

# Midronome User Guide

## For Firmware 2.0

**Important:** devices ship with the factory firmware, so please remember to [upgrade the firmware to 2.0](#) before you start using it!

This User Guide is the full Midronome manual, read it through to make sure you know about all the things your Midronome can do!

You can also watch this Video manual, which covers most of the functionalities of the device:

 **Midronome Walkthrough (Video manual)**

**Note:** the video section about *external sync* (previously called DAW Sync) is outdated, it has now been replaced by *this video series*.

If you are in doubt or if the walkthrough does not match with what is written in this User Guide, always prefer the information [from this PDF](#).

If you need help, ask on:

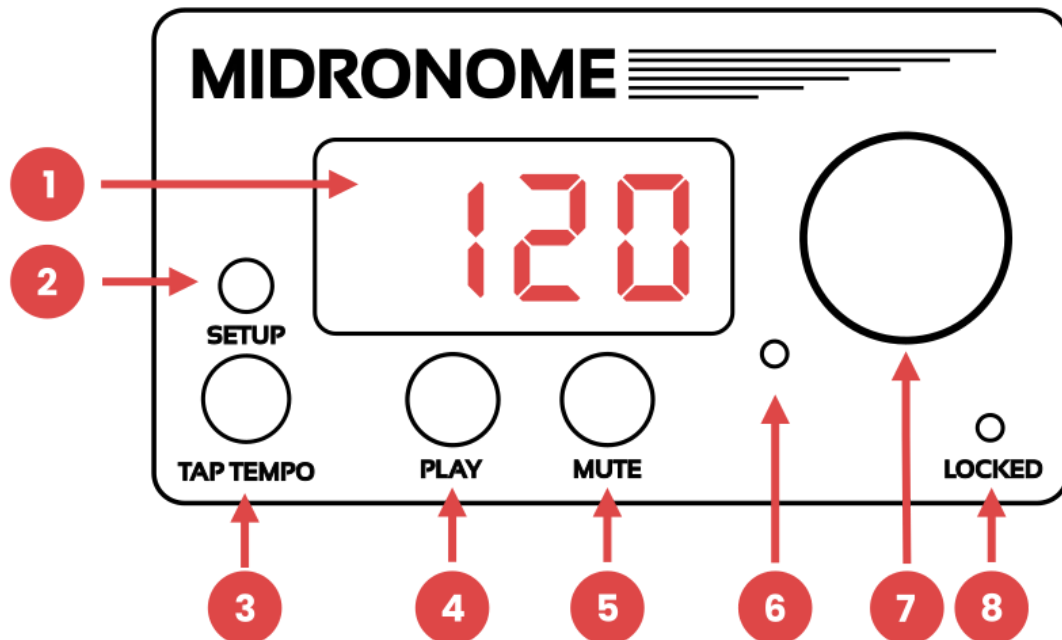
- [The Midronome Forums](#)
- [The Midronome Facebook Group](#)
- [Or contact Midronome Support](#) (please prefer public channels if possible)

*Last updated on 18 October 2023*

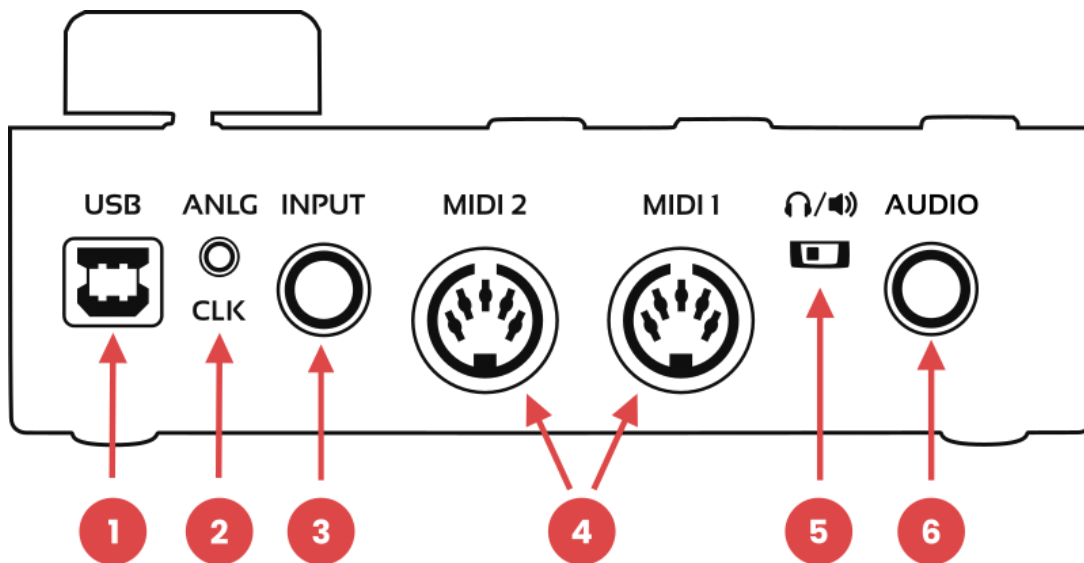
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## 1. Buttons & Connectors



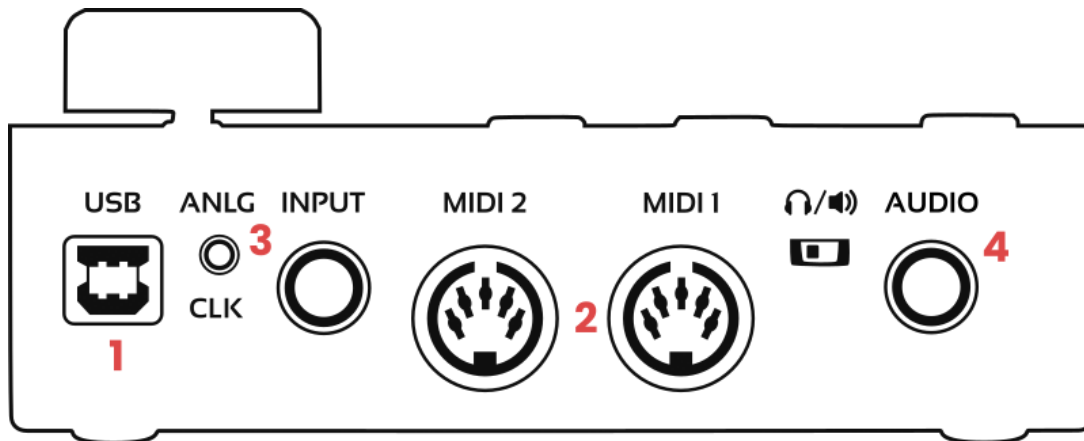
1. Display - shows the current tempo (or current setting/value/info)
2. Red Setup Button - enter and leave the settings
3. Tap Tempo Button - tap a new tempo
4. Play Button
  - start/stop your gear
  - long press to resync/restart your gear
5. Mute Button - mute/unmute the audio metronome
6. Click LED - blinks at tempo (green on downbeat, red on other beats)
7. Knob
  - turn it to change the tempo, or change settings/value
  - press it to validate
  - hold it down for 1 second to "lock" the tempo, where changes need to be validated (making a tempo jumps)
8. Locked LED
  - turns on when device is locked or synced (see [external sync](#) section)
  - blinks when in the settings



1. USB Type-B plug
  - Device is USB-powered
  - **USB communication** with a computer
2. CV/Analog/DIN Sync Clock Output
  - 3.5mm TRS plug (stereo jack)
  - sends 5V analog pulses on both Tip&Ring for your modular synths
  - can be configured to DIN Sync (sync24) for vintage gear
    - this will require a TRS-to-DIN sync adapter
3. Multi-function Input
  - 6.35mm TRS plug (stereo jack)
  - plug in 2 pedals here (one on Tip/Left and one on Ring/Right)
  - plug a drum pad here (to tap the tempo and/or time signature)
  - send the sync signal here (see **external sync** section)
4. MIDI Outputs
  - Sends MIDI Clock, MIDI Start/stop, and forwarded USB-MIDI messages
  - Start/stop can be independently controlled on each port
5. Headphones/Line Out switch
  - selects headphones (🎧) or balanced line out (🔊) for audio out (6)
6. Audio Output
  - 6.35mm TRS plug (stereo jack)
  - plays metronome click

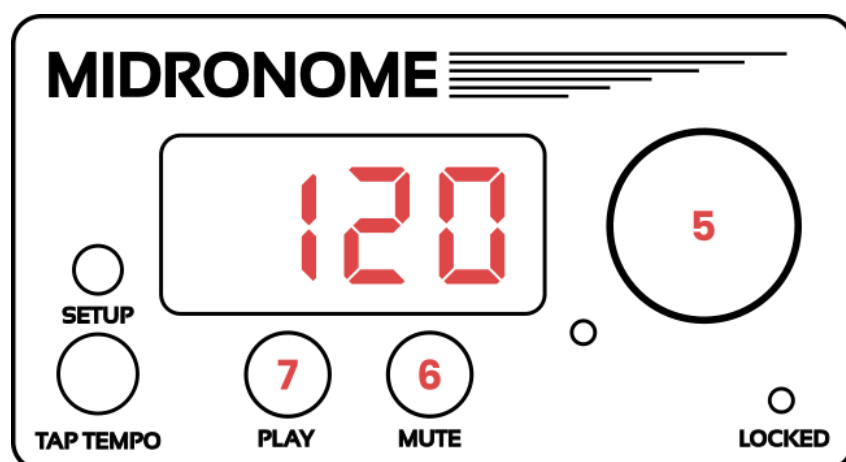
## 2. Quick start

Start by plugging cables on the back of the device:



1. Connect the USB cable for power
2. Connect a MIDI cable to the *MIDI IN/Inpu*t connector of your MIDI devices
  - o Make sure your devices synchronize to external MIDI Clock
3. Connect a mini-jack (3.5mm) cable to send pulses to your modular synths
4. Plug-in a pair of headphones to listen to the Metronome

Now your devices should be in time with each other, and you can:



5. Change the tempo
6. Mute/unmute the metronome
7. Start/stop your MIDI sequencers

Furthermore:

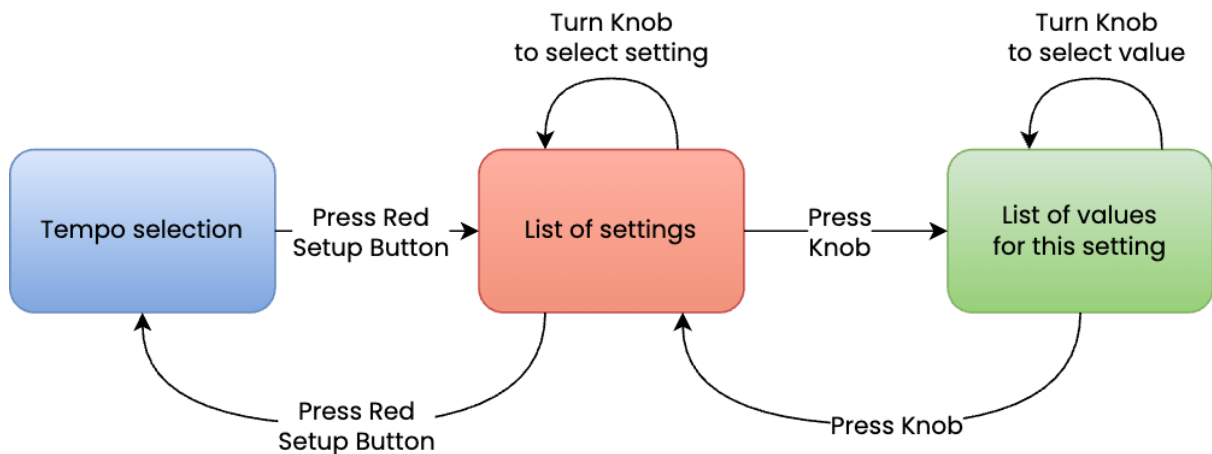
- Change the volume by holding down the Red Button and turning the Knob
- When pressing the Play button:
  - The button will blink
  - On the next bar it starts and the display shows *PLA* (Play)
  - Holding it down will send a re-sync/rewind signal ( *Syn* )
  - Pressing it shortly will stop your gear ( *Sto* )
- Holding the Knob down for 1 second will activate "Locked Mode"
  - The Locked LED will turn on
  - tempo changes need to be validated by pressing the Knob
  - This way you can make tempo jumps

### 3. The settings

The settings are different configuration options changing the way the Midronome will act or react, when for example a button is pressed, or when a piece of hardware is plugged in.

#### 3.1 - Editing the settings

The settings are accessible by pressing the Red Setup Button. Use the Knob to select, change, and save a setting value.

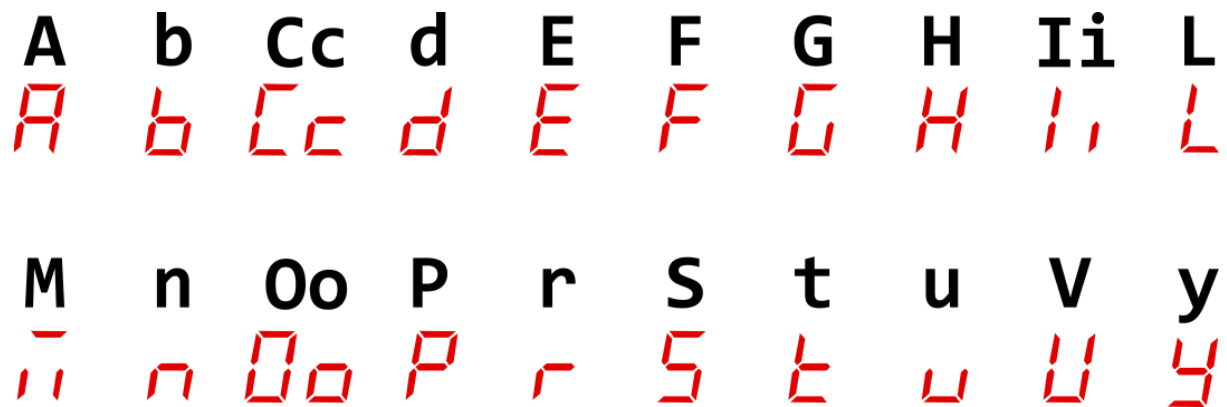


Step	Turning the Knob	Display example
Tempo selection	Changes the tempo	120
List of settings	Changes the selected setting	Ua. 1
List of values for this setting	Changes the value of this setting	OFF

All settings are saved and applied automatically. They are also preserved when the firmware is updated.

### 3.2 - Reading letters on the display

Understanding what the display is telling you can be a bit tricky if you are not used to it. This is the alphabet used by the Midronome:



Note that the dot is used for separation, for example: *Uo.1* reads Volume 1, *A.P.L* reads Auto-Play.

### 3.3 - The list of settings

Setting Name	Meaning	Setting Values
<i>Uo.1</i>	Volume of Click 1 *	1 to 9 (6dB steps)
<i>Uo.2</i>	Volume of Click 2 *	(Click 1 = downbeat, Click 2 = other beats)
<i>CL.1</i>	Click Sound for Click 1	0 (no sound) to 59
<i>CL.2</i>	Click Sound for Click 2	Sounds 1-9 are "natural" sounds, while 10+ are digital
<i>bAr</i>	Beats per bar	1 to 99 (time signature in x/4)



<p><i>inP</i></p>	<p>INPUT Plug Mode</p>	<p><i>OFF</i></p> <p><i>PEd</i> Pedal</p> <p><i>Syn</i> sync to <i>MidroSync</i> signal</p> <p><i>PA.d</i> Drum Pad **</p> <p><i>PA.d.</i> Drum Pad with time signature detection **</p> <p><i>24P</i> sync to 24 PPQ signal</p> <p><i>24P.</i> sync to 24 PPQ signal without 1-bar delay</p> <p>(after selecting <i>PA.d</i> or <i>PA.d.</i> the display shows <i>PA-</i> , so you can adjust the sensitivity of the Pad by turning the knob)</p>
<p><i>PEd</i></p>	<p>Pedal Function</p>	<p><i>Mute</i> Mute/Unmute</p> <p><i>PLA</i> Play/Stop</p> <p><i>TAP</i> Tap Tempo</p> <p>(this is hidden unless <i>inP</i> = <i>PEd</i>)</p>
<p><i>AnL</i></p>	<p>Analog Clock Mode</p>	<p><i>OFF</i></p> <p><i>On</i> Clock is sent constantly</p> <p><i>PLA</i> Clock only sent after pressing PLAY</p> <p><i>d in</i> DIN sync / sync24 output mode</p>

<i>An.1</i>	Analog Clock 1 Speed	1 to 24 ppq (pules per quarter note)
<i>An.2</i>	Analog Clock 2 Speed	(settings hidden if <i>AnL = OFF</i> or <i>AnL = d in</i> )
<i>PLA</i>	Play Button Setup	<i>bot</i> Both - MIDI Ports 1 and 2 are sending Play <i>one</i> One - only MIDI Port 1 is sending Play <i>SEP</i> Separate - the Play button acts on MIDI Port 1, and the Mute button is now a second play button for MIDI Port 2 ***
<i>APL</i>	Auto-play Mode	<i>OFF</i> Auto-play is off <i>On</i> Start/Stop is sent automatically when sync start and stops - see <i>external sync</i>  <i>(this is hidden unless inP = 54n, 24P or 24P. )</i>
<i>br1</i>	Display Brightness	Adjust brightness from 001 to 008

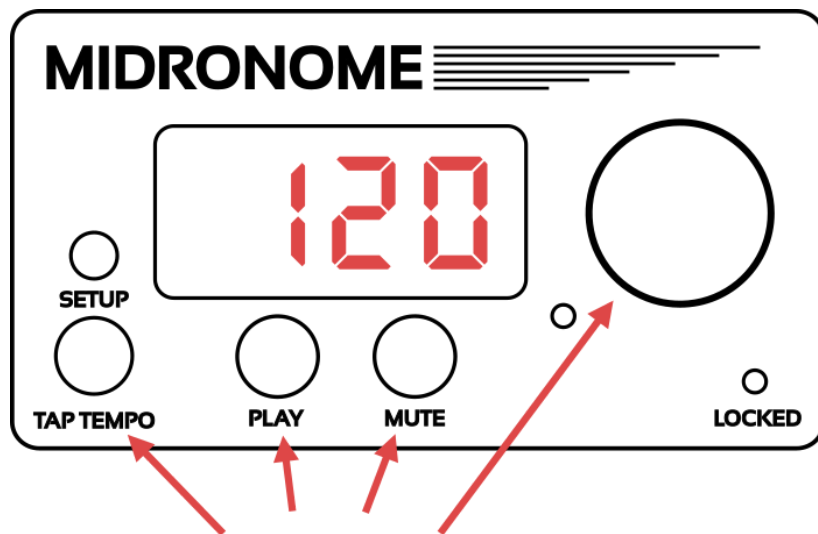
\* Adjust both volumes by holding down the Red Setup button and turning the Knob while the display is showing the tempo.

\*\* When PAd or P.A.d. mode is selected, before leaving the settings, the LED's of the device will stop blinking, now reacting to taps on the pad. In P.A.d. mode, to be able to tap the time signature you want first to practice tapping 1 2 3 4 1, with both 1's being green and all other taps red. Fee free! to adjust the sensitivity as needed.  
See [the walkthrough on Youtube](#) for a video explanation.

\*\*\* The metronome will automatically be unmuted when choosing this option, as the mute button will not perform mute/unmute anymore. Note that you can still mute or unmute using a pedal.

### 3.4 - Advanced settings

Because the Midronome is so versatile, there are even *more* settings. But to avoid an overwhelmingly long list, a few settings are hidden. These settings will appear if you press the following combination when you are in the list of settings:



**Hold down  
Tap Tempo + Play + Mute + the Knob  
for 1 second (in the settings)**

Then the display will blink *Adv* (Advanced) and the list will now have the following options:

Setting Name	Meaning	Setting Values
<i>Vo.1</i>		
<i>Vo.2</i>		

CL1		
CL2		
bAr		
inP		
PEd		
PE2	Pedal 2 Function *	<p>OFF Pedal 2 is deactivated (<i>default</i>)</p> <p>MUTE Mute/Unmute</p> <p>PLA Play/Stop</p>
PEt	Pedal Type	<p>SUS Sustain - use momentary pedals like piano sustain pedals (<i>default</i>)</p> <p>LAT Latching - use latching pedals like guitar amp footswitches</p>
AnL		
An.1		
An.2		
PLA		

<i>rES</i>	Reset Mode	<i>OFF</i> Play is sent on the next bar ( <i>default</i> ) <i>On</i> Play is sent right away and the audio metronome is reset/rewound  <i>(if inP = 54n, 24P or 24P., this setting is hidden and the Reset Mode is off)</i>
<i>RPL</i>		
<i>LEd</i>	Click LED brightness	<i>OFF</i> <i>nor</i> Normal brightness ( <i>default</i> ) <i>HIG</i> High brightness
<i>br1</i>		

All the advanced settings will stay visible until the device restarts. After restarting, all advanced settings with a default value will be hidden again (the others will stay visible).

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\* Pedal 2 is the Ring/Right part of the INPUT plug, it can be used in conjunction with any of the *inP* settings (making it 2 pedals, 1 pedal and *external sync*, or 1 pedal and a drum pad)

## 4. USB communication and commands

The Midronome is USB-MIDI Class compliant. It will create 5 MIDI interfaces on your computer:

- **Midronome Clock & Start** [IN] - sends MIDI Clock, as well as Start&Stop
- **Midronome Clock only** [IN] - same without Start/Stop
- **Midronome Commands** [OUT] - receives commands for the Midronome
- **Midronome MIDI Out 1** [OUT] - receives MIDI Data, forwarded to MIDI OUT 1
- **Midronome MIDI Out 2** [OUT] - receives MIDI Data, forwarded to MIDI OUT 2

Please note that

[IN] = your computer/DAW will **receive** MIDI **from** the Midronome

[OUT] = your computer/DAW will **send** MIDI **to** the Midronome

and that on Windows the interfaces might be called differently, usually simply "Midronome", then "Midronome 2", "Midronome 3", etc.

**Important:** if you are on Mac, recently upgraded to FW 2.0, and cannot see the new MIDI Out 1" and "MIDI Out 2" interfaces, you need to:

- Unplug your Midronome
- Open the "Audio MIDI Setup" application
- In the menu, click "Window" -> "Show MIDI Studio"
- Delete everything called "Midronome" in the MIDI Studio
- Then replug your Midronome

### 4.1 - The two [IN] interfaces

The two MIDI IN interfaces, "Midronome Clock & Start" and "Midronome Clock only", send the MIDI Clock as well Start and Stop messages for the first one.

Use these interfaces in a software that can follow MIDI Clock, for example Ableton, Bitwig or Reason.

Find more information about this in the "How to sync with DAWs" manual available on [the website support page](#).

## 4.2 – MIDI Forwarding interfaces Out 1&2

Send MIDI data to “Midronome MIDI Out 1” or “Midronome MIDI Out 2”, and that data will be forwarded to the corresponding DIN-MIDI port on the back of the device.

The MIDI data is merged with the MIDI generated by the Midronome so that:

- The clock has the highest priority and is 100% unaffected by other data
- Start & Stop messages also have high priority and will be sent on time

MIDI System Common messages and MIDI System Realtime messages (which all start with 0xFn) are **not** forwarded, except Song Select message (0xF3).

All other MIDI messages, including Note On/Off, Aftertouch, CC, PC, Channel Pressure, and Pitch Bend are all forwarded.

System Exclusive (SysEx) messages are forwarded, but limited to **125 bytes**.

Moreover, if the Midronome needs to send a Start message (because the PLAY button has been pressed, for example), and that the output is busy sending a long SysEx message, it will be interrupted so that Start can be sent, and then resent afterwards.

**Note:** this is not the case for Stop and Clock messages, or for SysEx messages of 6 bytes or less.

## 4.3 – Midronome Commands

You can send MIDI to the “Midronome Commands” interface in order to control your Midronome. The same commands can be sent to the module interface.

### 4.3.1 – Change tempo and time signature

On Channel 12, use MIDI CC 85&86 to set the tempo to  $(128 \times CC85) + CC86$

- CC85 val. 0 followed by CC86 val. 30-127 will set the tempo to 30-127
- CC85 val. 1 followed by CC86 val. 0-127 will set the tempo to 128-255
- CC85 val. 2 followed by CC86 val. 0-127 will set the tempo to 256-383

- **CC85 val. 3** followed by **CC86 val. 0-16** will set the tempo to **384-400**

For example:

- To set the tempo to **170**, send **CC85 val. 1** followed by **CC86 val. 42**
- Later on, sending **CC86 val. 117** (and no CC85) will set the tempo to **245**.

Alternatively, still on Channel 12, using MIDI CC 87, 88, and 89:

- **CC 87 val. 0-127** will set the tempo tempo to **60-187**
- **CC 88 val. 0-127** will set the tempo tempo to **100-227**
- **CC 89 val. 0-127** will set the tempo tempo to **140-267**

Finally, still on Channel 12, use MIDI CC 90 to set the time signature:

- **CC 90 val. 1-127** will set the time signature to **x/4**
  - For example **CC 90 val. 3** will set the time signature to **3/4**

#### 4.3.2 - Mute/unmute metronome

On Channel 12, **MIDI CC 102**, with the following values:

- **0** = mute metronome
- **1** = unmute metronome
- **2** = toggle mute (unmute if muted and mute if unmuted)

#### 4.3.3 - Change analog clock speed ("An.1" and "An.2" settings)

On Channel 12, use MIDI CC 104 or 105 with the following values:

- **CC 104 val. 0-7** will set analog clock 1 speed to **1, 2, 3, 4, 6, 8, 12, 24**
- **CC 105 val. 0-7** will set analog clock 2 speed to **1, 2, 3, 4, 6, 8, 12, 24**

Note that this corresponds to the **An.1** and **An.2** settings.

#### 4.3.4 - Start/stop sequencers

- **MIDI Continue:** (re)start machines on MIDI Port X\* on the next bar
- **MIDI Start:** reset/rewind the clock \*\* and start machines on MIDI Port X\*
- **MIDI Stop:** stop machines connected to MIDI Port X\*



- On Channel 12, **MIDI CC 103**:
  - **1** = same as MIDI Continue but for Port 1 only
  - **2** = same as MIDI Continue but for Port 2 only
  - **11** = same as MIDI Stop but for Port 1 only
  - **12** = same as MIDI Stop but for Port 2 only

Note that these start/stop commands are acting no matter the current playing state and no matter the configuration of the device (in particular the settings **PLA** and **rES**).

This way if you have started your machine manually you can still stop it by sending MIDI Stop. Or if you want to send a resync message (= long press on the Play button), you can do that by sending MIDI Continue.

Any other messages or values not mentioned here are ignored.

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\* Port X = Port 1 and 2 if the setting **PLA** is set to "bot" (both), otherwise Port 1 only

\*\* This is independent of the **rES** setting. But note that resets are not possible when **external sync** is activated (*inP* = Syn, 24P, or 2.4.P.). In this case, MIDI Start will have the same effect as MIDI Continue.

## 5. External sync – follow other devices & DAWs

The Midronome has been designed to be used as a Master Clock, and if you can you should always let it be the master. But there might be some situations where this is not possible.

In these cases you can set the *inp* setting to one the following values:

- *54n* : to follow a device sending a *MidroSync* audio signal
- *24P* or *24P.* : to follow a device sending audio pulses at 24 ppq

*(if you cannot see these options, make sure your device firmware is 2.0 or newer)*

In both cases, all you need is generate the correct signal, send it to the INPUT plug of the Midronome.

Note that:

- This type of sync uses audio or analog signal, not USB
- The Midronome cannot sync to any audio, like a song or a drum beat. It needs a specific signal (syncing to any audio is usually called Beat Detection or Tempo Following)

Here are a few examples of things you could sync to:

- DAWs
- Tape machines
- Hardware recorders
- DJ equipment
- SPD Drum pad

### 5.1 – MidroSync – “Syn” setting

MidroSync is a specific audio signal which contains both tempo and start of bar information. This way it can be used to rewind the metronome, moving the position and length of the bar as it pleases.

You can use the *MidroSync File Generator* tool available on [the website support page](#) to generate WAV files with the MidroSync audio signal in it.

See [this video](#) if you struggle to use the tool. You can also find examples of MidroSync WAV files [here](#).

Then get your equipment to play the WAV file at the right volume (see below)

If you loop the file, make sure there are **no fades** around the edges. And if you stretch the file to a different tempo, make sure to use a **re-pitch** stretching mode, where the file content is simply spread apart and not modified.

### *Adjusting the volume*

The MidroSync audio has a “green zone”, i.e. a range of volume where the sync will work. Outside of this zone it will not work correctly.

If you are too close to the edge of the zone, the slightest change in volume could break the sync, so it’s recommended to set the volume right in the middle.

On the Midronome, press Setup and select the *inP* menu:

- while the display is showing *54n*, the Click LED will give information:
  - LED off: no signal or volume too low
  - Yellow: about to sync, should change to green on the next bar
  - Green: volume is ok
  - Red: volume too high

Then find the edges of the “green zone”:

1. Start with low volume (LED is off)
2. Turn the volume up until the LED is **yellow**
3. Keep turning up slowly till it is **green**
  - Note it will only change to green on a new bar
  - Mark the volume level = bottom edge
4. Keep turning up till the volume is **red**
  - Mark the volume level = top edge

Your ideal volume is right in between the bottom and top edge.

**Note:** while you are in the *inP* setting, the device is not syncing, it is just *checking* the signal. So make sure to **leave the settings** once finished.

## 5.2 – Sync to 24 PPQ pulses – “24P” and “2.4.P.” settings

In these two modes, the device will sync to any regular pulses, sent at 24 Parts Per Quaternotes, which is equivalent to **64th note triplets**.

As long as the pulses are sent every 24ppq, they can be any sharp sound::

- An analog pulse of 5ms or less
- A metronome click sound
- A kick drum

Volume-wise, they just need to be louder than about -3dBu (that’s low for a line output, but might feel quite high for a headphone output).

Since this mode does not contain bar information, the Midronome will simply use the **bar** setting and the first pulse to adjust the bar is. Though you can send MIDI CC Commands to the Midronome over USB to set it, just like the Midronome DAW Plugin does.

The difference between the two modes is:

- in the **24P** mode
  - the device works as a master clock when it’s not receiving anything
  - when it receives a pulse it will wait one full bar before syncing
  - (*this is actually the same behavior as the **54n** mode*)
- in the **2.4.P.** mode:
  - the master clock is fully disabled, the device will not send any clock unless it receives pulses
  - when it receives a pulse, it starts right away, without the 1-bar delay

**Note:** these two modes are very useful to sync with DAWs. See the “How to sync with DAWs” manual available on [the website support page](#).

### 5.3 - Automatically start and stop sequencers

The *A.P.L.* setting gives the possibility to automatically “press” the play button when the sync starts and stops. Simply set this setting to “On” and the Midronome will automatically send Start/Stop on its DIN-MIDI Outputs when the sync starts and stops.

This works in all 3 modes, *Syn*, *24P*, and *24P.*

The MIDI Outputs where the messages are sent is the same as if the PLAY button was pressed, so it could be **MIDI OUT 1**, or both **MIDI OUT 1 & 2** depending on the *PLA* setting.

In *24P.* mode, the Play button will be “armed” automatically as soon as the playback stops, to be ready for the next time it starts. And just like in any other mode, the Play button will blink when it is armed.

**Note:** in DAWs, this was previously done by getting the DAW to send MIDI Clock + MIDI Start to the Midronome. This way of doing auto-play is now **deprecated**, replaced by the *A.P.L.* setting.

### 5.4 - Syncing with DAWs

See the “How-To sync with DAWs” PDF manual.

## 6. Sync multiple midronomes together

To get more outputs you can sync multiple Midronomes together. This sync is one-way only: one Midronome will be the *master* and all the others will *follow*. The tempo and time signature can only be changed on the master.


The sync actually used here is **MidroSync**, where the master Midronome generates the MidroSync signal.

On every follower Midronome you need to activate sync to a MidroSync signal:

- press the red Setup button to enter the settings
- choose the **inP** menu
- select **SYN** in the list
- leave the settings

On the master Midronome, you need to configure the audio output to send the *MidroSync* signal:

- Make sure that **inP** is **not** set to **SYN**
- Unmute the metronome
- Set both volumes (**Vo. 1** and **Vo. 2**) to maximum
- In the settings, select **CL. 1**, and set it to 59
- Now press the Knob for 1 second
- The **CL. 1** setting will change from 59 to **SYN**

Now connect a 6.35mm jack cable from the OUTPUT of the master Midronome to the INPUT of every follower Midronome (use a Y splitter cable if syncing more than 2 Midronomes). For best results, set the audio output switch to *line out* (  ) on the master Midronome.

## 7. Error Reporting and Firmware crash

Do not hesitate to report any bug you find, no matter how minor, it's a **huge** help! You can do it on [the Midronome Bug Reporting forum](#).

If the firmware was ever to crash, the display will show "**Er.X**", with X from 2 to 9. This could be caused by a hardware issue or by a software bug.

If it ever happens, all you have to do is press the MUTE button and the device will restart (reboot). But the device will have also saved some error data about the crash in its memory.

This data can be extracted from the device by using the Error Log Extractor tool (available on [the website support page](#)) is **very helpful** to help us understand how it happened.

The tool will also extract other information like your firmware version and your settings, so please use it when reporting a bug.

Thank you!