is at its lowest position. Limit is type-dependent. For most types, total range is 0-127. For pitch bend, 14-bit NRPN and 14-bit CC, total range is 0-16383.</p>	<p>Upper limit 0 - 16383</p> <p>16383</p> <p>Specifies the maximum value which is sent by the analog input. Scaling is used here, so this value will be sent when the analog input is at its highest position. Limit is type-dependent. For most types, total range is 0-127. For pitch bend, 14-bit NRPN and 14-bit CC, total range is 0-16383.</p>
<p>MIDI channel 1 - 17</p> <p>1</p> <p>Setting the channel to value 17 will cause sending of data on each MIDI channel.</p>	<p>Lower ADC offset 0 - 100</p> <p>0</p> <p>Specifies lower offset percentage which is used to calculate minimum ADC value upon which MIDI values will be based. Useful for inputs which cannot reach minimum ADC value. If for example, the board has nominal ADC range 0-4095, setting this value to 10 will calculate MIDI values based on 409-4095 range (assuming the upper offset is 0), that is, lower 10% of ADC range will be cut off.</p>	<p>Upper ADC offset 0 - 100</p> <p>0</p> <p>Specifies upper offset percentage which is used to calculate maximum ADC value upon which MIDI values will be based. Useful for inputs which cannot reach maximum ADC value. If for example, the board has nominal ADC range 0-4095, setting this value to 10 will calculate MIDI values based on 0-3685 range (assuming the lower offset is 0), that is, upper 10% of ADC range will be cut off.</p>