

Midronome User Guide

For firmware 1.1

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Note: *the video section about [AudioSync](#) (previously called DAW Sync) is outdated, it has now been replaced by [this video series](#).*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

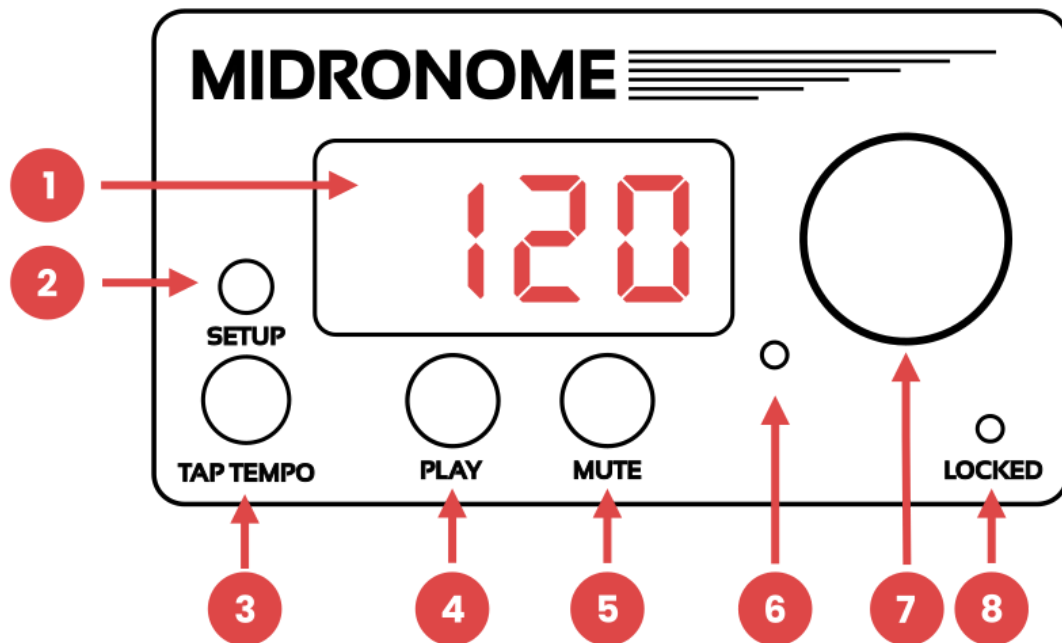
- The [Midronome Forums](#)
- The [Midronome Facebook Group](#)
- Or contact [Midronome Support](#) (please prefer public channels if possible)

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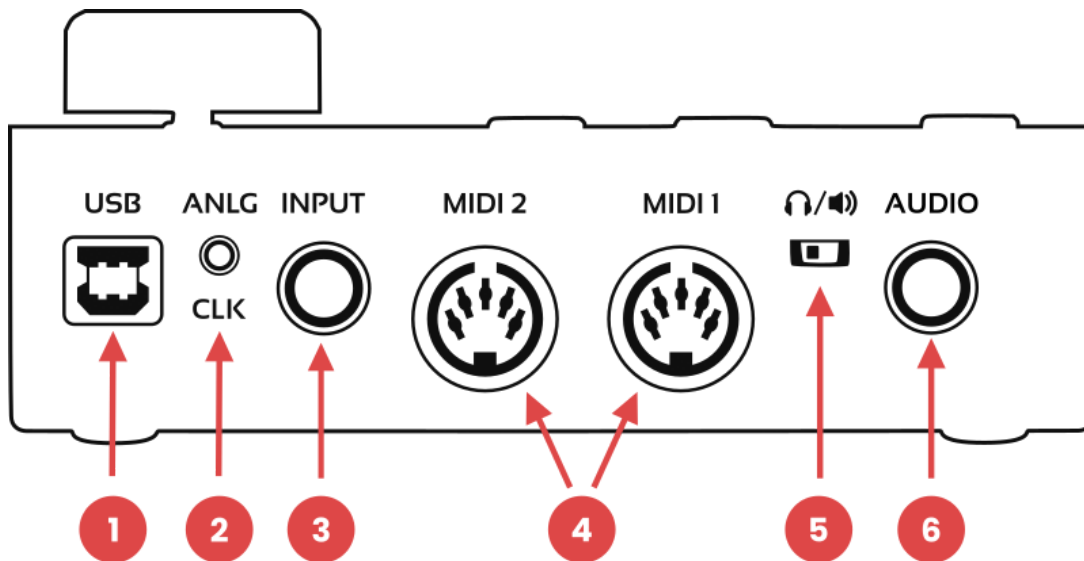
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1. Buttons & Connectors



