

ENDORPHINES[®]

TWO OF CUPS

FIRMWARE V.2.R

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WARRANTY

1-year warranty guaranteed from the product's purchase date in case of any manufacturing errors or other functional deficiencies during runtime.

The warranty does not apply in case of:

- damage caused by misuse
- mechanical damage arising from careless treatment (dropping, vigorous shaking, mishandling, etc.)
- damage caused by liquids or powders penetrating the device
- heat damage caused by overexposure to sunlight or heating
- electric damage caused by improper connecting

The warranty covers replacement or repair, as decided by us. Please contact us via email for a return authorization before sending anything. Shipping costs of sending a module back for servicing is paid by the customer. Device complies with all EU regulations concerning RoHS lead-free manufacturing and WEEE disposal.

VISIT US

<https://endorphin.es>

<https://youtube.com/user/TheEndorphines>

<https://facebook.com/TheEndorphines>

https://twitter.com/endorphin_es

<https://www.instagram.com/endorphin.es/>

<https://www.modulargrid.net/e/modules/browser/vendor:167>

For technical requests: **support@endorphin.es**

For dealer / marketing inquiries: info@endorphin.es

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It is doing business as FURTH BARCELONA, S. L. (EU VAT ID: ES B66836487)

INTRO

Two of Cups is 6 HP intuitive eurorack sample player with 8 banks of samples. It consists of 2 identical sample player voices with zero-latency playback, each having CV control over Pitch, Gate and Meta samples scan. Additionally each channel features a Parameter knob that can set the Decay of the internal ASR Envelope (min. 10 mSec., max. 10 Sec. and infinite), Sample volume, Pitch Offset with +/- 2 octaves, Sample Select over 24 samples, enable / disable Looping and Reverse playback.

Modules plays WAV files of arbitrary sample rate: 8 and 16 and 24 bit samples with 12 bit output bitrate.

Factory sound-bank by Julia Bondar.

→ Firmware V2R full video manual: <https://youtu.be/69CwM8faryY>

→ Initial factory firmware quick start guide: <https://youtu.be/rdacPSxF4n4>

CONNECTING THE POWER

Before installing a new module in your case, ensure your power supply has a free power header and sufficient available capacity to power the module.

Connect the module directly to the power bus-board with supplied 10-16 ribbon cable like any other eurorack module. Pair of **RED/BROWN** pins on the multicolor ribbon cable corresponds to **NEGATIVE -12 VOLTS**.

Make sure to align the power cable with the '**RED/BROWN STRIPE**' label on the module that corresponds to -12V, to the 10-pin connector and with typically a white line for the 16-pin connector on the bus board.

TECHNICAL SPECIFICATIONS

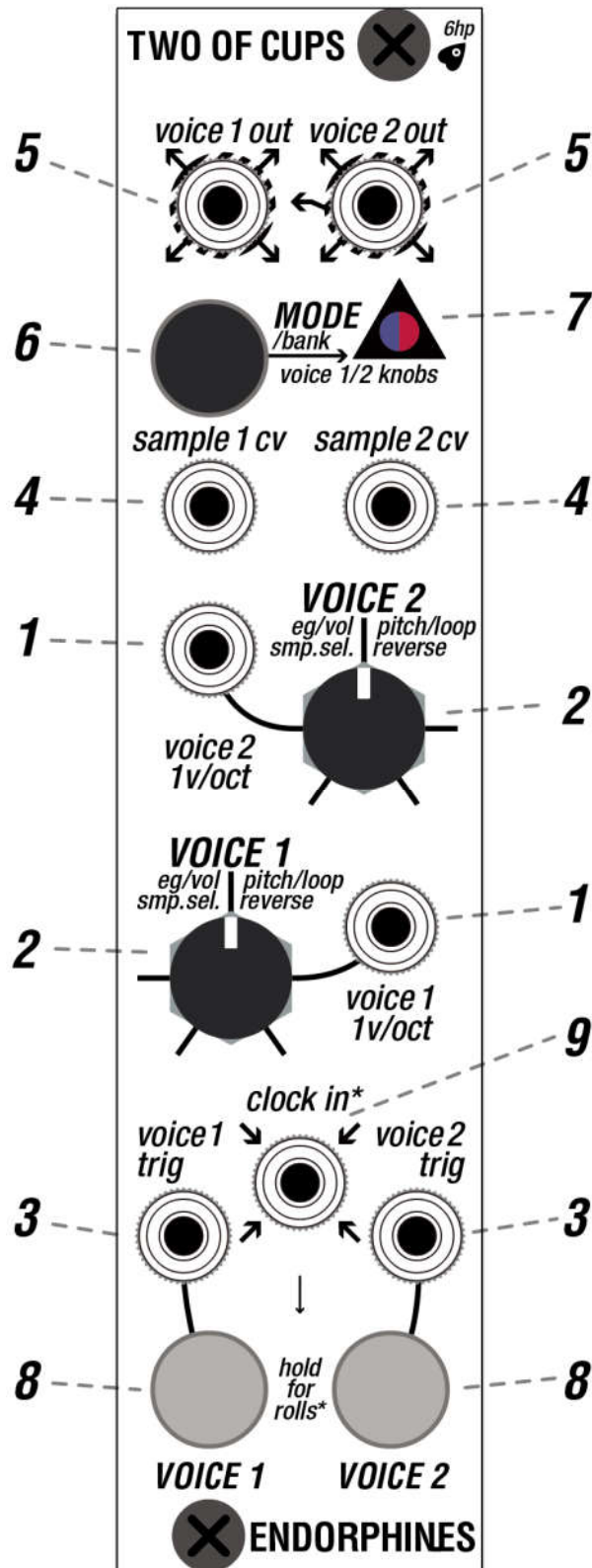
→ Width: 6 HP/TE, depth: 25 cm / 1" with inserted ribbon cable

→ Current draw: +12V: 125 mA, -12V: 20 mA

→ CV range: 0...+5V typically with up to -5...+5V compensated with offset knobs.

→ Audio output: typical +/-5V eurorack standard

INTERFACE



1. **1V/OCT PITCH CV** inputs is for the Pitch of the voices 1 and 2, which follows 1v/oct scaling in range -3...+3V (6 octaves), pitch voltage value is added to the manual pitch offset selection knob (**RED** mode). This lets you play the samples melodically using a sequencer or a keyboard. You can adjust the v/oct scale in the *sd/settings/pitch_1(2).txt* file on the SD card.

2. **VOICE 1/2 PARAMETER KNOB** set the values of the parameters in each of six modes per voice (see **MODES** below).

3. **VOICE 1/2 TRIG** are trigger/gate inputs for voice 1 and 2 used to trigger the samples, and since the internal envelope is an ASR envelope, you can vary the length of the sample by adjusting the length of the Gate.

4. **SAMPLE 1/2 CV** are *META CV* inputs for the Voices 1 and 2. They accept control voltage signals in the range of -5V...+5V. If no CV is applied and no manual sample offset selected using the Parameter knob, the first sample of each voice's folder is chosen. Sample select voltage value is added to the manual sample offset selection knob (**FUCHSIA** mode).

5. **VOICE 1/2 OUT** are 1 and 2 audio outputs over which samples are played. If no cable is plugged into the Voice 2 audio output, both voices will be summed to the output of Voice 1. When using stereo samples, only the left channel is played.

6. **MODE/BANK BUTTON**. Short button press switches thru six various modes (see below) to be adjusted by *VOICE 1/2* parameter knobs. Long press switches to the next bank by blinking certain times with blue or red *STATUS LED* (7). Super long press (around 5 seconds) will initiate nodule's reset and folders rescan.

7. **STATUS LED** shows currently selected mode and blinks showing currently selected bank.

8. **VOICE 1/2 BUTTONS** are manual buttons to trigger the samples in each voice as well as play with the fills* when the *CLOCK IN* JACK* (9) has a clock.

9. **CLOCK IN*** is a clock input on the front panel that adds Live Fill/Rolls functionality. When there is a clock signal applied to the *CLOCK IN* jack*, the buttons trigger rolls following the clock. Think of it as an alternative pattern that enabled by manually holding the trigger buttons for each channel.

MODES *FW V2*

To switch the functionality of the *VOICE 1/2 PARAMETER* knobs (2), shortly press the **MODE/BANK** button (6) to scan through six available modes shown by the *STATUS LED* (7).

- **BLUE** – Sample decay, only manual control. Full knob twist sets the decay from 10ms to 10 seconds decay length with infinite decay by setting Parameter knob at full CW
- **DIM BLUE** – Sample volume, only manual control. CCW Parameter setting will turn the output of the voice to silence and full CW setting will set the maximum 100% sample amplitude
- **RED** – Sample pitch, summed with *1V/OCT JACK* (1) values. Parameter knob range: -/+2 octaves from CCW to center to CW position
- **DIM RED** – Sample Looping, disable by setting Parameter knob CCW before noon and to enable – set it CW past the noon position
- **FUCHSIA** – Sample Selection over available samples, up to 24 samples. Summed with *SAMPLE 1/2 CV JACK* (4) (META) values. When no META CV applied, that Parameter scrolls thru all the samples for the full turning range from CCW to CW
- **DIM FUCHSIA** – Sample reverse, disable by setting Parameter knob CCW before noon and to enable – set it CW past the noon position.

CREATING REVERSE SAMPLES *FW V2*

The first time you power up the module with the new firmware and new samples, you will see a blinking **FUCHSIA LED** for a few minutes. During that procedure the module is scanning all the samples on the SD card and creates their reverse copies under the same name and *.rev* extension instead of *.wav*.

This process is only done once, unless you have added new files. On the next power up will quickly scan the folders and only will create the reverse files for the newly added samples.

Important: in order to switch to a normal work, Two of Cups has to create reverse files first. That process can't be skipped and with big amount of samples and their high sample rate can take longer as expected. Try to gradually add new files. We recommend saving all your samples as 44.1 or 48 kHz 16 bit WAV files.

PREPARING THE SAMPLES

Two of Cups will play any WAV files with bitrate: 8, 16 and 24 bits, any (arbitrary) sample rate up to 96 kHz. Each sample duration is only limited by its file size: up to 4 Gb as per FAT file system. Simply place the WAV samples in the /voice1/ or /voice2/ or a certain /bank1...8/ folder and module will play them. Be sure to fill no more than 24 samples per voice as only first 24 samples from alphabetically sorted list of files will be played. All the samples including 25th in the list will be ignored.

PARAMETERS SAVE

TO SAVE the position of the Parameter knob in any mode, quickly run through the modes by short pressing the *MODE/BANK* button *THREE TIMES*. The next time you power up the module those edits you made will be restored independently for each bank and voice.

SAMPLE BANKS

Two of Cups has 8 banks of samples, each bank holds 24 samples per voice. To switch to the next bank, press and hold the *MODE/BANK* button for 1 second. Audio files need to be 8 or 16 bit PCM WAVE files and can be of any (arbitrary) sample rate up to 96kHz. The samples are sorted in each folder of SD card by the module alphabetically and if we have more than 24 samples in the voice folder, only first 24 will be played.

You can see which bank is selected by the color and number of blinks of the LED.

● **BANK 1** ●● **BANK 2** ●●● **BANK 3** ●●●● **BANK 4**
●●●● **BANK 5** ●●●● **BANK 6** ●●●● **BANK 7** ●●●● **BANK 8**

For example, *BANK 1* will be shown by 1 blink of LED with **BLUE** color, *BANK 2* will blink **BLUE** twice and *BANK 4* will blink **BLUE** 4 times. *BANKS 5-8* will blink **RED** 1-4 times correspondingly.

SD CARD / SETTINGS *FW V2*

Apart from the samples, the SD card contains configuration files in the *sd/settings/* folder for 1v/oct Pitch CV scaling, Offset and Trigger delay, which are applied globally for every bank. These settings files are created automatically upon new firmware update and can be changed in the text editor. After you delete them, the

module will create them again with default values. If you can't find those files, simply update the latest firmware for your Two of Cups and the module will create them on the next power up.

- */settings/pitch_1.txt* and *pitch_2.txt* set the tuning stretch in case you wish to calibrate each of the 1v/oct Pitch CV inputs. Default value is -0.27. Values range: +/-0.5
- */settings/pitch_offset1.txt* and *pitch_offset2.txt* set the pitch offset value for each voice, providing additional control for 1v/oct calibration. This value needs to make the sample playback at 100% speed when no Pitch CV is applied and the Pitch Parameter knob is set to noon position. This value is created after an update or after deleting these files from the SD card. Make sure no cable is patched to the 1v/oct input during the update so that the module can detect and apply those offsets correctly. Values range: +/-0.5
- */settings/delay_1.txt* and *delay_2.txt* value in the files sets the trigger delay amount in milliseconds. This delay is needed so Two of Cups will be able to change the Sample under the CV at the same time as the new sample launch trigger arrives at the input. Without that delay the previous sample will be fired. Average delay needed to sync the samples start in the time with your sequencer is around 20 mSec. Default value is 0 which corresponds to 0 mSec. Max. value is 1000 mSec (1 second).

SAMPLES – LICENSE AGREEMENT

All the factory samples included in the SD card that come with the modules as well as samples from the Endorphin.es Sample Library (<https://www.endorphin.es/sample-library>) are the property of Endorphin.es and are licensed to the end-user on a non-exclusive, no time limited, worldwide basis as follows:

- You are allowed to use any of those samples in any of commercial artist activities such as public performance, music recording, films, video production, streaming, radio/TV broadcasting.
- You are allowed to modify the sounds, use it in your tracks and release it anywhere without permission and no need to give credits to the authors.
- You are not allowed to transfer that license to any third party as well as copy, duplicate and resell those files.
- Upon using / downloading our samples, you accept the above terms, violation of which is subject to liability under law.

