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CODE SOURCE

THANK YOU FOR CHOOSING ERICA SYNTHS BLACK SERIES MODULE!
Erica Black Series include high-end, unique functionality and superior quality modules. Only the best, highest quality components are used, all inputs and outputs are protected against undesired overvoltage. When designing Black Series, we put design and usability superior. Big knobs are assigned to key functions of the module, which makes Black Series ideal for live performances. Enjoy!

Erica Synths **Black Code Source** is unique design true stereo digital noise or dual random CV generator, using a complicated calculation of polynomials of various configurations. The module will fit ideally in percussion synthesis or random, self generation patches. The Code Source also can be used as an extreme effects unit to bitcrush and destroy sounds in radical ways.
Basically, you can consider it as a sample&hold noise generator, that is able to "rewind" or repeat incredibly long sequences of seemingly random levels. X, Y and S controls together provide over 4000 different dual CV sequences for every MODE switch position, that can be triggered via the S TRIG.

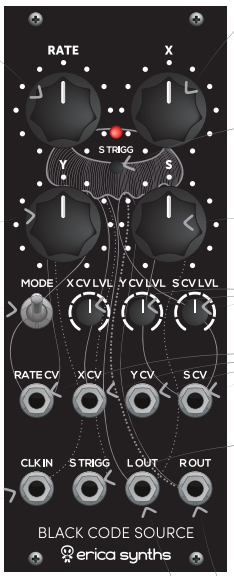
FEATURES:
Dual random CV generator
Up to 9 noise flavours with adjustable pitch
All parameters are CV controllable
Expandable features with an Expander module

This is sample rate knob. When sample rate clock is set to a high value (or there is some VCO plugged into CLOCK IN) , L&R outputs provide stereo digital noise. Noise is independent for the left and right channels. When sample rate is set to a low frequency (or there is some LFO or sequencer clock plugged into CLOCK IN), L&R outputs provide two control voltages that can be used as a pitch, filter, effect or any other control for external modules.

Set one of 16 polynomial feedback configuration aspects Y.

MODE switch will alter the character of the sound, and allows to achieve perfect recreation of most kinds of classic computer music chip noise. In LFO range it sets how many CV levels L and R outputs will provide. Refer to the table below for MODE settings!

This is Clock Input. The external clock replaces internal one, and you can sync the module with master clock of the system or change pitch of the noise in tune with your VCOs. Patch LFO output or master clock form the sequencer for random CVs on the outputs or VCO or even vocals for pitched noise.



Set one of 16 polynomial feedback configuration aspects X. X and Y basically represent 16x16 square field, and you can move around using the X and Y pots or CVs. Every setting will behave differently, produce different sequence of codes (output values), and have different length of the sequence before it loops.

S TRIG button will restart the polynomial from the SET point. While holding this button, S TRIG input will be ignored.

Set the starting point of selected sequence. This will be particularly audible in low Rate settings, when CVs are generated on the outputs.

These are X, Y and S CV attenuators.

These are CV Inputs for altering Rate, X, Y and S settings correspondingly.

S TRIG input accepts all kind of signals from single pulses to normal full band audio, and (re)sets the polynomial on the rising edge of the triggering pulse or sound. When module is used as a CV source with sequencer ticks in the clock input, this S TRIG input can be used to reset the generated code sequence on, for example, every single, second or fourth. measure, or at the beginning of the track.

These are Left and Right outputs. You can have random CVs here, if Rate is set to low sample rate, or digital noise, if it's set to higher sample rate. Output level can be configured via jumper on the back of the module. You can select bipolar -5V - +5V output or unipolar 0 - +10V, especially useful for random sequencing of VCOs.

TECHNICAL SPECIFICATIONS:

Output level	-5...+5V (or 0...+10V)
CV level	-10V - +10V
Power consumption	+143mA, -64mA
Module width	10HP
Module depth	35mm

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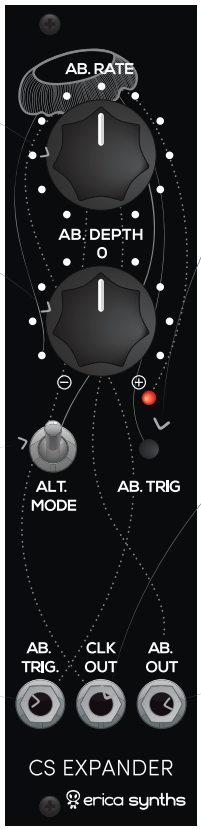
Erica Synths **Black Code Source Expander** takes the Code Source to next level by adding autobend feature and more noise/CV modes.
Autobend provides a useful attack envelope for the internal clock generator's pitch and some outside CV control. This feature helps to quickly achieve authentic chip-tune percussion and oldschool electronic game sounds.

NB! Use the ribbon cable supplied with the module to connect the Expander to the Code Source! To connect the Expander you will need to remove the security jumper from the socket on the Code Source module. Pay close attention to the connector socket marking and do not mix it up with the PSU connector! The Code Source Expander will work only with the Code Source module and is not intended to work as standalone module. Connecting PSU to the Expander will permanently damage it.

FEATURES:
Autobend (attack) time control
Autobend depth attenuverter
Alternative mode switch
Autobend envelope output
Clock output

TECHNICAL SPECIFICATIONS:
Power consumption.....+16mA, -11mA
Module width.....6HP
Module depth.....25mm



Adjust the envelope rate, from very slow to rapid

This is the send level from the autobend envelope to clock generator's pitch. When set to center, autobend does not affect the sample rate. CW settings send positive envelope and increase clock rate (pitch of the noise), while CCW settings send negative envelope and reduce clock rate.

ALTERNATIVE MODE switch provides two additional modes for every main MODE. Refer to the table below!

Autobend Trigger IN - when nothing is connected to this jack, autobend envelope triggers from the main module's S TRIG and button. This input accepts both trigger pulses and conventional audio, and triggers on the rising edge.

AutoBend Manual Trig - This button allows the envelope to be triggered manually, as well as block incoming trigger pulses while the button is held.

CLOCK OUT jack outputs internal generator's clock for use on some external modules that may need to be synchronised. You can connect a second codesource module's CLOCK IN there to make both modules synchronised. This output provides the internal generator's clock even when something else is used as the main module's clock (other clock source connected to its clock in), and therefore can be used as an additional clock for something else. However, since this output always outputs internal clock, to synchronise more than two modules, you need to split the CLOCK OUT of the master module using a splitter, and then pass to all other module clock inputs.

This is Autobend envelope output — use it for simultaneous control of VCFs or any other modules.

MODE SWITCH FUNCTIONS

WITHOUT EXPANDER		WITH EXPANDER	
MODE switch position	L/R output coding	MODE ALT switch	L/R output coding
up	64 levels	up	64 levels SOFT
		middle	64 levels
		down	32 levels
middle	8 levels	up	16 levels
		middle	8 levels
		down	4 levels
down	2 levels	up	2 levels ZX
		middle	2 levels
		down	2 levels BMC

ZX - in this mode, module outputs an encoded data in the very exact way a ZX Spectrum home computer tape loading did, only it's now in stereo! It has a very specific sound that cannot be mistaken with anything else. Just set the right samplerate (2 o'clock). For extra icing on the cake, adjust polynomial configuration to make it sound like loading real data (image, character color, sprites...). Some ZX Spetrum games featured a "fast loader" that actually was just a form of protection, and had a slightly different sound. For a typical fast loader sound, set the rate to slightly below 3 o'clock and viola - it perfectly matches it! Sound of this coding is more melodic than the "normal" 2 level mode.

BMC - Biphase Mark Code is an old, yet still very popular encoding, used to this day in many kinds of simple-yet-robust communication channels and data storage - like, for example, magnetic cards. Sound of this coding is significantly lighter in low frequencies, having the most emphasis on higher frequencies.

SOFT - in this mode, while there are still 64 output levels, codes are generated in a different way, producing a softer sound with more bass. When used as a pitch CV source, it will produce a lot of discrete glissandos, since now subsequent output codes are placed much closer together and have smaller jumps for the most of the time.

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SAFETY INSTRUCTIONS

Please follow the instructions for use of this 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. 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.

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

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.

You will find Erica Synths terms of warranty at http://ericasynths.lv/en/terms/

Items for return, exchange and/or warranty repair have to be sent to: Erica Synths, Andrejostas Str. 43, Riga, Latvia, LV-1045

DISPOSAL

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.

Designed and made in Latvia.
User manual by Girts Ozolins@Erica Synths.
Design by Edmunds Pavlovskis.

Specifications are subject to change without notice.
In case of any questions feel free to contact us via e-mail **info@ericasynths.lv**

Check out other Erica Synths modules & devices at **www.ericasynths.lv**