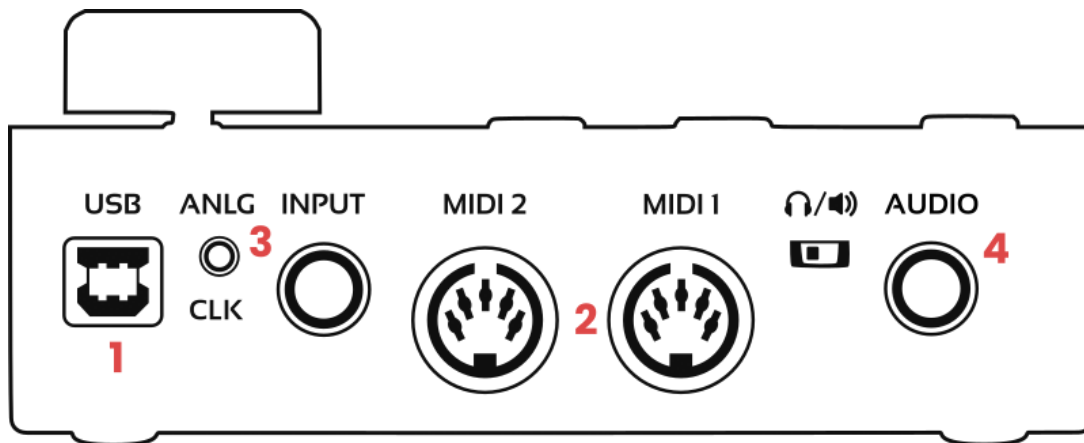
1. Display - shows the current tempo (or current setting/value/info)
2. Red Setup Button - enter and leave the settings
3. Tap Tempo Button - tap a new tempo
4. Play Button - start/stop your gear
5. Mute Button - mute/unmute the audio metronome
6. Click LED - blinks at tempo (green on downbeat, red on 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 [AudioSync](#))
 - blinks when in the settings



1. USB Type-B plug
 - used to receive power
 - can only communicate with a “USB host” (typically a computer)
 - See [USB Commands](#) section
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
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 AudioSync signal here (see [AudioSync](#) section)
4. MIDI Outputs
 - Sends MIDI Clock and MIDI Start/stop signals
 - 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

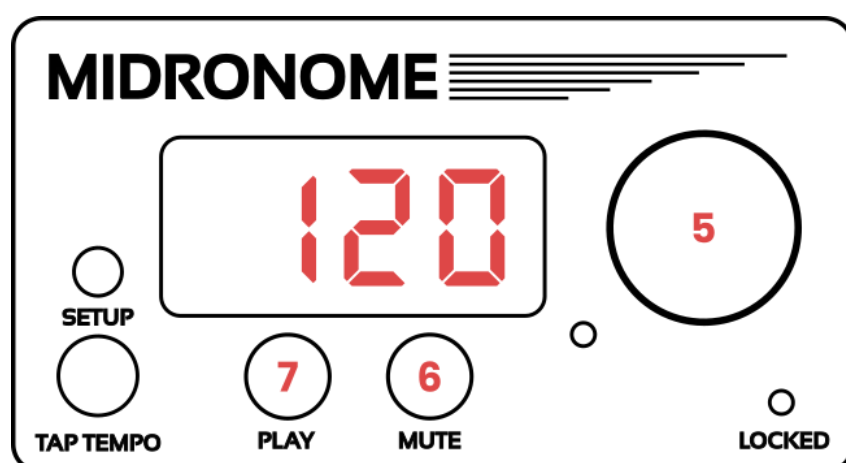
2. Quick start

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/Input* 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

That's it, your devices should already be in time with each other! You can now:



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

Furthermore:

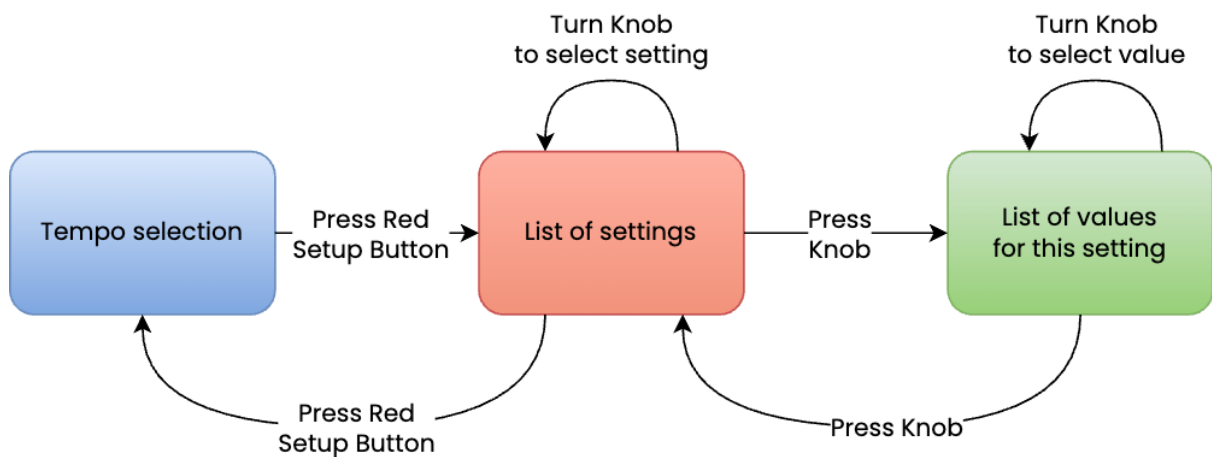
- Change the volume by holding down the Red Button and turning the Knob
- When pressing the Play button, your sequencers start on the next bar
 - At that moment the display will show *PLA* (Play)
 - Pressing it again stops your gear (and the display shows *Sto*)
- Holding the Knob down for 1 second will 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 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.

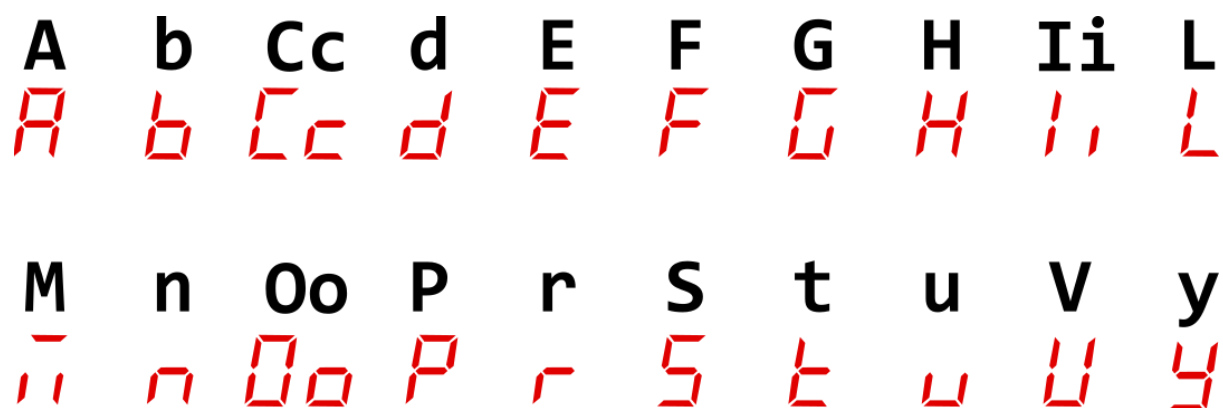


Step	Turning the Knob	Display example
Tempo selection	Changes the tempo	120
List of settings	Changes the selected setting	Ua. 1
List of values for this setting	Changes the value of this setting	OFF

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, *PEt* reads Pedal Type.

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	<i>(Click 1 = downbeat, Click 2 = other beats)</i>
<i>CL.1</i>	Click Sound 1	0 (no sound) to 59
<i>CL.2</i>	Click Sound 2	
<i>bAr</i>	Beats per bar	1 to 99

<p><i>inP</i></p>	<p>INPUT Plug Mode</p>	<p><i>OFF</i> <i>PEd</i> Pedal <i>Syn</i> activates <i>AudioSync</i> <i>PA_d</i> Drum Pad <i>PA_d.</i> Drum Pad with time signature detection *</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 <i>PLA</i> Play/Stop <i>TAP</i> Tap Tempo</p> <p>(setting hidden if <i>inP</i> is different from <i>PEd</i>)</p>
<p><i>AnL</i></p>	<p>Analog Clock Mode</p>	<p><i>OFF</i> <i>On</i> Clock is sent constantly <i>PLA</i> Clock only sent after pressing PLAY <i>d in</i> DIN sync / sync24 output mode</p>
<p><i>An.1</i></p>	<p>Analog Clock 1 Speed</p>	<p>1 to 24 ppq (pules per quarter note)</p>
<p><i>An.2</i></p>	<p>Analog Clock 2 Speed</p>	<p>(settings hidden if <i>AnL</i> = <i>OFF</i> or <i>AnL</i> = <i>d in</i>)</p>

