



**POWERED BY PAPRITECH**

*USER GUIDE*





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## 1. Introduction

Developed at Papritech by a team of professional musicians and engineers, **Airmotion Lite** is the latest generation of MIDI breath and motion controller.

This controller is the world's **first wireless controller** that can be quickly **configured via your smartphone** to send **MIDI control change messages** to your instrument.

Made in the UK with a passion for detail and a strong focus on durability, this state-of-the-art concept goes far beyond what is technically possible with other controllers available on the market.

## 2. Overview

As it can be used with or without a computer, **Airmotion Lite** is designed for musicians who want to give extreme realism and expression to their **studio recordings** or **live performances**.

**Airmotion Lite** includes a neck set that allows the hardware to be placed in a fixed position in front of the mouth.

This is particularly useful for live performances. The **Airmotion Lite** neck set is made from a flexible but sturdy metal tube that can be easily shaped and adapted to the musician's comfort and musical needs.

The hardware is equipped with 2 sensors:

- The **breath sensor** which uses a piezoelectric pressure transducer.
- The **nod and tilt sensor** which uses a gyroscope to measure the orientation and angular velocity of the head.

The sensors can be configured to send up to **5 MIDI control change messages**. This configuration is easily done via the mobile application available on **Google Play Store**.

## 3. Minimum system requirements

### 3.1. Computer

**Airmotion Lite** does not require the installation of any drivers or software. It works directly with any operating system.

### 3.2. Mobile

On Android, the minimum specifications currently recommended for **Airmotion Lite** are the following:

- Operating System: Android 7.1 or later
- RAM: 1 GB



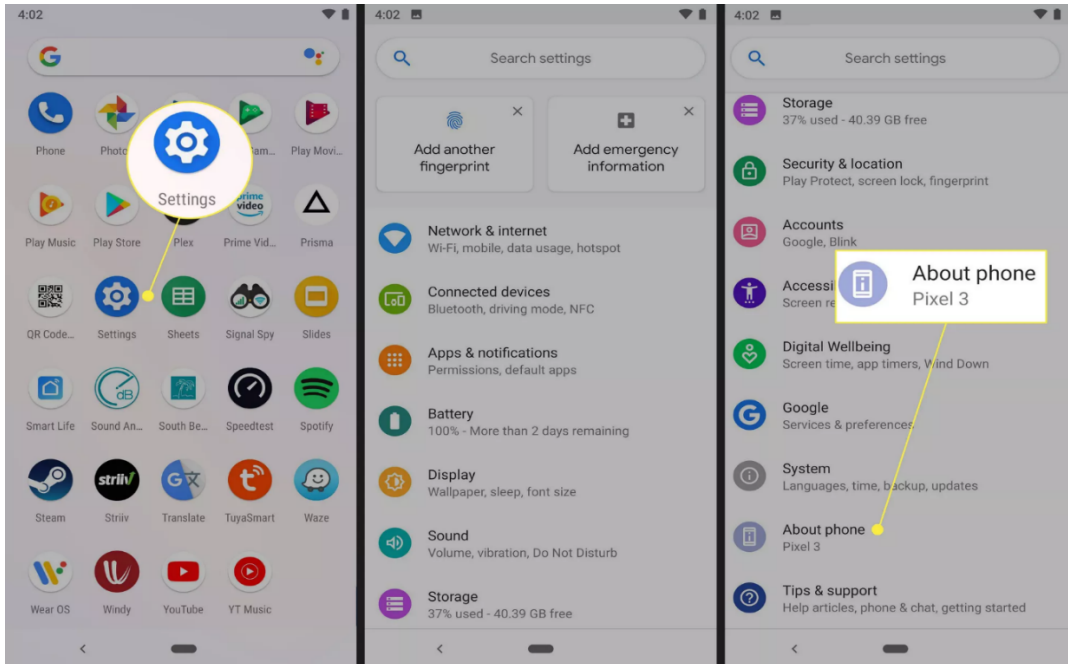
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## 4. Getting started

### 4.1. Mobile USB configuration

This step is only necessary if you are going to use **Airmotion Lite** for your studio recordings using a **Digital Audio Workstation (DAW)** installed on a computer.

- Navigate to **Settings > About phone**

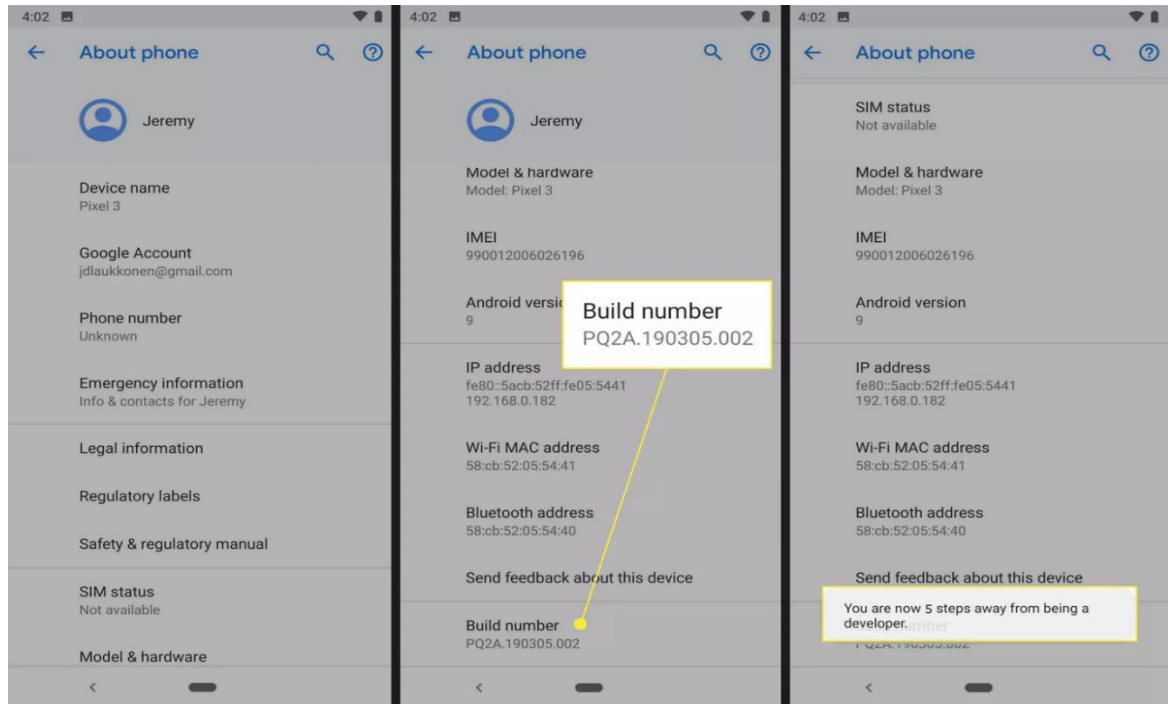


Tip: These instructions are for a phone running stock Android. Modified Android versions may have to navigate to **Settings > About device**, or **Settings > About > Software information > More** or similar instructions.

- Scroll down until you locate the **Build number** section.
- Select the **Build number** until you see a message that says **You are now a developer!**



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Tip: You likely will not receive any feedback after the first few taps. Keep tapping and you'll eventually see a message that says, "You are now x steps away from being a developer." Before you can complete the process, your phone may ask you for your PIN.

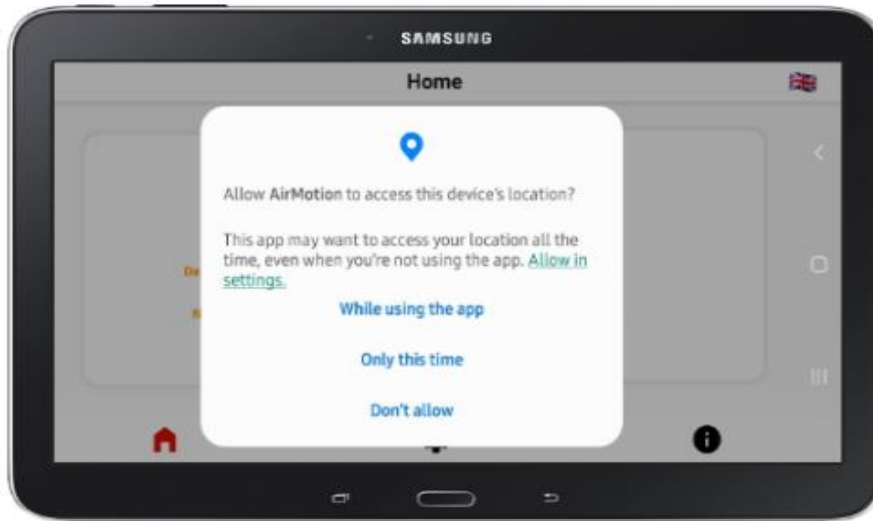
- When you see the message that says you are a developer, that means you have successfully turned-on developer mode.

