

# User Manual

**340NE** MIDI CLOCK  
TAP TEMPO PEDAL





We thank you for ordering 34one and hope you are happy with this innovative product. Please read the following instructions attentively to know how the device functions. 34one is a musical instrument, which requires practice. With this instrument, you will be able to create great sounds.

*Markus Medau, Managing director, Ploytec GmbH*

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## Getting started

Plug the MIDI-Connector (cable of the 34one) into the MIDI-in jack of your instrument (synthesizer, keyboard, computer).

As soon as you tap the foot switch, 34one is activated and awaits another tap for 2 seconds. During this time, the LED flashes yellow. **Right after the second "tap", 34one starts transmitting a so called "MIDI Clock" signal.** This information synchronizes your synthesizer, sequencer or computer software to the tempo. The 34one calculates the tempo with the time between the two taps on the pedal and bases the calculation on a quarter note. Example: was there 1 second between the two taps, this would equal 60bpm: 60 beats per minute. Half a second means 120dpm, 2 seconds 30bpm....

**MIDI Clock is a so called real-time message, which is sent 24 times per quarter note. (MIDI Time Code has to do with time information and has nothing to do with MIDI Clock).**

**The instructions of your keyboard or sequencer will explain the use of MIDI Clock for synchronization with your device.**

only been tapped once...

In case the foot pedal has only been tapped once, the LED will blink red after the 2 seconds waiting time is past. A battery test will follow and the 34one is turned off automatically. The device can be started again at any time.

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## Turning off

**To turn 34one off, press the foot pedal down for at least one second.** While the 34one is turning off, a battery test will take place: when the LED shines green the battery is OK, when the LED is red, this means that the battery is losing its charge. When you release the foot pedal the battery test is complete and 34one is turned off and ready to be started again.

*battery test*

Usually, there will be a few hours of operating time left after the red light first appears during the battery test. A standard 9V block battery (type: Alkaline) should give you a running time from over 50 hours. When turned off, 34one does not use any energy.

*turned off automatically*

In case 34one is not touched for more than 2 hours and 30 minutes, it will be turned off automatically. This feature prevents the battery from discharging after forgetting to turn off 34one.

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## Turning on and starting

Tap the pedal on the "3" and the "4" (4/4 time). 34one now transmits a continuous MIDI Clock signal and on the following "1" a "MIDI Start" command is also transmitted.

ted. This will start a connected sequencer. Accordingly, the 34one will transmit a "MIDI Stop" when you turn it off.

*arpeggiator*

An arpeggiator ignores such commands and will start the first time you use the keyboard-keys. In this case, you do not necessarily have to wait for the "1".

*shining LEDs...*

The LED assumes a 4/4 time and signals the "1" with red, and the "2" "3" and "4" with green lights. However, the 34one may also be used for any other times (e.g. 3/4).

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## Tap-on function

*For four new measurements you will have to tap five times: e.g. "1" - measurement - "2" - measurement - "3" - measurement - "4" - measurement - "1"*

*exact tempo*

*Keep in mind that 34one is an instrument and exact tapping has to be learned in the same way as time-correct playing of other instruments.*

While 34one is running you can keep tapping at any time. This tapping influences the tempo and phase. **The 34one calculates the tempo with the average values of the last four time measurements.**

After each time 34one is turned on, all four measuring values are initialized on the first time measurement. New values will only be accepted when they are at least half of the actual tempo. Therefore, for larger tempo changes you should change the tempo in small steps.

**Each tap has an influence on the phase and shifts the rhythm in the direction of the next quarter note.** (To the next "2" or "4" in the "24one mode", see below.)

The most exact tempo is not useful, when the music is completely out of time. This is why the 34one uses a sophisticated algorithm, which will slightly increase or decrease the tempo in short time, to get constantly closer to the time you are tapping.

To keep the influence of inaccurate taps small, the average values are constantly calculated. This means that with an increasing amount of taps the influence on the phase is larger. When you stop tapping, the phase shift ceases. However, single taps still have a certain influence.

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## 24one Mode

*straight time*

*note:*

High exactness in taps for higher tempi are offered by the 24one mode, which can be activated via a small switch at the back of the device. **In this mode only half notes are tapped**, which means that in the beginning you **tap on the "2" and the "4"** (instead "3" and "4"), and on the "1" it starts as usual.

For the tap on (see before) you can only tap the "2" and "4" during the time. Tapping "1" and "3" creates a huge chaotic phase shifting, since the 34one will try to get to the next "2" or "4". The "24" mode is, therefore, only useful for straight time (2/4, 4/4, 6/8....).

The switch on the back side of 34one is normally in the 3-4-one mode (default). You have to turn it in the other direction, to use the 2-4-one mode.

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## Technical Data

### MIDI implementation:

- Control Change Channel 1, Controller 90, Value 127 for turning on<sup>1</sup>
- MIDI Clock from second tap on the foot switch
- MIDI Start on the first "1" (after 24 clocks)
- MIDI Stop when turning off
- Control Change Channel 1, Controller 90, Value 0 when turning off<sup>1</sup>

<sup>1</sup> enables turning on and off of an arpeggiator

#### Performance data:

- Tempo range: 30 - 300 bpm
- CPU: Atmel® RISC Microcontroller, Calculation exactness: 24bit internal
- Battery operating time: > 50 hours with Alkaline 9V Blocks

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## Battery change



To change the battery you have to unfasten the two screws on the back and carefully open the 34one.



Exchange the discharged battery with a new 9V Alkaline block battery. Be careful with the polarity of the battery clip.

Be careful not to get cables stuck when closing the device again, especially the knob must not be covered with the cables. The LED of the upper device part shows to the back, where the lower part has the 24one switch and the gap for the cable. (You might want to ask a technical skilled friend for assistance.)

You should only use brand-name batteries and dispose of old batteries accordingly.

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## Impressum

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## Offer

*34one linked to the sustain and assign pedal. All three pedals can be easily put together.*

#### Further music equipment:

