



SAMPLE DRUM

Thank you for purchasing Erica Synths Sample Drum! Sample Drum is a part of Erica Synths Techno System, but we believe it will find its place in any live performance system.

Sample Drum is 14HP eurorack sample player module with straight-forward, intuitive interface, functionality and great sound quality, designed with live performance use in mind. It is composed of two identical parts and allows you to play back, record and slice up samples or loops directly in your modular system. For processing there are different play modes, tuning functions (including 1 V/Oct pitch tracking), virtual VCAs plus AD envelopes and real-time effects. Three freely assignable CV inputs per channel guarantee a lot of expression during performance. 16bit mono wav samples are loaded into RAM (32MB / ~ 5 minutes of sampling time) from SD card (16 GB SD card with factory preset samples comes with the module) for instantaneous playback response. All settings can be saved and recalled during live performance.

FEATURES

- Two simultaneous sample players
- Sample playback with fast trigger response
- Manual and automatic sample slicing
- 1V/Oct tracking
- 3 assignable and configurable CV inputs per channel
- Various effects for real time sample processing
- Sample recording
- Cue point loading from WAV files
- Preset memory
- User-friendly interface
- 16 GB SD card with factory preset samples included

SPECIFICATIONS

Audio output amplitude	10Vptp
Octave range	C0 - C8
RAM size	32Mb, 5 minutes of samples
Sample rate	48kHz, 16bit
Sample recording rate	48kHz, 12bit
CV input range (configurable)	-5V - +5V
Panel width	14HP
Module depth	30mm
Power consumption	65mA@+12V, 2mA@-12V



- 1 This is manual trigger button for the first channel
- 2 This is manual trigger button for the second channel. Also, it's a SHIFT button to access secondary features, therefore manual trigger will work in Performance mode only
- 3 OLED screen gives visual feedback on the module functions
- 4 SD card slot accepts micro SD cards used for sample upload. Observe the orientation of the card
- 5 Select between two channels. Two samples can be played simultaneously
- 6 Six encoders (A-F) change their functions depending on the operation mode. Encoder A always is the main select/data encoder, clicking encoder D will return to the previous menu page
- 7 These are trigger inputs
- 8 These are assignable CV inputs. Each channel has three freely assignable CV inputs. CV3 of the second channel is used as audio input for sample recording
- 9 These are audio outputs of the module





HOW IT WORKS?

SAMPLE DRUM

The main menu offers access to the main features of the Sample Drum. Use A/DATA encoder to scroll through icons and click it to access the relevant menu. Click the D/BACK encoder to return to the main menu.

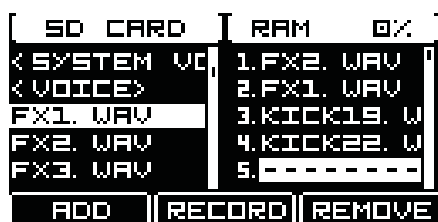
LIBRARY MENU – SAMPLE LOADING



In order to ensure instantaneous sample playback, samples are loaded in the RAM of the module. The module comes with the 16Gb microSD card with an adapter with the factory preset sample library, but you can use your own samples. The samples have to be wav, mono, 48kHz 16bit resolution. Lower sample rate samples will work as well and will be interpolated to play at correct speed with different sample rate samples. For example if you want to save RAM you can load in 22KHz sample rate samples which will be two times smaller in size.



Rotate the A/DATA encoder to navigate to the LIBRARY menu. Click the encoder A/DATA to access the list of the samples on the microSD card!



On the left side you can access the SD card content. Folders containing samples or system information (<SYSTEM>, <VOICE>) are displayed in brackets, individual samples – as names in the list. Use the A/DATA encoder to navigate through the samples in the list and push it promptly to add the sample to the RAM of the module. The sample will be uploaded on the release of the encoder. To upload the samples from the folders, click the encoder to open the folder and select samples. In order to return to the main list, navigate to the top of the folder and push the A/DATA encoder. You can upload all samples from the folder simultaneously – push and hold A/DATA encoder for 1" and all samples in the folder will be uploaded to RAM. You still need to open folders to upload their content.

NB! All samples must be stored in the "SAMPLES" folder of the SD card!



Note that you need to upload samples to both channels 1/2 individually – use the switch to select the channel and upload samples; popup screen will inform you, which channel is currently active. The message in the top right column will indicate RAM usage. Take note that both sides share the same RAM!

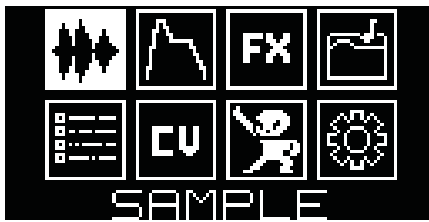


Use the C encoder to navigate through the samples in the RAM. You can REMOVE the samples by pushing the C encoder. You can only load the new sample in the empty slot, so use the C encoder to navigate to the empty slot (at the end of the list or in the middle of the list, if the sample in the list was deleted) and push the A/DATA encoder to upload the new sample. Push and hold the C encoder to clear all samples from the RAM in the corresponding side (1 or 2)!

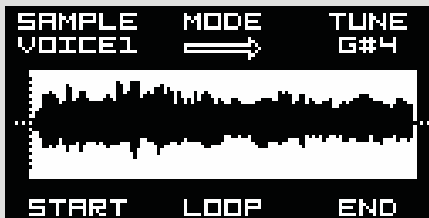


Push the TRG1/PLAY button to listen to the sample! You can preview samples on both SD card and RAM side – the module will preview the last selected sample – use A/DATA and C encoders to navigate through the list of samples. Push TRG2/SHIFT to preview the sample waveform, size and length!

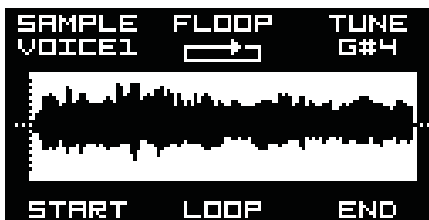
SAMPLE MENU – WORKING WITH THE SAMPLES



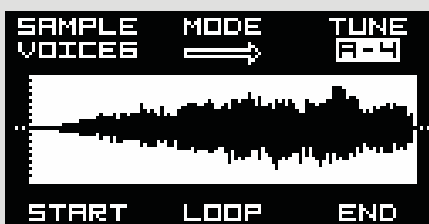
Use the A/DATA encoder to navigate to the SAMPLE menu and push the encoder to activate it!



The main sample management screen will appear. Three variables on the top row of the screen (SAMPLE, MODE and TUNE) are linked to the encoders A/DATA, B and C and ones in the bottom row (START, LOOP, END) are linked to the encoders D/BACK, E and F.



Rotate the encoder B to select play mode. