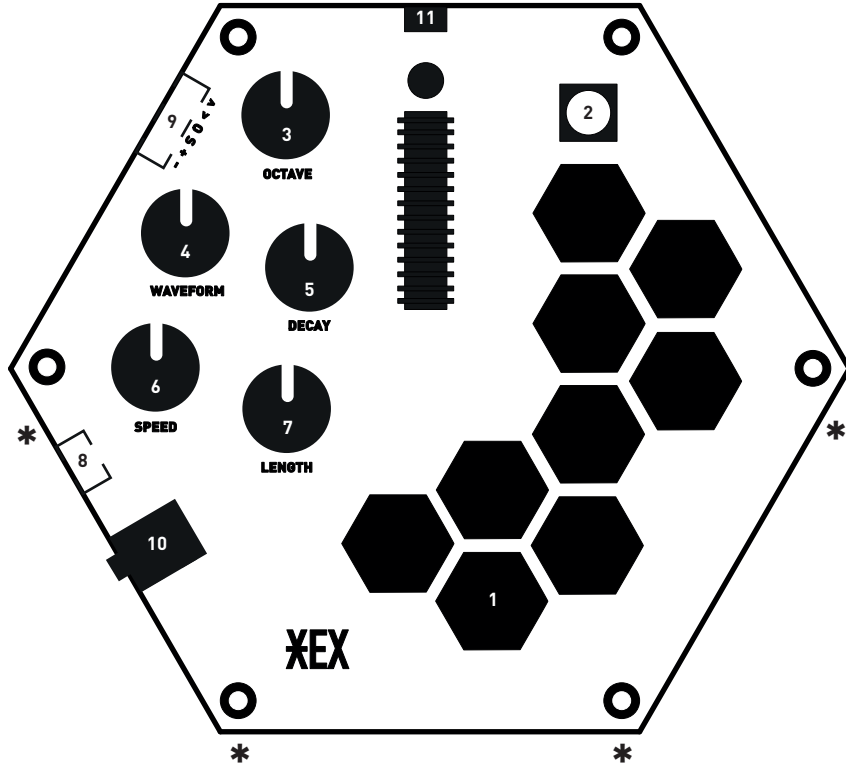


# HEX

cor manual

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## FEATURES

1. Capacitive pads
2. Recording button
3. Octave
4. Waveform
5. Decay
6. Loop speed
7. Loop length
8. Sync switch
9. Header pins
10. 3,5 mm headphone jack output
11. USB C power port

## PERFORM

Touch the golden capacitive pads (1) to trigger the tones. There are many ways of playing - slide your fingers over the pads and try touching multiple pads at the same time (to generate chaotic clouds of sound).

There are three potentiometers dedicated to sound manipulation. OCTAVE (3), DECAY (5) and WAVEFORM (4) settings can be adjusted to produce sounds ranging from thick drones, bass stabs and 8-bit bleeps to techno hi-hats.

There are two selectable scales that can be chosen by rotating OCTAVE to min position. Scales are then chosen by positioning the WAVEFORM—left half selects C major and the right C minor. To exit scale choosing mode rotate OCT out of the extremities. By default cor boots tuned to C major.

## RECORD & TWEAK

By now you have probably played some improvised melodies and want to start recording. HEX's looper has a total length of 256 steps. Use the LENGTH (7) potentiometer to adjust the desired length of the loop window - ranging from 8 to 256 steps (in increments of 8). The blinking LED on the left side of LENGTH indicates the tempo/sync pulse (it blinks on every second step of the loop) while the LED to its right indicates the end of the loop.

Use the SPEED (6) switch to adjust the desired speed of the loop playback (center position = 125bpm). OK, it seems like you're ready to record. Play the pads while pushing and holding the recording button (2). Release the recording button when done with capturing. You can now re-adjust both the SPEED and the LENGTH of the loop and use other potentiometers and pads to play along.

Here it gets tricky - think of your recorded loop as a sound loop on tape. The recording button records tones & potentiometer automation but it also acts as an erase head if no tones are played. This essentially means you can also record silence and use it in your musical creations. Sounds can also be "punched in" between the recorded tones subsequently by quickly pressing the recording button while playing the pads (tip: decrease SPEED).

Overwriting the loop's decay setting is possible by setting WAVEFORM to max and tweaking the DECAY setting. When you're happy with the recorded automation, set WAVEFORM to less than the max setting which will stop the overwrite process.

When OCTAVE is set to max, you can tweak DECAY to control the loop's window offset. Changing the offset acts either as a swing, a melodic sequencer or a granular sound player, depending on the LENGTH setting.

## I / O

The switch (8) next to the 3.5mm stereo jack (10) sets the output to either dual mono or sync (R) + mono (L) mode. This enables other sync-able devices to sync to HEX.

In the six header row (9), there are + and - for unprotected ground and power sharing, unipolar CV inputs for modulating SPEED (>) and DECAY (λ), along with additional audio (O) and sync (S) outputs.

## POWER

HEX can be powered via the USB C socket (11) using a USB power adapter/power bank.

Put HEX next to a wall, mark dots where the \* show. Hammer the 3 nails into the marked spots and voila, you've built yourself an improvised HEX mount.

The solder points on the back of the circuit board (under the capacitive pads) make it possible to wire the pads to DIY touch plates and other conductive objects, expanding the control surfaces of the device.

## COMPONENTS

1. 6 pin header / 1x
2. 16MHz crystal oscillator / 1x
3. 10uF electrolytic capacitor/ 1x
4. 12mm pushbutton / 1x
5. 28 pin IC (chip) socket / 1x
6. ATMEGA328 chip / 1x
7. 3.5mm jack / 1x
8. Potentiometers + knobs / 5x
9. Nuts + bolts / 6x
10. PCB + wooden base / 1x

## ASSEMBLE

You will need a soldering iron, solder, pliers, tweezers and some patience. Before you begin the process, make sure you are working on a clean, well-lit surface. Be careful with the components, some of them are very small: take them out of the packaging one at a time, when needed. Most of the tiny SMD components are marked with numbers that match the numbers printed on the PCB. If you are new to soldering (SMD), we recommend watching some online tutorials beforehand. For the assembly video, visit our website. In any case, take it slow, go step by step and enjoy the process of building your own HEX. It's like a puzzle that you can use and play with afterwards. Oh, and if you have any questions, do not hesitate to contact us. Have fun!

- Solder the 6 pin header on the bottom of the PCB / 1x (align to indent on the wooden base)
- Solder the 16MHz crystal oscillator on the bottom of the PCB / 1x
- Solder the 10uF electrolytic capacitor/ 1x \*
- Solder the 12mm pushbutton / 1x
- Solder the 28 pin IC (chip) socket / 1x \*
- Solder the 3.5mm jack / 1x
- Solder the 100k potentiometers / 5x
- Insert the ATMEGA328 chip in to the IC socket / 1x \*
- Clip all of the excess steel leads on the bottom side and see if it fits the wooden base.
- Drive in the nuts and tighten the bolts.
- Set potentiometers to central position and attach the knobs.

\* For the correct alignment observe printed graphics on the PCB.

## DISCLAIMER and WARNINGS

1. Read these instructions. 2. Keep these instructions. 3. Heed all warnings. 4. Follow all instructions. 5. Do not use this apparatus near water. 6. Clean only with dry cloth. 7. Install in accordance with the manufacturer's instructions. 8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat. 9. Touch pads on the instrument are able to output a low current, therefore the device is unsuitable for individuals with implantable cardioverter-defibrillators (ICD), pacemakers, heart diseases and small children. 11. Power the device only using 5-volt USB C power adapters and cables. 12. Protect the power cable from being walked on or pinched particularly at plugs and connectors at the point where they exit from the device. 13. When interfacing with other devices, follow the manual and check external devices input and output voltage (CV and audio signals). 14. Unplug this device during lightning storms or when unused for long periods of time. 15. When replacing parts, disconnect the device from power sources and unplug all attached cables. Contact the manufacturer for information about recommended substitute part selection. When repairs are undertaken by anyone but the manufacturer, the latter is absolved of all responsibilities. 16. Correct disposal of this product: this product must not be disposed of with household waste, according to the WEEE Directive (2012/19/EU) and your national law. This product should be taken to a collection centre licensed for the recycling of waste electrical and electronic equipment (EEE). The mishandling of this type of waste could have a possible negative impact on the environment and human health due to potentially hazardous substances that are generally associated with EEE. At the same time, your cooperation in the correct disposal of this product will contribute to the efficient use of natural resources. For more information about where you can take your waste equipment for recycling, please contact your local city office, or your household waste collection service. 17. Do not place naked flame sources, such as lighted candles, on the device. 18. This apparatus may be used in tropical and moderate climates up to 45°C. 19. Children must use this product under adult supervision.

HEX cor is a digital polyphonic synthesizer with a capacitive keyboard, potentiometers for signal modulation and an adaptable looper that through its unusual shape explores new ways of interaction and sound synthesis.