## 4.2. App installation

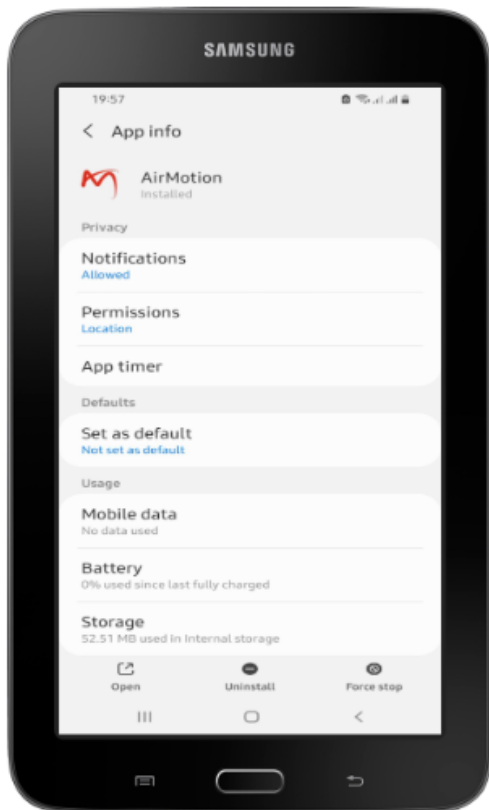
- Navigate to **Google Play Store** and search for **Airmotion Lite**
- Install the app
- Activate the Location and Bluetooth
- Launch the **Airmotion Lite** app and grant permission **“while using the app”** to the location service and nearby service when asked.



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Tip: Bluetooth Low Energy (BLE) scanning will only work if the location service is enabled on the device.  
If your phone did not ask for location permission after the first launch of the app, please navigate to **Settings > Apps > Airmotion > Privacy > Permissions** and make sure that the **location** service is **allowed**.



### 4.3. Hardware connection

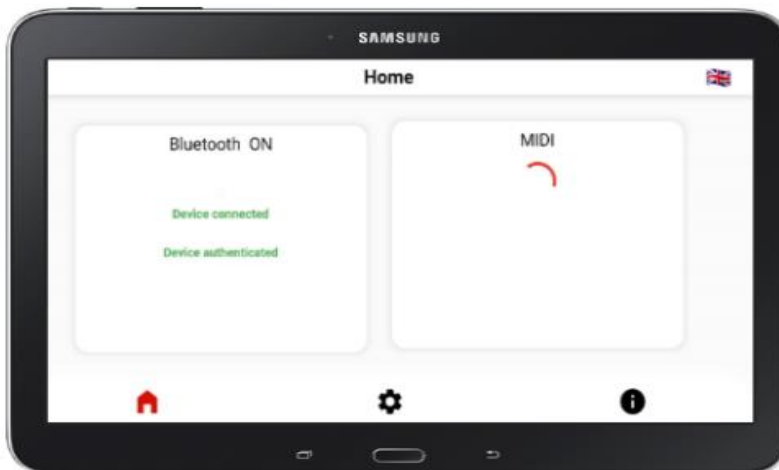
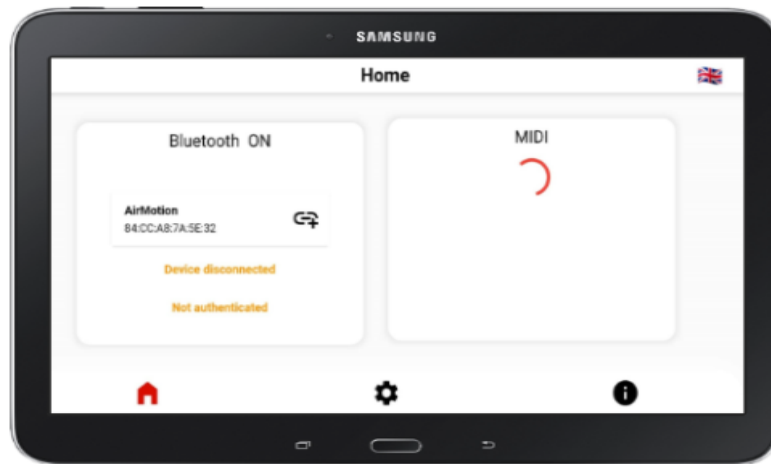


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- Connect the USB of **Airmotion Lite** to a Standard USB power supply (U= 5.0 V, I < 100mA).

Tip: For a good calibration of the **breath sensor**, make sure that you **do not use** this sensor **until at least 5 seconds** after connecting the device to **the power supply**.

- Once connected to the power supply, verify that the **Green LED** blinks.
- Go to the **Home** page on the app and click on the hardware Bluetooth connection.

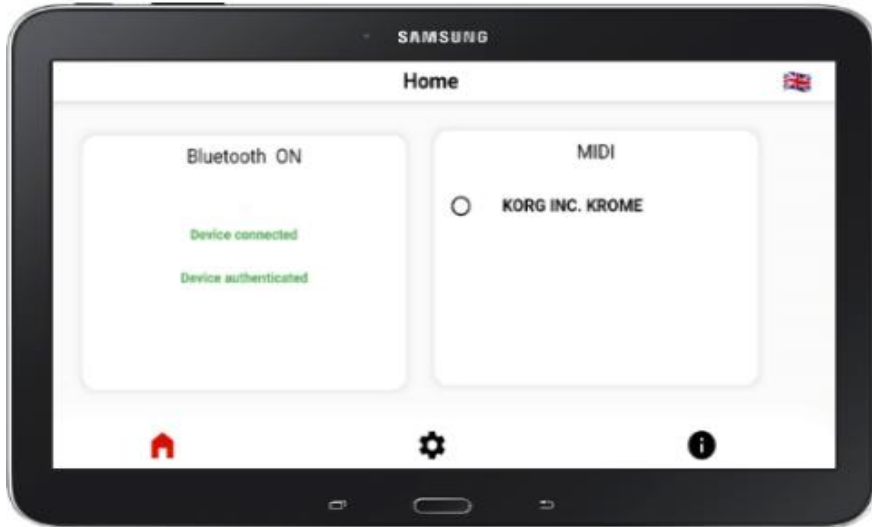


- Once connected, the **Green LED** should turn off so the device is ready for use.
- Connect your keyboard or computer via the phone's USB port.
- The **Airmotion Lite** app will display the MIDI devices available for use.





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- Select your keyboard or computer.
- Enjoy.

