THANK YOU FOR PURCHASING THE ERICA SYNTHS PERKONS VOICE MODULE!

The Erica Drum Series includes high-end, unique functionality and superior quality modules, which allow for creating feature-rich modular systems for sound design and live performance in various styles of rhythmic electronic music. Enjoy!

As its name suggests, the Erica Synths Perkons Voice is a eurorack incarnation of the percussion voices from the PĒRKONS HD-01 Drum machine. Like on the drum machine, the module has hybrid architecture, featuring a digital sound engine followed by an analogue multimode filter and overdrive. Users can select among 13 sound generation algorithms and save up to 99 presets that can be recalled easily. Tune and Patch CV inputs are configurable for various CV settings and are tuned to 1V/oct.
Alternative percussion algorithms can be implemented easily via firmware updates.

FEATURES

Versatile digital sound engine followed by analogue multimode VCF and overdrive
13 sound design algorithms
Up to 99 user presets
1V/oct tuning on TUNE and PATCH CV inputs
Drone mode

SPECS

Audio output	10Vptp
CV levels	configurable -5V - +5V
Power consumption	+59mA, -30mA
Module width	14HP
Module depth	35mm

SAFETY INSTRUCTIONS

Please follow the instructions for use of the Erica Synths module below, ‘cause only this will guarantee proper operation of the module and ensure warranty from Erica Synths.

Water is lethal for most of the electric devices, unless they are made waterproof. This Erica Synths module is NOT intended for use in a humid or wet environment. No liquids or other conducting substances must get into the module. Should this happen, the module should be disconnected from mains power immediately, dried, examined and cleaned by a qualified technician.

Do not expose the module to temperatures above +50° C or below -20° C. If you have transported the module in extreme low temperatures, leave it in room temperature for an hour before plugging it in.

Transport the instrument carefully, never let it drop or fall over. Warranty does not apply for modules with visual damage.

The module has to be shipped in the original packaging only. Any module shipped to us for return, exchange and/or warranty repair has to be in its original packaging. All other deliveries will be rejected and returned to you. Make sure you keep the original packaging and technical documentation.

This device complies to the EU guidelines and is manufactured RoHS conforming without use of lead, mercury, cadmium and chrome. Nevertheless, this device is special waste and disposal in household waste is not recommended.

You will find Erica Synths terms of warranty at
www.ericasynths.lv
Inquiries regarding items for return, exchange and/or warranty repair should be submitted to our support team at
www.ericasynths.lv/support/

User manual by Girts Ozolins@Erica Synths, Leo Novus@Erica Synths.
Design by Ineta Briede@Black8.

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PERKONS VOICE

ALGO

Push this button to activate ALGORITHM selection mode. The letter indicates the algorithm and the digit indicates a mode within the algorithm. Refer to the table of algorithms below for more information. Rotate the encoder to select the algorithm and push the encoder to choose between MONO (n o) and POLY (P Y) mode. In MONO mode, each incoming trigger plays the drum once and the next one overrides it; in the POLY mode, with longer decay times, the drum keeps playing even when the next trigger is applied.
The module can play up to 4 voices simultaneously

PATCH

Push this button to activate PATCH selection mode. You can save up to 99 presets (patches). The dot next to the second digit indicates that the memory slot is occupied and the dot next to the first digit indicates that the patch is selected. Rotate the encoder and push it to confirm selection. In order to SAVE the patch, push and hold the encoder for 2". The screen will show «S u» to confirm saving. In order to manually override the saved parameter positions, hold PATCH and short press the DATA encoder to unload the patch. In order to delete a patch, hold PATCH and long press (2") the DATA encoder

LED SCREEN

The screen provides a visual reference for selected algorithms, patches, VCF mode and configuration settings.

DATA

The encoder allows for navigating through algorithms, presets and configuration settings

TUNE

Set the initial TUNE of the drum. The incoming CV is added to the tune potentiometer position

DECAY

Set the initial DECAY of the drum. The incoming CV is added to the decay potentiometer position. With the DECAY potentiometer turned all way clockwise, the module will go into DRONE mode

DRIVE

Set the initial OVERDRIVE of the drum. The incoming CV is added to the drive potentiometer position

PARAM 1

Set the initial PARAMETER 1 of the drum voice. The incoming CV is added to the PARAM 1 potentiometer position

PARAM 2

Set the initial PARAMETER 2 of the drum voice. The incoming CV is added to the PARAM 2 potentiometer position

VCF

Select between Lowpass, Highpass and Bandpass filter modes. The screen and intensity of the LED built into the button will indicate the selected mode. it can also indicate incoming triggers or audio level, depending on the configuration (see available settings below)