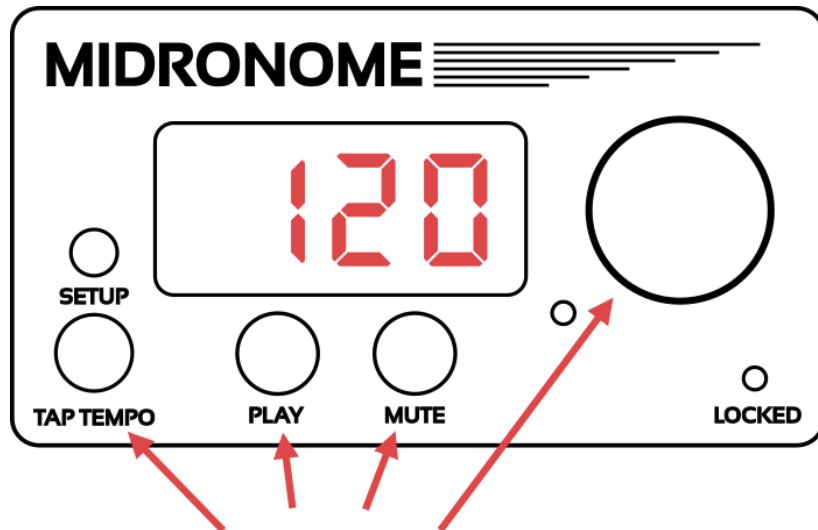
<p><i>PLA</i></p>	<p>Play Button Setup</p>	<p><i>bot</i> Both - MIDI Ports 1 and 2 are sending Play</p> <p><i>one</i> One - only MIDI Port 1 is sending Play</p> <p><i>SEP</i> Separate - the Play button acts on MIDI Port 1, and the Mute button is now a second play button for MIDI Port 2 **</p>
<p><i>br1</i></p>	<p>Display Brightness</p>	<p>001 to 008</p>

* 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/footswitch.

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 *Adu* (Advanced) and the list will now have the following options:

Setting Name	Meaning	Setting Values
<i>Ua.1</i>		
<i>Ua.2</i>		
<i>CL.1</i>		
<i>CL.2</i>		

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		
rES	Reset Mode	<p>OFF Play is sent on the next bar (<i>default</i>)</p> <p>On Play is sent right away and the audio metronome is reset/rewound</p> <p>(if inP = 54n, this setting is hidden and the Reset Mode is off)</p>

<p><i>Loc</i></p>	<p>Locked Mode</p>	<p><i>PAR</i> Partial - only tempo changes are locked (default)</p> <p><i>FULL</i> Full - play, mute, and settings buttons are also locked</p> <p>(if <i>inP</i> = <i>54n</i>, this setting is hidden and the Locked Mode is completely deactivated)</p> <p>(this setting is also hidden if currently in Locked Mode)</p>
<p><i>LEd</i></p>	<p>Click LED brightness</p>	<p><i>OFF</i></p> <p><i>nor</i> Normal brightness (default)</p> <p><i>HIG</i> High brightness</p>
<p><i>br1</i></p>		

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).

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

4. USB commands

The Midronome is USB-MIDI Class compliant. It will create 3 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] - to send commands (see below)

Note: on Windows these might be called differently.

- [IN] = your computer/DAW will **receive** MIDI **from** the Midronome
- [OUT] = your computer/DAW will **send** MIDI **to** the Midronome

This section is about the “Midronome Commands” interface, which gives you the possibility to control your Midronome by sending specific MIDI messages over USB.

4.1 - Change tempo

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

- 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

4.2 – 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)
- other values are ignored

4.3 – 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
 - other values are ignored

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 without the Metronome 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 Start on a port which is already started.

Any other messages, including MIDI Clock messages, are ignored.

* 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 with certain configurations, for example when **AudioSync** is activated (inP=Syn). In these cases, MIDI Start will have the same effect as MIDI Continue.

5. AudioSync

5.1 - What is AudioSync

The Midronome has a way to follow a specific audio signal, in order to sync with a piece of hardware or software that cannot use “traditional” ways like MIDI or Analog pulses. This type of sync is called “AudioSync”. This is also the only case where the Midronome is not the master.

This AudioSync track contains information about the tempo and time signature, and the Midronome adjusts its tempo and time signature very precisely when it receives it.

The most popular use for AudioSync is with a DAW (Digital Audio Workstation), see the [specific section about DAWs](#).