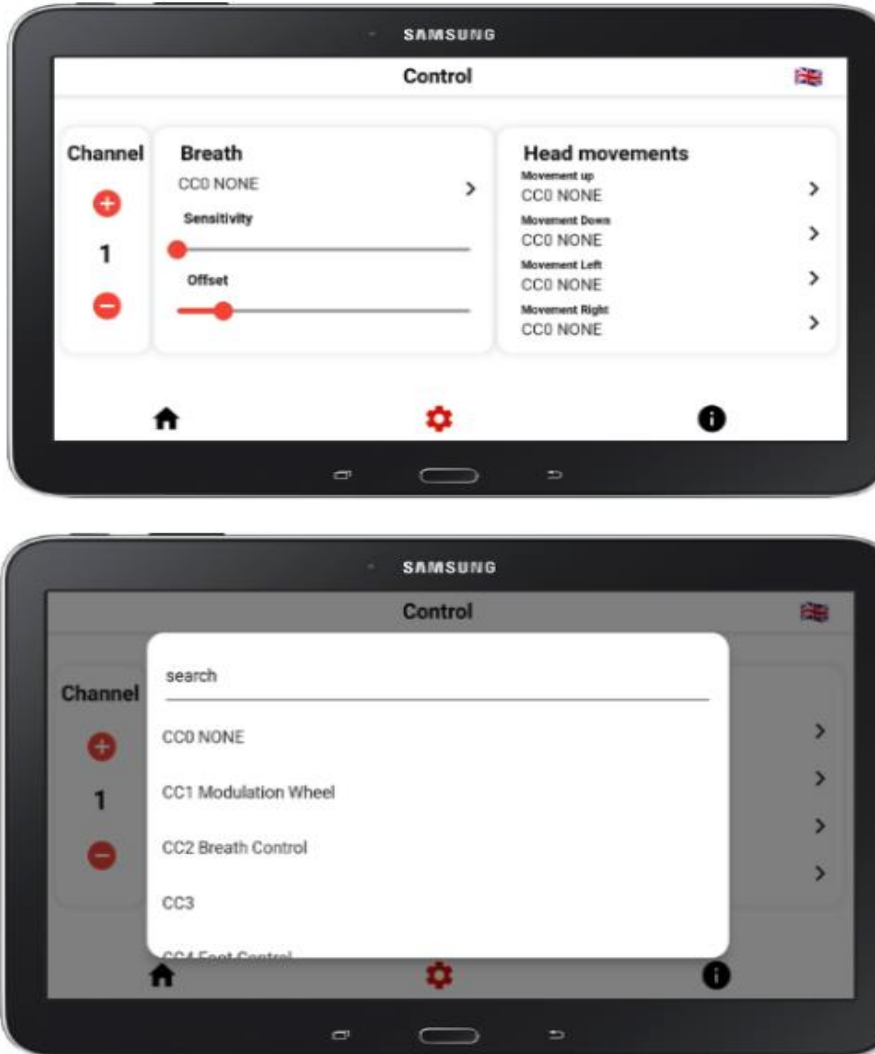
#### 4.4. Default settings and parameters description

The **Airmotion** comes preconfigured with default settings and will work right out of the box. The adjustable parameters for both sensors are as follows:

- **MIDI channel [1-16]**
- **Breath sensor sensitivity [0-127]:** controls the sensitivity of the pressure sensor, i.e., you can adjust the sensor to your breathing pressure. The higher the value, the more sensitive the sensor will react to your breathing.
- **Breath sensor offset [0-127]:** The starting point from which the sensor starts working. Below this point, the breath sensor is not functional and the system does not send any MIDI messages during a change in breathing rate.
- **5 drop-down lists for MIDI CC commands:** each drop-down list corresponds to a sensor (breath and head movements), used to select the MIDI CC commands to be sent, e.g., CC1 [modulation wheel], CC2 [breath control] and so on. Please see the list of MIDI CC commands in appendix.



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Note: The changed settings are automatically stored in the app preset. Thus, the user does not need to redo the setting after each new use of the device.

## 5. Configuring your DAW and VI

### 5.1. Digital Audio Workstation (DAW) configuration

In your **DAW**, **Airmotion** must be selected as the **MIDI input** device in order to function and the MIDI input of the track you are playing must be set to "MIDI omni", "All MIDI inputs" or a similar function in order to configure the track to respond to all MIDI controllers. This is necessary to control the virtual instrument from both the keyboard and **Airmotion**.

### 5.2. Virtual Instrument (VI) configuration

As any other MIDI controller, the MIDI CC sent by **Airmotion** must correspond to a **CC accepted** by the **VI** you want to control.



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For example, CC1 (Modulation Wheel) will have no effect on your instrument if it does not respond to CC1.

In this case, you must configure **Airmotion** to send another CC. To do this, check the MIDI CC commands used by your VI and modify MIDI CC commands on the app.

You can also modify the controls of your VI so that they correspond to the default settings of **Airmotion**.

Many virtual instruments have a MIDI learn function for their controls that you can activate and then blow, move your head so that the VI assigns the CC from **Airmotion** to the selected parameter.

### 5.3. Compatibility

The fact that your DAW implements the USB-MIDI standards, **Airmotion** must be compatible with it.

## 6. Warranty

**Airmotion** is subjected to extensive quality control and testing. The use of high-quality components allows us to offer a one-year limited warranty.

Your receipt serves as proof of warranty. In the event of a product defect, please contact the support department via our website <https://www.papritech.com/contact/>

PAPRITECH accepts no liability for any damage resulting from human error, failure to comply with these operating instructions or improper connection of components. In this case, replacement or repair can only be carried out at the owner's expense. The warranty expires if the device has been handled by a third party.



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## Appendix

MIDI CC Number	MIDI CC Purpose	MIDI CC Description
MIDI CC 0	Bank select (MSB)	You use this to switch preset banks, so you can select presets. MIDI allows 16,384 patches per MIDI channel.
MIDI CC 1	Modulation Wheel (MSB)	This controls modulation for live performances. It controls the parameter(s) it's mapped to in your synth, instrument or effect. Commonly used for filter cutoff or vibrato.
MIDI CC 2	Breath Controller (MSB)	Originally for use with an electronic breath MIDI controller that could read changes in pressure of breath. Can be used for modulation in performances, and is often used with aftertouch.
MIDI CC 3	Undefined (MSB)	
MIDI CC 4	Foot Pedal (MSB)	Used to send messages with an expression pedal. Mostly used for live performance modulation, and commonly used for aftertouch messages.
MIDI CC 5	Portamento Time (MSB)	Changes the rate of glide between 2 different notes. This causes a pitch bend between 2 notes when it's on a value.
MIDI CC 6	Data Entry (MSB)	Controls SYSEX, <a href="#">NRPN</a> and RPN values.
MIDI CC 7	Volume	Changes the volume of your VST instrument patch.
MIDI CC 8	Balance (MSB)	Controls LR (left, right) balance for instruments with a stereo signal. 0 = left, 64 = centre, 127 = right.
MIDI CC 9	Undefined	
MIDI CC 10	Pan (MSB)	This controls panning for mono instruments. 0 = left, 64 = centre, 127 = right. Can be used for stereo instruments too. CC8 is often used for panning instead.
MIDI CC 11	Expression Pedal (MSB)	Pedal used for live performance modulation. Map to parameters inside your instrument to modulate while playing.
MIDI CC 12	Effect Controller 1 (MSB)	For controlling effects in an instrument.
MIDI CC 13	Effect Controller 2 (MSB)	For controlling effects in an instrument.
MIDI CC 14	Undefined (MSB)	
MIDI CC 15	Undefined (MSB)	
MIDI CC 16-19	Slider, Knob or Ribbon Controller for General Purpose	A general-purpose MIDI controller for performance modulation.
MIDI CC 21-31	Undefined	
MIDI CC 32	Bank Select (LSB)	Used alongside CC0 bank selection. Changes to a fresh bank of patches if possible.



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MIDI CC Number	MIDI CC Purpose	MIDI CC Description
MIDI CC 33	Modulation Wheel (LSB)	Used alongside CC1 to send a modulation command for instruments with higher mod resolution.
MIDI CC 34	Breath Controller (LSB)	Used alongside CC2 to send a modulation command for instruments with higher mod resolution.
MIDI CC 35	Undefined	
MIDI CC 36	Foot Pedal (LSB)	Used alongside CC4 to send a modulation command for instruments with higher mod resolution.
MIDI CC 37	Portamento Time (LSB)	Used alongside CC5 to send a modulation command for instruments with higher mod resolution.
MIDI CC 38	Data Entry (LSB)	Used alongside CC6 for SYSEX, NRPN, or RPN messages.
MIDI CC 39	Volume (LSB)	Used alongside CC7 for instruments with higher volume modulation resolution.
MIDI CC 40	Balance (LSB)	Used with CC8 to send a modulation command for instruments with greater modulation resolution.
MIDI CC 41	Undefined	
MIDI CC 42	Pan (LSB)	Used with CC10 to send modulation commands for instruments with higher mod resolution.
MIDI CC 43	Expression (LSB)	Used with CC11 to send modulation commands for instruments with higher mod resolution.
MIDI CC 44	Effect Control 1 (LSB)	Used with CC12 to send modulation commands for instruments with higher mod resolution.
MIDI CC 45	Effect Control 2 (LSB)	Used with CC13 to send modulation commands for instruments with higher mod resolution.
MIDI CC 46 – 63	Undefined	
MIDI CC 64	Sustain Pedal (on/off)	One of the most commonly used MIDI channels. Controls the sustain on an instrument. Almost all instruments will use this command.
MIDI CC 65	Portamento (on/off)	A switch for Portamento time used to turn it on and off. 0-63 = off, 64-127 = on.
MIDI CC 66	Sostenuto (on/off)	A switch for sustain of active notes is used to turn sustain on and off. 0-63 = off, 64-127 = on.
MIDI CC 67	Soft Pedal (on/off)	A switch to turn the soft pedal on and off. Supposed to emulate the Piano soft pedal. 0-63 = off, 64-127 = on.
MIDI CC68	Legato (on/off)	A switch to turn the legato on and off.
MIDI CC 69	Hold Pedal 2	An alternative control to sustain that affects how notes are held and fade out.
MIDI CC70	Sound Controller 1	A control for affecting how the sound is produced. Used for filters, effects etc.



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MIDI CC Number	MIDI CC Purpose	MIDI CC Description
MIDI CC 71	Sound Controller 2	Allocated to filter resonance/Q.
MIDI CC 72	Sound Controller 3	Allocated to the amp envelope release time. Changes how long notes fade out.
MIDI CC 73	Sound Controller 4	Allocated to the amp envelope attack time. Changes how fast the volume rises from the keypress to max volume.
MIDI CC 74	Sound Controller 5	Allocated to the filter cutoff frequency Hz value.
MIDI CC 75 – 79	Sound Controller 6-10	An extra control for affecting how the sound is produced. Used for filters, effects etc.
MIDI CC 80 – 84	General Purpose (on/off)	An on off switch for general purpose.
MIDI CC 84 – 90	Undefined	
MIDI CC 91	Effect 1 Depth	Usually, a control for reverb in your instrument.
MIDI CC 92	Effect 2 Depth	Usually, a control for the amount of tremolo.
MIDI CC 93	Effect 3 Depth	Usually, a control for the amount of chorus.
MIDI CC 94	Effect 4 Depth	Usually, a control for the amount of detuning.
MIDI CC 95	Effect 5 Depth	Usually, a control for the amount of phasing.
MIDI CC 96	Data Bound Increment (+1)	A control to increment data for SYSEX, NRPN, RPN.
MIDI CC 97	Data Bound Increment (-1)	A control to decrement data for SYSEX, NRPN, RPN.
MIDI CC 98	NRPN (LSB)	Selects the NRPN variable for CC6, 38, 96 & 97.
MIDI CC 99	NRPN (LSB)	Selects the NRPN variable for CC6, 38, 96 & 97.
MIDI CC 100	RPN (LSB)	Selects the RPN variable for CC6, 38, 96 & 97.
MIDI CC 101	RPN (MSB)	Selects the RPN variable for CC6, 38, 96 & 97.
MIDI CC 102 – 119	Undefined	
MIDI CC 120	Channel Mute	Turns off all sound immediately, paying no attention to release or sustain.
MIDI CC 121	Reset All Controllers	Resets all controllers to default.
MIDI CC 122	Local Keyboard (on/off)	A switch for local keyboard mode, to turn on and off. Used to turn off the internal sound.
MIDI CC 123	All Notes (on/off)	A switch to turn all notes on, or off. Sustain and release will be maintained.



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<b>MIDI CC Number</b>	<b>MIDI CC Purpose</b>	<b>MIDI CC Description</b>
MIDI CC 124	OMNI Mode OFF	A switch to turn OMNI Mode off. OMNI on will send & receive information on all MIDI channels, rather than a particular one.
MIDI CC 125	OMNI Mode ON	A switch to turn OMNI Mode off. OMNI on will send & receive information on all MIDI channels, rather than a particular one.
MIDI CC 126	Mono Mode	Tells an instrument to work in Mono. Turns off Poly.
MIDI CC 127	Poly Mode	Tells an instrument to work in Poly mode. Turns off Mono.