CUTOFF

Set the initial CUTOFF of the VCF. The incoming CV is added to the cutoff potentiometer position

TRIG

This is the MANUAL TRIGGER button

TUNE CV / DECAY CV / DRIVE CV / PATCH CV / P1 CV / P2 CV / C-OFF CV

These are CV inputs. The PATCH CV input is configurable - refer to the table of configuration settings below. Pleasenote that PATCH CV will navigate through occupied patch slots only. With a CV applied to PATCH CV, the patch is changed only on an incoming trigger

ACC

This is the ACCENT input. Any signal above 1V, applied here, will accent the percussion sound – the volume will increase by 2 dB

OUT

This is the audio output of the module

PERKONS VOICE

THE ALGORITHMS

As mentioned above Perkons Voice has 13 sound design algorithms, and each algorithm has two distinct controls – PARAMETER 1 and PARAMETER 2. All other controls – TUNE, DECAY, DRIVE and CUTOFF are shared among all algorithms for creating feature-rich modular systems for sound design and live performance in various styles of rhythmic electronic music. Enjoy!

ALGORTIHM	NAME	DESCRIPTION	PARAMETER 1	PARAMETER 2
A1-3	Fold Drum 1	Sine wave drum with wave fold. Variations change the transient type	Pitch envelope amount	Fold amount
B1-2	Complex Drum 1	Complex FM drum. Variations change the transient and waveforms	Pitch envelope amount	Fm amount and modulating oscillator frequency
C1-3	Wave Morph Drum	Wavetable based drum. Variations change the wavetable	Pitch envelope amount	Wavetable position
D1-3	Pulse Drum	Simple drum. Variations change waveforms.	Pitch envelope amount	Pitch envelope decay
E1	Resonant Bass Drum	Bass drum based on resonant filter	Noise amount	Tone
F1	Resonant Snare drum	Snare drum based on resonant filter	Tone	Noise Filter
G1	Space Snare	Noise and tone mix based snare drum	Noise/Tone mix	Tone tune
H1	Slap	Analog clap engine. Variations change the space between repeats	Reverb amount	Filter
I1-3	Karplus Strong	Karplus strong based algorithm. Variations change the transient	Noise tone	Noise decay
J1-2	Cymbals	Noise based Cymbal algorithm. Variations change the type	Reverb amount	Attack envelope
K1	Noise Crush	Noise with bitcrush-based algorithm useful for hi-hats	Reverb amount	Attack envelope
L1	Metalic Noise	Noise PCM based algorithm for "digital noise" tone creation	Sample size	Attack envelope
M1-3	Sample Player	Sample based engine	Bitcrush	Start point or attack parameter (depending on config)

CONFIGURATION SETTINGS

In order to enter the configuration settings, push and hold the ALGO button and push the PATCH button. The screen will indicate the configuration setting number (1-14). Rotate the encoder to select the configuration setting and push the encoder to access it. Then rotate the encoder to alter the setting. Push the encoder to go one level up and access the configuration settings. Push any button on the panel to exit the configuration settings.

1 **VOICE MODE** – here you can set the default VOICE MODE. Rotate the encoder to choose between MONO (n o) or POLY (P o).

2 **PATCH CV** – here you can configure the response of the PATCH CV input. Choose between UNIPOLAR (Un) 0 - +5V, BIPOLAR (B i) -5V - +5V and quantized 1V/Oct (1 u). The 1V/Oct setting is particularly useful when you are preparing a live performance and want to program your sequencer to change the patch at a specific moment. 0 -+5 V allow you to navigate through 60 patches. As mentioned above, the patch CV allows for navigating through occupied patch slots only. This means that if you only have 5 saved patches for example, the 0 - +5V CV range will swipe through only these 5 patches. In the bipolar configuration, the CV will affect all saved patches and will automatically assign 0V to the middle patch. Empty slots will be automatically ignored.

3 **PATCH START** – this option lets you set the FIRST PATCH in the array of patches affected by CV control. By default, in the unipolar and 1V/Oct configurations, 0V will switch to the first patch, but you may want to set a different starting point. Rotate the encoder to set a new 0V reference patch and push the encoder to confirm.

4 **PATCH RANGE** – here you can set the RANGE OF PATCHES affected by 0 - +5V CV. By default, there are 60 patches (0-59), which means 1 "semitone" of CV (0,0833 V) will advance to the next patch. You may, however, want only 30 patches to be affected by the same amount of CV. Rotate the encoder to set the range of patches and push it to confirm.

5 **PATCH LOAD** – this option configures how patches are loaded. By default, you need to rotate the encoder and push it to load a patch (a dot between digits on the screen appears), but you may want to load patches instantly. Rotate the encoder to choose between patch load on encoder push (o F.) or instantaneous load (o n.).

6 **POT CATCH** – this option configures the potentiometer response when changing patches. When changing a patch, the potentiometers will be in different positions relative to those saved with the other patches. With pot catch ON (o n.), you need to rotate the relevant potentiometer through the previously saved position before it starts altering the parameter, thus providing a continuous change in sound. With pot catch set to OFF (o F.), as soon as a potentiometer is rotated, it will immediately override the saved position resulting in instant changes in sound. With pot catch set to SHOW (S h.), the segment of the right indicator will show the original position of the potentiometer and as you rotate it, the left indicator will show animated segments that follow the rotation of the potentiometer. When segments on both indicators match, the potentiometer is in the position that is saved with the patch.

7 **TRIG DELAY** – here you can set a trigger delay for CV-controlled patch changes. In order to avoid confusion between the incoming CV and trigger, the patch is changed only on the incoming trigger. At certain conditions for smoother operation, however, you may want to set a small trigger delay for the patch change. Rotate the potentiometer to set a delay time between 0 and 10ms.

8 **USER SAMPLE** – this option lets you toggle between the default hi-hat samples and user-uploaded samples in the three available sample player slots. Rotate the encoder to select between user samples (o n.) or the default samples (o F.). This setting will only have an effect if user samples have been uploaded, as detailed in the next section (9).

9 **VCF LED** – here you can choose what the VCF LED indicates. You can select between three options – (1) VCF – this is the default setting, it indicates the VCF mode via the LED brigthness – LP (bright), HP (dim) and BP (off). Option (2)- TRIGGER is for the LED indicating incoming Triggers instead and option (3) - LEVEL is for the LED indicating the audio output level before the analog circuit (VCF/DRIVE).

10 **USB MANAGE –** this option lets you access the Perkons Voice module as a storage device via your computer and upload user samples. Remove the module from the rack but leave it connected to the power supply. Connect the small USB-C port on the rear PCB via a USB cable to your computer. Push the encoder and the module will appear as a drive called PERKONS on your computer. Here you will see a CONFIG.txt file with all of the configuration settings listed and an INFO.txt file with the currently installed firmware version and information about the currently installed user samples. You can drag and drop your user samples into this drive, next to the CONFIG and INFO files. The samples have to be titled "1", "2" and "3" (to state the obvious - simply the numbers, without the apostrophes and they will appear as follows: 1.wav, 2.wav and 3.wav) respectively, otherwise the module will not recognize them. The samples have to be formatted to WAV, mono, 16-bit, 48kHz and the total file size cannot exceed 256 kb. If your samples are close to the maximum size, we recommend uploading them one by one, otherwise an error may pop up – after each upload, you should eject the module on your computer and press the encoder again to re-connect. This means, that you will have to re-connect the module via this USB MANAGE setting to your computer three separate times to upload all three samples. You will not see the previously uploaded sample when re-connecting to upload the next one, this is expected. Once all three are uploaded, make sure to enable user samples as detailed in the description of the previous configuration setting (8).

11 **CALIBRATE** – here you can calibrate the TUNE CV and PATCH CV. The module is factory calibrated, so this should only be performed if the CV response isn't working as expected. Press the encoder to initiate the calibration procedure – a running text will appear – PLUG REFERENCE. The reference required is a precise +4V source that you should plug into the PATCH CV input. The module will automatically calibrate once the source is detected.

12 **FW UPDATE** – here you can perform firmware updates. Download the latest firmware file (.uf2) and save it on your computer. Remove the Perkons Voice module from the rack, remove the power cable and connect the small USB-C port on the rear PCB via a USB cable to your computer. Reconnect the power cable and navigate back to the FW update menu on the module. Push the encoder and the module will appear as an external drive on your computer. Drag and drop the firmware file into this drive and the module will automatically update.

13 **FACTORY RESET** – There are two options here - once you press the encoder, you will see the running text: HOLD TO ERASE ALL PATCHES. If you turn the encoder clockwise, it will display: HOLD TO FACTORY RESET. This means pressing and holding the encoder - a countdown from 10-0 will appear on the display - if you release the encoder before the countdown finishes, the action will cancel. Performing the factory reset will also reset the 45 factory preset patches. For this reason, there is an option to erase all patches which can be performed after the factory reset, if desired.

14 **VERSION** – here you can see the currently installed version. Push the encoder to view.