Apart from that, here are a few examples of things you could use AudioSync with:

- Tape machines
- Hardware recorders
- DJ equipment
- SPD Drum pad
- Another Midronome (see [Sync multiple midronomes together](#) section)

Notes:

- *AudioSync is **not** USB sync, it uses audio*
- *AudioSync is **not** syncing to any audio, like a song or a drum beat. It needs a specific AudioSync track (syncing to any audio is usually called Beat Detection or Tempo Following)*

5.2 - Minimum requirements to use AudioSync

The bare minimum needed to use AudioSync is that the equipment (hardware or software) you are trying to sync can play the AudioSync track:

- alongside the other audio tracks
- in time with the other audio tracks
- on a separate audio output

The last point can be difficult, as you need multiple audio outputs (typically at least 3, so you have a master stereo output and a separate mono output for the AudioSync signal). For example some DJ equipments only have one stereo output, so you will either need to stick to a mono mix or use a second DJ equipment just to send the AudioSync signal (as seen on the [Facebook Group](#)!).

Ideally your equipment will be able to either stretch the AudioSync track to tempo, or even generate it (with for example a plugin). Otherwise you will need to regenerate the AudioSync track everytime the tempo changes, using the Sync File Generator tool (see [section below](#)).

5.3 - The Sync File Generator tool

This tool can be used to generate the AudioSync signal as a WAV file. It can be downloaded on [the website support page](#).

The tool is very straight forward and easy to use, but feel free to watch [this video](#) about it.

5.4 - Activate AudioSync on the Midronome

To activate AudioSync on the Midronome:

1. press the red Setup button to enter the settings
2. choose the *inP* menu (INPUT plug mode)
3. choose *54n* in the list
4. leave the settings

Note: If *54n* is in not the list, make sure that:

- your device's firmware is 1.0 or newer
- the device is not in Locked Mode
- the *[L. 1]* setting is set to a number

5.5 – Get your equipment to send the AudioSync signal

Now generate a WAV file containing the AudioSync signal using the [Sync File Generator](#), and get your equipment to play it on an audio output. Make sure the audio output is loud enough (see [section below](#)). Then plug a cable, stereo or mono to the “INPUT” jack of the Midronome.

5.5 – Adjusting the volume

Since this communication is audio-based, the volume of the AudioSync signal will have a “green zone”, i.e. a range of volume where the sync will work.

If you are too close to the edge of the zone, a simple cable change could change the volume slightly and put you out of the zone (and therefore out of sync!).

So it is recommended to adjust the volume so it sits right in the middle:

1. Make sure your equipment is sending the AudioSync signal
2. On the Midronome, press Setup and select the **inP** menu
 - the display is showing **54n** as selected before
 - the Click LED will give information about the volume
 - 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: too loud
3. Adjust the volume till the LED is green
4. Then turn the volume down slowly till the LED goes off or yellow
 - Mark the volume level: that’s the bottom limit
5. Go back to a green LED
6. Then turn the volume up slowly till the LED goes red
 - Mark the volume level: that’s the top limit

Your “green zone” is between the bottom and top limit, and your ideal volume is right in the middle of it.

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.

6. Sync with a Digital Audio Workstation (DAW)

There is now a whole new manual dedicated to this. You can [download it here](#).

7. 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 **AudioSync**, where the master Midronome generates the AudioSync signal.

On every follower Midronome you need to activate AudioSync:

- press the red Setup button to enter the settings
- choose the **inP** menu
- select **54n** in the list
- leave the settings

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

- Make sure that **inP** is **not** set to **54n**
- 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 **54n**

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 sync'ing more than 2 Midronomes). For best results, set the audio output switch to *line out* (🔊) on the master Midronome.

8. Why isn't the device syncing to MIDI Clock

You may currently have a central piece of gear in your studio, sending MIDI Clock to all other devices. It could be a synth, a computer, a Eurorack module for example.

Then you might think: *"I'll send that MIDI Clock to the Midronome, and it will then dispatch it to everything else, that way I still use the same gear to control the tempo"*. But the Midronome does **not** sync to MIDI Clock, and for a reason.

One of the main purposes of the Midronome is to **solve sync issues**. It does this by giving all your devices a stable and jitter-free clock, and it can only do that **if it is the master clock**. Syncing to another MIDI Clock would mean every clock that comes out of the Midronome is only as precise as the source clock ^{*}.

So take that extra step, accept that the center of your setup is now the Midronome (for sync at least), giving clock to everything, including your original central piece of gear.

Note that the Midronome being the Master clock does not mean you need to **control** the tempo from the Midronome. You can change the tempo in many ways, including remotely. For example:

- with a pedal
- with a drum pad
- with another Midronome
- by **sending MIDI CC messages** over USB

^{*} *this is exactly the case when doing **AudioSync** - the source clock being the audio sampling clock of your audio interface which is usually quite stable*

9. 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](#), and 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!