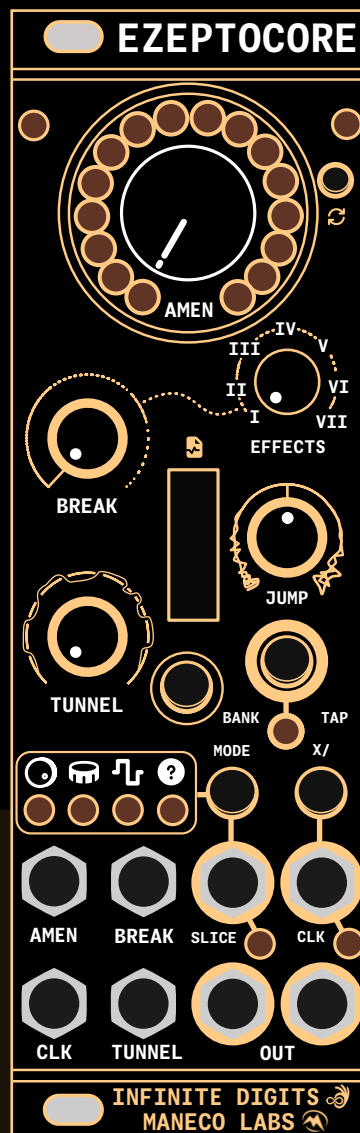


Infinite Digits x Maneco Labs



EZEPTOCORE

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Warranty

THE EZEPTOCORE DEVICE IS COVERED BY INFINITE DIGITS' LIMITED WARRANTY FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF ORIGINAL PURCHASE. THIS WARRANTY APPLIES ONLY TO THE ORIGINAL OWNER AND IS NON-TRANSFERABLE. PROOF OF PURCHASE, SUCH AS A DATED RECEIPT OR INVOICE, IS REQUIRED TO VALIDATE WARRANTY SERVICE. THIS WARRANTY COVERS DEFECTS IN MATERIALS AND WORKMANSHIP THAT OCCUR UNDER NORMAL USE CONDITIONS.

THIS WARRANTY DOES NOT COVER DAMAGE OR MALFUNCTION RESULTING FROM MISUSE, IMPROPER HANDLING, OR UNAUTHORIZED MODIFICATIONS. SUCH EXAMPLES INCLUDE, BUT ARE NOT LIMITED TO: INCORRECT POWER SUPPLY CONNECTIONS OR VOLTAGES, REVERSED OR MISCONNECTED EURORACK BUS CABLES, EXPOSURE TO EXCESSIVE OR INAPPROPRIATE VOLTAGE LEVELS, PHYSICAL DAMAGE OR ABUSE OF THE PRODUCT, REMOVAL OF KNOBS OR REPLACEMENT OF FACEPLATES, EXPOSURE TO EXTREME TEMPERATURES OR MOISTURE, OR ANY OTHER DAMAGE DETERMINED BY INFINITE DIGITS TO BE CAUSED BY USER NEGLIGENCE. IN SUCH CASES, STANDARD SERVICE RATES WILL APPLY.

WARRANTY SERVICE MAY INCLUDE REPAIR OR REPLACEMENT OF THE UNIT, AT THE SOLE DISCRETION OF INFINITE DIGITS. BEFORE RETURNING YOUR UNIT, PLEASE CONTACT OUR CUSTOMER SUPPORT TEAM AT ZACK@INFINITDIGITS.CO TO OBTAIN A RETURN AUTHORIZATION (RA). CUSTOMERS ARE RESPONSIBLE FOR ALL SHIPPING COSTS WHEN SENDING A PRODUCT IN FOR WARRANTY SERVICE.

ALL RETURNS, EXCHANGES, WARRANTY REPAIRS, UPDATES, OR INSPECTIONS MUST BE SHIPPED IN THE ORIGINAL PACKAGING WITH ALL ORIGINAL DOCUMENTATION INCLUDED. ANY UNIT NOT SHIPPED IN ITS ORIGINAL PACKAGING WILL BE REJECTED. PLEASE RETAIN YOUR PACKAGING AND DOCUMENTATION FOR THE ENTIRE WARRANTY PERIOD.

ANY CHANGES OR MODIFICATIONS TO THE DEVICE NOT APPROVED BY INFINITE DIGITS MAY VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT AND WILL IMMEDIATELY INVALIDATE THIS WARRANTY.

PLEASE READ AND FOLLOW THE USER MANUAL CAREFULLY. PROPER USE OF THE EZEPTOCORE IS ESSENTIAL FOR SAFE OPERATION AND TO MAINTAIN WARRANTY COVERAGE. ANY CLAIMS FOR DEFECTS WILL BE REJECTED IF THE PRODUCT HAS BEEN IMPROPERLY USED OR IF THE OPERATING INSTRUCTIONS HAVE BEEN DISREGARDED. FAILURE TO FOLLOW THE PROVIDED INSTRUCTIONS MAY VOID THIS ONE-YEAR WARRANTY.



Package Contents

In the box you will find:

- 1 EZEPTOCORE module
- 1 12-pin-to-16-pin Eurorack power cable
- 2 high-quality thumb screws
- 1 original EZEPTOCORE brand sticker

If any of the above items is missing, please send an email to zack@infinitedigits.co

Safety Instructions

- I. Never use the instrument in a humid or wet environment, nor near flammable goods. The instrument must never be operated outdoors but solely in dry rooms.
- II. No liquids or conducting substances must get into the instrument. Should this be the case, the instrument is to be disconnected from mains power immediately and examined, cleaned and possibly repaired by a qualified technician.
- III. Never expose the instrument to temperatures above +50° C or below -10° C. Before operation, the instrument should have a temperature of at least 10° C. Do not expose the instrument to direct sunlight. Do not install the instrument near heat sources like heaters, open-fire places, central heating etc. Keep the top of the instrument clear in order to allow proper ventilation, otherwise the instrument could eventually overheat.
- IV. Never place heavy objects on the instrument.
- V. Transport the instrument carefully, never let it drop or fall over. Make sure that during transport and in use the instrument is supported properly and cannot drop, slip or fall over because people might get injured.
- VI. The instrument may only be used for the purpose described in this operating manual. Due to safety reasons, the instrument must never be used for other purposes.

Installation

Before you start

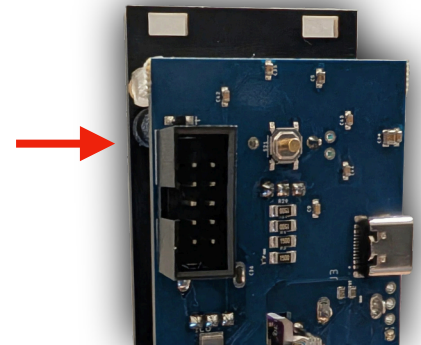
EZEPTOCORE modules are designed for use in any Eurorack-compatible case with a suitable power supply. We recommend installing EZEPTOCORE in a case equipped with a stable, high-quality PSU. Before mounting the module, ensure that your power supply has an available Eurorack-standard 2×8-pin header connector and enough remaining current capacity to safely power the EZEPTOCORE.

1. Add up the maximum current draw for each rail +12 V, -12 V, and +5 V—for all modules in your system, including the new one. You can find the maximum current draw in each module's technical specifications. Tools like ModularGrid can help you calculate and track the total current requirements for your case.
2. Compare the total current required on each rail with the corresponding output ratings of your case's power supply.
3. Install the module only if all total current values are within your power supply's limits. If any rail exceeds its rated capacity, you'll need to remove modules to free up power or upgrade to a higher-capacity supply. Operating with insufficient power can damage both your modules and the power supply. If you're uncertain, please contact us before continuing.
4. Ensure your case has enough free HP to accommodate the new module. To prevent screws or debris from falling inside and causing electrical shorts, avoid leaving gaps between modules and cover any unused space with blank panels. Likewise, do not use open-frame cases or enclosures that expose the backside of modules or the power distribution board.

Installing your module

Always power down your case and unplug it before installing or removing any module. Doing so helps prevent injury and protects your equipment from damage.

The EZEPTOCORE module draws power from both the -12 V and +12 V rails using a standard Eurorack 2×5 ribbon connector. Typical consumption is 135 mA from +12V and 11 mA from -12V.



Rearside of the module



Introduction

EZEPTOCORE is an algorithmic sample mangler based on the [zeptocore](#) created by [Infinite Digits](#) with manufacturing and design by [Maneco Labs](#).

EZEPTOCORE features a turing machine/ runglar-inspired looping slice sequencer, 16 banks of 16 samples with easy sample management, and 16 effects that can be toggled at the turn of a knob.

CV inputs allow you to precisely slice audio, change samples, trigger effects, and stay in sync with other gear.

Specifications

- 8hp.
- manage with [ezeptocore.com](#)
- stereo audio (16-bit 44.1 khz).
- play with 16 banks.
- create combos of 16 effects.
- sequence samples with onboard algorithms.
- transient-specific external triggering.
- stay in sync with clock in, clock out.

EZEPTOCORE Controls

Part I: Basic Functionality.

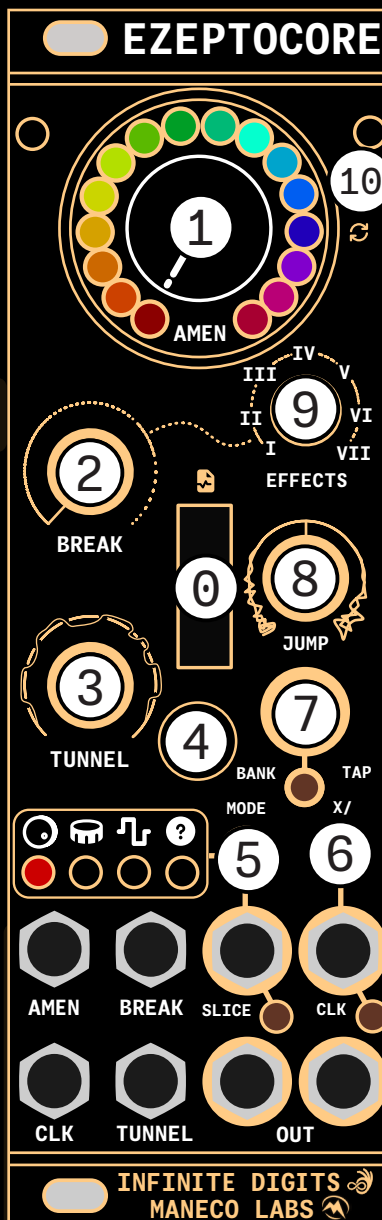
0 SD Card. Holds 16 banks with 16 samples each. Prepared using ezeptocore.com, which organizes, slices, and assigns effects. No sample length limit. Insert to auto-load banks on startup.

1 Amen Knob. Turing Machine-style sequencer. Fully counterclockwise plays normally; fully clockwise randomizes sequence order. Intermediate positions play sequences from 1-16 steps.

2 Break Knob. Controls the probability of triggering effects. Effects are determined by the EFFECTS Knob current selection.

3 Tunnel Knob. Changes the active sample. Hold the Bank Button to change banks. Each bank holds up to 16 samples.

4 Bank Button. Press to cycle through banks.



5 Mode Button. Cycles Trig Out behavior between Kick, Snare, Transient, and Random trigger modes.

10 Reset Button. Press to reset the device. Use in combination with back panel button to activate disk mode.

9 Effects Knob. Selects one of 7 effect mappings (“runes”) that the Break Knob can activate. Each rune can contain any combination of 16 available effects.

8 Jump Knob. Without CV, moving away from center increases jump probability. Turning left of center causes jumps not to return to the base position. Turning right of center preserves original sequence.

7 Tap Tempo Button. C Tap multiple times to set tempo. Also functions as a SHIFT modifier (see next *Part II*).

6 X/ Button. Tap to multiply clock; hold to divide clock.

EZEPTOCORE Controls

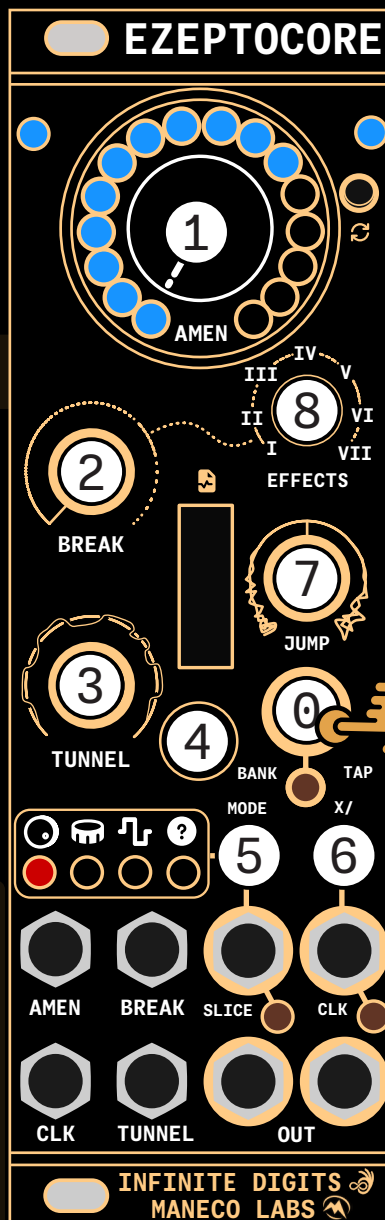
Part II: Blue Mode (holding TAP)

1 DJ Filter. Turn left of center for low-pass filtering, right of center for high-pass filtering.

2 Volume. Turn clockwise to increase volume. Further rotation adds saturation, then distortion.

3 Gating. Turn right to increase slice gating amount.

4 Calibration Button. Note! Before doing this, set all knobs to 12 o'clock. While holding Tap Tempo Button and holding this button, press the Reset Button to calibrate. EZEPTOCORE comes pre-calibrated so this shouldn't normally be necessary.



8 Beat Repeat. Increase the chance of beat repeating with random pitch decay, volume decay and quantization.

7 Pitch Shift. While holding Tap Tempo button, turn right to increase pitch and left to decrease pitch, irrespective of BPM.

0 Tap Tempo Button. These alternate functions apply only while holding this button.

6 Toggle Playback Button. Without Clock In, starts or stops playback. Stopping playback saves the current bank and sample for auto-reload. With Clock In, resets to the start of the sample.

5 Reset to Source BPM. While holding Tap Tempo button, press this to reset BPM to the source BPM of the current sample.

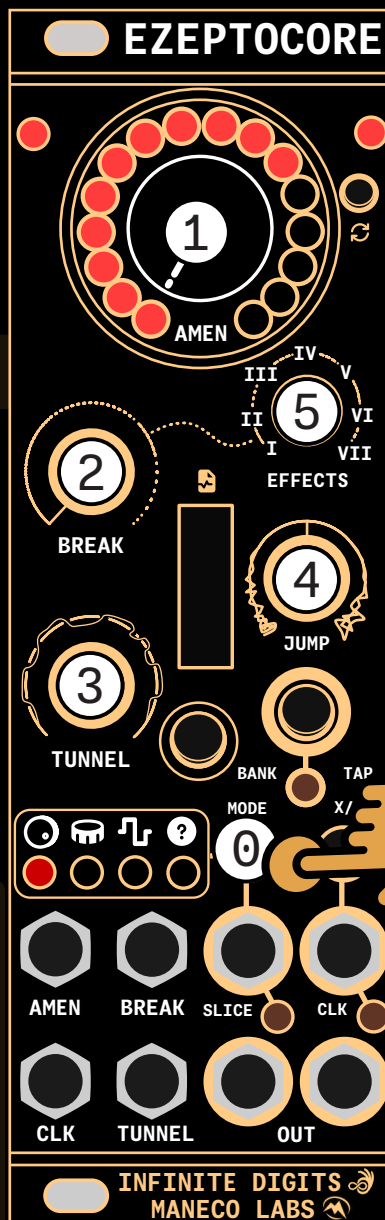
EZEPTOCORE Controls

Part III: Red Mode (holding MODE)

1 Decimation. Turn to increase the amount of decimation to get truly 8-bit lo-fi sounds.

2 Digital Wavefolding. Turn clockwise to increase digital wavefolding and distortion.

3 Chaos Trembler. Turn clockwise to increase the amount of random tremelo.



5 Digital Smear. Turn clock-wise to add slightly random phasing between the two channels.

4 Digital Jitter. Turn clock-wise to randomly replace bits of audio with random sampled audio.

0 MODE Button. These alternate functions apply only while holding this button. Make sure to hold this button for > 1 second to activate this mode. (Pressing this button will change MODE and not activate this mode).

Upgrading & Calibrating

Upgrading the firmware

The EZEPTOCORE arrives with the latest firmware, but if there is an update and you'd like to upgrade, follow these instructions.

1. First download the latest firmware. Goto ezeptocore.com/firmware and there will be a set of 6 firmwares.

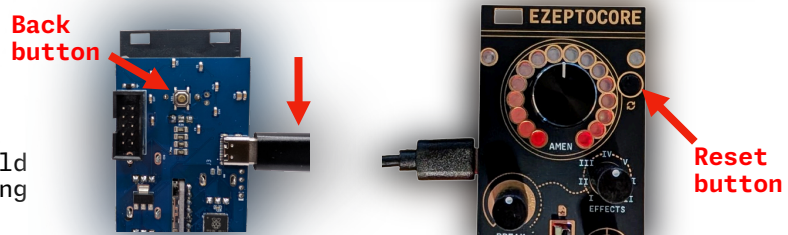
Choose the one based on your needs for clock stability, FX bandwidth, and latency. The default one is shown in red which works well in most use cases.

	Normal Latency	Low Latency	Ultra-Low Latency
Overclocking	v7.0.1*	v7.0.1	v7.0.1
Non-Overclocking	v7.0.1	v7.0.1	v7.0.1

*default firmware

2. Next, plug in the EZEPTOCORE into a computer. The case can be powered or unpowered.

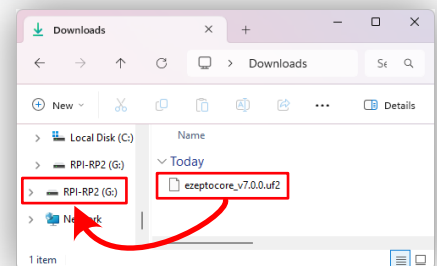
Locate the small button on the back. While the EZEPTOCORE is plugged in, hold down that **Back button** and, while holding it down, press the **Reset button** on the front of the panel.



3. A drive "RPI-RP2" should appear on your computer. Simply drag and drop the downloaded .uf2 file onto that drive.

You might see the drive disappear almost immediately. This means that the upload was successful.

That's it, you have upgraded your firmware!



Calibrating the module

The EZEPTOCORE comes pre-calibrated, but if you notice the lights aren't lining up with the knob positions, you can perform a quick recalibration.

To recalibrate, power on the EZEPTOCORE and set all five knobs to the 12 o'clock position.

Next, hold down Tap^①, then hold down Bank^②. While holding both buttons, press Reset^③. When the lights begin flashing, release Tap^① and Bank^②.

The module will automatically recalibrate, restart, and then be ready for normal use.



EZEPTOCORE Software

Managing samples

Go to ezeptocore.com to manage samples for the EZEPTOCORE. Log in using any URL you choose. Note that anyone with that exact URL can access your data. This makes it easy to share with friends, but if you need your data to remain private, pick a URL that is difficult to guess or use the tool offline (ezeptocore.com/offline) as described below.

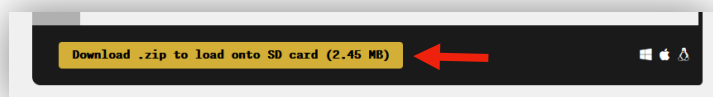
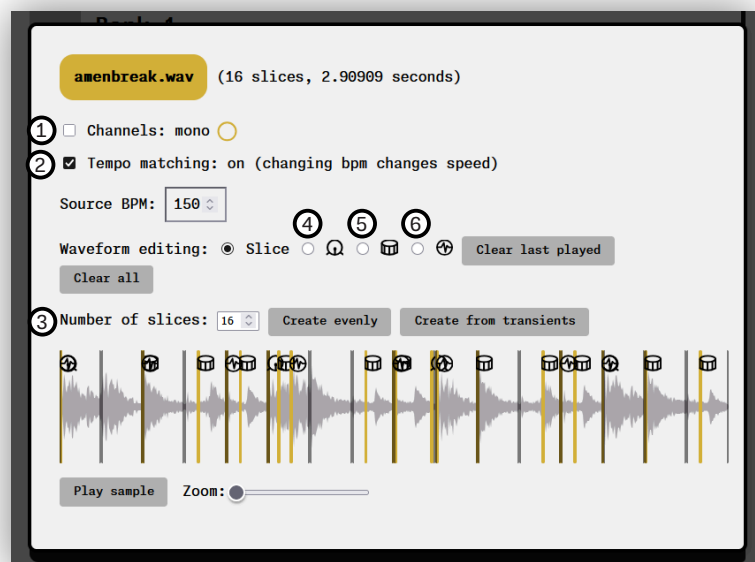
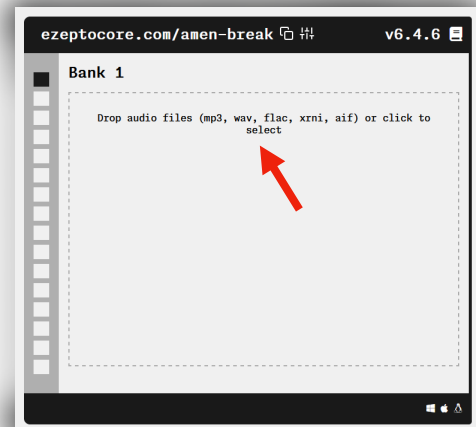
Once you're logged in, drag and drop your sound files into the interface. The software will automatically detect slices in .xrni files from Renoise and .aif files such as those exported from op1.fun.

After the files load, you can click on each one to adjust parameters. You can convert stereo files to mono ①, enable tempo matching ②, and choose how to slice your audio, whether evenly, by transients, or manually for more detailed control ③.

You can also add kick, snare, and transient markers along the waveform ④⑤⑥. When playback crosses one of these markers, the module sends a pulse from the Trig output.

The system includes sixteen banks, and each bank can hold up to sixteen samples with no limit on sample length.

When you're finished preparing your banks, click the button labeled "Download .zip." Open the downloaded file and replace the folders on your SD card with the folders from the zip.



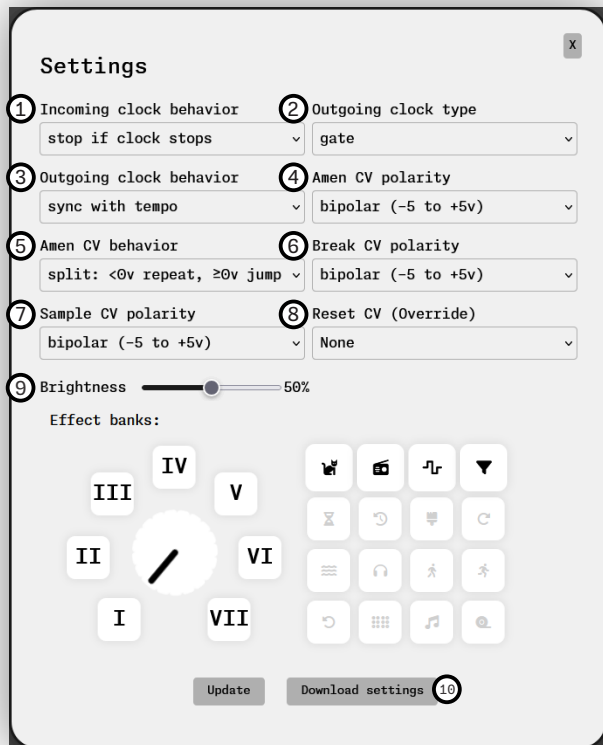
EZEPTOCORE Software

Managing settings

On the settings page, you can adjust how the CV inputs and outputs behave.

The incoming clock ^① can be changed to determine how the device responds to start and stop signals. When set to stop, EZEPTOCORE halts whenever the incoming clock stops and resumes when it starts again. When set to continue, incoming clock start and stop behavior does not affect whether the EZEPTOCORE runs.

The outgoing clock behavior ^{②③} is also configurable. You can choose between outputting trig, which sends a 50 ms pulse, or gate, which outputs a signal lasting half the pulse length based on BPM and the current clock division. You may also choose to have the outgoing clock sync with tempo or sync with slice. Syncing with tempo makes the clock follow the BPM, while syncing with slice outputs pulses tied to each slice, which may not align with standard beats if variable slices are used (e.g. not equal slicing).



Several CV inputs can be set to unipolar or bipolar. For the Amen CV ^④, Break CV ^⑥, and Sample CV ^⑦, selecting unipolar maps 0–5 volts across the full range of control, while selecting bipolar maps –5 to +5 volts across the full range. The Amen behavior ^⑤ itself can also be changed: jump on change switches slices whenever the CV changes more than 1/12 volt; repeat retriggers the current slice with each trigger; and split enables both behaviors simultaneously, though only when using bipolar mode is set on ^④.

You can also override one CV input with a Reset CV ^⑧. Selecting this option designates one CV jack as a reset input, which forces the EZEPTOCORE back to the first slice. When this is enabled, the replaced CV input becomes disabled and the reset behavior takes priority.

The brightness setting ^⑨ adjusts the intensity of the multicolor LEDs. Increasing brightness improves visibility but also increases the device’s power consumption.

The Effects Knob allows you to choose which effects become active when the Break knob is engaged. The available effects include fuzz distortion , lossy compression , bitcrushing reduction , frequency filtering , time stretching , tape delay , comb filtering , beat repetition , reverb , automatic panning , pitch down , pitch up , reverse , retriggering , retriggering with pitch shift , and a tape stop effect . There are eight possible Effects positions, which each can contain any set of the sixteen effects.

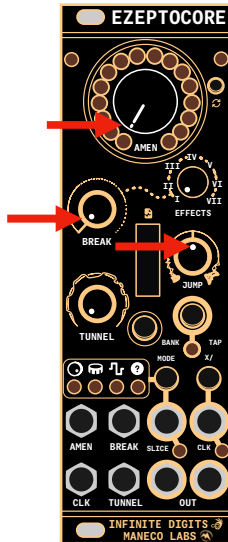
When you’re satisfied with your configuration, select Download Settings ^⑩ and copy the new settings folder to your SD card, making sure to delete the old settings folder first. This step is important, as replacing the folder directly can cause problems. Once the new settings are on the card, any time you download splices, the system will automatically apply these settings.



EZEPTOCORE Patches

Basic playback

For basic playback without effects, keep the **Break knob** fully counterclockwise, the **Amen knob** fully counterclockwise, and the **Jump knob** at the 12 o'clock position. This is a great starting point for experimenting and gradually introducing break effects into your performance.



Auto-rungler

Turn the **Amen knob** fully clockwise to enable the automatic rungler. It will use a random set of 16 slices that changes every 4 bars, with an automatic repeating effect added in. Turn the **Jump knob** slightly clockwise to introduce a bit of randomness.



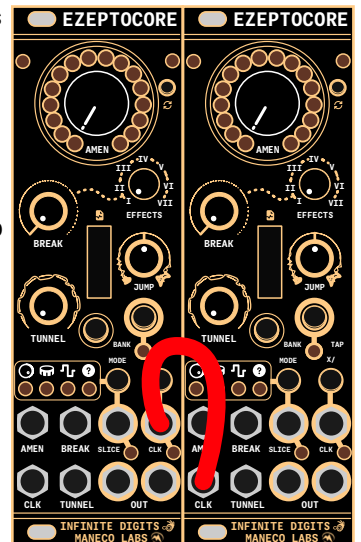
Pre-programmed breaks

Connect a patch cable from the Trig output to the Break output (or to Amen or Sample), or from an external sequencer. This will enable the break probability to occur at the predefined events.



Synced EZEPTOCORE

Pair two EZEPTOCORES by connecting Clock Out from the first unit to Clock In on the second. Make sure the second EZEPTOCORE has **Incoming Clock Behavior** set to **Stop if Clock Stops**, so they stay perfectly synchronized.



Attributions & Acknowledgments

I, Zackary Scholl, am the one-person team behind Infinite Digits. After creating the nyblcore and pikocore, I developed the zeptocore - small handheld sample slicer. The zeptocore itself comes from a long lineage of open-source devices and open-source software, including pikocore, nyblcore, amen script, glitchlets script, amenbreak script, abacus script, makebreakbeat script, sampswap script, dnb.lua utility, raw script, and the paracosms script (most licensed under the MIT license).

These devices and software libraries have their own long legacies and many acknowledgments. Infinite Digits would especially like to acknowledge being inspired by the Jerboa modular synthesizer (for inspiring the use of the ATtiny85), Fay Carsons (for inspiring the use of the RP2040), Limor Fried and Emilie Gillet (for pioneering CC-BY-SA hardware), and Nick Collins (for the Breakcore UGen). Additional thanks go to the open-source contributors to the RP2040 community, including the Raspberry Pi Foundation, Carl J. Kugler III for the SDIO library (built upon FatFS), Steven Noreyko and Jacob Vosamer for helping improve Infinite Digits and porting to RP2040v2, as well as the countless musicians who inspire all Infinite Digits creations. Infinite Digits is also deeply grateful to all open-source maintainers whose work continues to inspire me to keep my own work freely available to remix and re-purpose.

The zeptocore later morphed into two different Eurorack modules: the Ectocore and the EZEPTOCORE. There has been some confusion surrounding the attributions and acknowledgements for these two products.

The zeptocore is the basis for the 2024 Infinite Digits x Toadstool Tech Ectocore. The Ectocore schematic was based on Infinite Digits' open-source pikocore schematic and zeptocore schematic, combined with open-source designs from the Raspberry Pi Foundation, Adafruit, and Emilie Gillet's Plaits schematic (licensed under CC-BY-SA). Iteration on the Ectocore hardware design was done by TT, Infinite Digits, and Instruō. The Ectocore was manufactured by Glasgow Synth Guild. All other aspects—including software, firmware, frontend website, and backend server was done by Infinite Digits, and the product was sold by Infinite Digits.

The zeptocore is also the basis for the 2025 Infinite Digits x Maneco Labs EZEPTOCORE. The EZEPTOCORE schematic was based on the Infinite Digits' open-source schematics, along with schematics from Raspberry Pi Foundation, Adafruit, and Emilie Gillet's Plaits schematic (licensed under CC-BY-SA). EZEPTOCORE manufacturing and hardware design were done by Maneco Labs. All other aspects—including software, firmware, website, marketing, demo videos, and customer support—was done by Infinite Digits. The product is sold by Infinite Digits.

The Ectocore and EZEPTOCORE interface and panel were designed based off Infinite Digits' interfaces from previous monome norns scripts (including the amenbreak script for singular "amen" and "break" knobs, the makebreakbeat script for sample splicing, the sampswap script, and the dnb.lua utility for tunneling and jumping), as well as inspiration from earlier Infinite Digits devices such as pikocore and nyblcore. Infinite Digits also acknowledges that these scripts were born out of a broader open-source community, with special thanks to scanner_darkly (for the single "amen" and "break" knob idea) and Nick Collins (for the Breakcore UGen from SuperCollider).

Both the EZEPTOCORE and the Ectocore are fully open-source modular versions of Infinite Digits' open-source zeptocore device and licensed under the same licenses: GPLv3 and CC-BY-SA-3.0.

The EZEPTOCORE and Ectocore software, websites, tools, configuration, and downloader was developed and maintained by Infinite Digits. The open-source tools for splitting drums were designed at Facebook Research by Alexandre Défossez and are used to generate splice points. Automatic splicing was done using the Aubio library and sox, both open-source software libraries.

The name EZEPTOCORE is a product of Infinite Digits, combining "eurorack" and "zeptocore" to signify its lineage.

Infinite Digits would like to acknowledge the countless members of the open-source community (including SuperCollider, monome norns, Raspberry Pi, Adafruit, and many more) whose work continues to inspire. Infinite Digits remains committed to paying this forward by keeping my work freely open-source and available whenever possible.



ezeptocore.com

Manual Version v7.1.1

Conceived, designed and programmed in Seattle by Infinite Digits
Built in Uruguay by Maneco Labs

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