

QUAVERATO MIDI CONTROL

The MIDI Mod allows your Quaverato to be controlled via any MIDI controller that can send program change data and/or control change data. To start using the Quaverato's MIDI capabilities, just attach the MIDI adapter cable to your controller via a standard 5 pin MIDI cable.

SOFTWARE REQUIREMENTS

Quaveratos shipped after November 16, 2018 are loaded with the latest MIDI-enabled software (version 2.3.6 or higher). Here's how to check the software version on your pedal: power it off; press and hold the TAP button; power it on; keep holding the TAP button and soon the TAP LED will start blinking. It will blink out the three-digit version number. Software updates are freely available and super-easy to install with [ZDL Updater](#). You will also need a little piece of hardware called a [USB-Tiny Programmer](#) to connect your pedal to your PC. Download and install ZDL Updater, run the program and then click the "?" to open a detailed Help document.



MIDI CHANNEL

The Quaverato is factory set to listen to MIDI messages on all channels (omni).

To select a specific MIDI receive channel:

1. With your Quaverato off and hooked up to your MIDI controller, enter the Quaverato's calibration mode by holding down both the TAP and BYPASS switches while you power the pedal on. Continue to hold these switches down until the LEDs blink several times.
2. With the MIDI controller, send any program change message or a control change message to the Quaverato on the channel you wish to use. The Quaverato is now permanently set to listen to MIDI messages on that channel, until you repeat this process to change it to a different channel.
3. Cycle the power off and on to exit calibration mode.

PRESETS

The Quaverato stores 6 presets (1-6) that can be recalled with program change messages (0-5).

To save a preset:

1. Set the Quaverato to a configuration that you want to store.
2. Switch to TOG (toggle) mode and hold down the BYPASS switch. After about 5 seconds, the red LED will start blinking.
3. While keeping the BYPASS switch held down, turn the MULTIPLIER knob to the preset number you want to use, in accordance with the table on the following page.
4. Release the BYPASS switch. The red LED will blink the number of times corresponding to the preset number. The preset is saved until the next time you re-program that preset.

Note that Presets 1-6 in the Quaverato are saved to MIDI program change values 0-5. To recall a preset, just send a program change message to the Quaverato with the value corresponding to the particular preset you want to use (0-5, not 1-6).

Preset #	MULTIPLIER Setting	Program Change Value
1	1:2	0
2	1:1	1
3	1.5:1	2
4	2:1	3
5	3:1	4
6	4:1	5

CONTROLLING INDIVIDUAL PARAMETERS

All of the Quaverato's parameters are controllable via MIDI control change numbers (CC#'s). See the table for more information on specific parameters.

USING A MIDI EXPRESSION PEDAL

To use a MIDI expression pedal with the Quaverato, set the pedal transmit channel to match the Quaverato receive channel, and set the pedal CC# to 30. Useful parameters to control on the Quaverato are RATE, DEPTH, SPACING, and HARMONIC MIX. These parameters all respond linearly to values 0-127. The expression pedal will control the most recently adjusted parameter (knob only) on your Quaverato. So just plug in the MIDI expression pedal and then nudge the knob that you want the pedal to control. At any time during use, nudge a different knob to change the parameter controlled by the expression pedal.

QUAVERATO IN STEREO

It is possible to use two Quaveratos (Quaverati?) in tandem to create stunning stereo pan effects. Control Change #35, LFO INVERT can be used to flip one of your pedals out-of-phase to the other: when pedal A is loud, pedal B is soft, and vice versa. As indicated in the table opposite, just send a CC# 35, any value from 0 to 63, to invert the LFO. You must split your signal upstream, to send identical audio into the two Quaveratos. You must split the MIDI as well, and send identical MIDI into each pedal. In this way, the pedals will always be in sync, but out of phase. Run the two pedal-outputs to your stereo mix. A stereophonic harmonic tremolo can be one of the most compelling and mysterious effects you can apply to guitar.

MIDI BEAT CLOCK (MIDI CLOCK)

The beat clock, or "MIDI clock" is a clock signal that is broadcast via MIDI to ensure that several MIDI-enabled devices stay in synchronization. The MIDI clock is useful for keeping several modulation or time-based pedals at the same tap time. MIDI clock messages are independent of MIDI channel, so all pedals in the MIDI chain can receive these messages.

In the Quaverato, control change number 51 enables and disables MIDI clock messages. Data values 0-63 set the Quaverato to ignore MIDI clock messages, and values 64-127 set the Quaverato to listen to these messages. In accordance with the MIDI clock specification, when the Quaverato is set to listen for MIDI clock messages, every 24th incoming clock message is counted as one tap on the tap footswitch (one quarter note).

Do not use the TAP footswitch while the pedal is listening for MIDI clock data. You will confuse your Quaverato.

FUNCTION	CC#	DATA
DEPTH	20	0-127, CORRESPONDING TO FULL LEFT-FULL RIGHT
MULTIPLIER	21	0-21=1:2 22-43=1:1 44-65=1:1.5 66-87=2:1 88-109=3:1 110-127=4:1
WAVE SHAPE	22	0-25=SINE 26-50=SAW 51-75=RAMP 76-100=TRIANGLE 101-127=SQUARE
RATE	24	0-127, CORRESPONDING TO FULL LEFT-FULL RIGHT. SEE QUAVERATO OWNERS MANUAL FOR DETAILS REGARDING BPM.
SPACING	25	0-127, CORRESPONDING TO FULL LEFT-FULL RIGHT
HARMONIC MIX	26	0-127, CORRESPONDING TO FULL LEFT-FULL RIGHT. 63-64 IS A NULL ZONE WITH THE BANDS BALANCED.
PHASE	27	0-63=OUT, 64-127=IN
MODE	28	0-63=MOMENTARY, 64-127=TOGGLE
BYPASS	29	ANY VALUE TOGGLES THE BYPASS STATE
EXPRESSION PEDAL	30	0-127. CONTROLS THE KNOB MOST RECENTLY ADJUSTED.
LFO INVERT	35	0-63=INVERTED, 64-127=FACTORY. FLIPS PHASE OF OPTOCOUPLER LEDs TO ALLOW 2 QUAVERATOS TO BE USED IN STEREO.
BEAT CLOCK IGNORE	51	0-63=BEAT CLOCK IS OFF, 64-127=BEAT CLOCK IS ON
TAP TIME	93	ANY VALUE IS RECOGNIZED AS A TAP FOOTSWITCH PRESS
OMNI CHANNEL ON	125	ANY VALUE. MAKE SURE YOU SEND THIS COMMAND ON THE RECEIVE CHANNEL THE QUAVERATO IS CURRENTLY SET TO.
OMNI CHANNEL OFF	124	ANY VALUE. WHEN INVOKED, QUAVERATO REVERTS TO THE PREVIOUSLY SET RECEIVE CHANNEL.