FACTORY SOUND BANK

JULIA BONDAR Factory Sample Bank:

BANK NAME	VOICE 1	VOICE 2
SUPREME	<i>jb_drop1.wav</i>	<i>jb_drop2.wav</i> <i>jb_horn.wav</i>
PSYCHE	<i>jb_bass_growl.wav</i> <i>jb_siren1.wav</i>	<i>jb_atmo5.wav</i> <i>jb_brass5.wav</i> <i>jb_fx_crackles.wav</i>
HOURGLASS	<i>jb_bass1.wav</i> <i>jb_bass2.wav</i>	<i>jb_atmo3.wav</i> <i>jb_atmo4.wav</i> <i>jb_brass4.wav</i> <i>jb_fx_impact1.wav</i>
PRELUDE	<i>jb_bass_sub.wav</i>	<i>jb_piano1.wav</i> <i>jb_piano2.wav</i> <i>jb_piano3.wav</i>
SCANDAL	<i>jb_atmo2.wav</i> <i>jb_atmo6.wav</i>	<i>jb_bang2.wav</i> <i>jb_bang3.wav</i> <i>jb_fx_impact2.wav</i> <i>jb_fx_impact3.wav</i> <i>jb_fx_impact4.wav</i>
VOGUE	<i>jb_loop1.wav</i> <i>jb_loop2.wav</i> <i>jb_loop3.wav</i>	<i>jb_vox.wav</i>
METEORITE	<i>jb_atmo1.wav</i>	<i>jb_siren2.wav</i> <i>jb_snare.wav</i>
HESPERIDES	<i>jb_bang1.wav</i>	<i>jb_brass1.wav</i> <i>jb_brass2.wav</i> <i>jb_brass3.wav</i>

SAMPLE LIBRARY

Be sure to check more sounds available from our Sample Library:
<https://www.endorphin.es/sample-library>

OVERMONO Sample Bank:

1. 808 MS20 BD.wav
2. 808 MS20 BD2.wav
3. 808 MS20 Clave.wav
4. 808 MS20 CH.wav
5. 808 MS20 Cowbell.wav
6. 808 MS20 High Tom.wav
7. 808 MS20 Maracas.wav
8. 808 MS20 Mid Tom.wav
9. 808 MS20 OH.wav
10. 808 MS20 Ride.wav
11. 808 MS20 Snare.wav
12. Vermona BD.wav
13. Drum Break.wav
14. Vermona Drone 1.wav
15. Vermona Drone 2.wav
16. Vermona FX.wav
17. Vermona FX Loop.wav
18. Vermona Pad.wav
19. Vermona Perc 1.wav
20. Vermona Perc 2.wav
21. Ride.wav
22. Vermona Stab 1.wav
23. Vermona Stab 2.wav
24. Vermona Stab 3.wav

FIRMWARE UPDATE

Download latest firmware for TWO OF CUPS here:

<https://www.endorphin.es/modules/p/two-of-cups>

- Power OFF your modular system.
- Eject the microSD card from the module. Insert it into the computer.
- Unpack the downloaded archive and place the **toc-firmware.hex** file into the root folder of the microSD card. Don't rename the file to any other name. Put the card back into the module and turn ON the power of your modular system.
- The LED will light up in fuchsia color and you will hear an ascending tone from VOICE 1 OUT. After approximately 10 seconds the module will reboot with the new firmware installed and if needed will rescan folders and create reverse files
- Enjoy the new features.

CREDITS

ENDORPHIN.ES® – TWO OF CUPS

FIRMWARE VERSION V.2.R

COLLECTION SPRING/SUMMER 2022

Module idea, hardware design, direction and manual by Andreas Zhukovsky

Core engine programming and SD card updater by Vitaly (a.k.a. embedder)

Manual proofreading, beta testing and demo videos by Wisdom Water

Endorphin.es are made in Barcelona, Spain

Follow, like, post and tag us at Instagram: [@endorphin.es](https://www.instagram.com/endorphin.es)

COMPLIANCE

FCC

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes / modifications not approved by ENDORPHIN.ES (doing business as Furth Barcelona, S.L.) could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

CE

This device meets the requirements of the following standards:

EMC: 2014/30/EU

EN55032:2015 ; EN55103-2:2009 (EN55024) ; EN61000-3-2 ;

EN61000-3-3

Low Voltage: 2014/35/EU

EN 60065:2002+A1:2006+A11:2008+A2:2010+A12:2011

RoHS2: 2011/65/EU

WEEE: 2012/19/EU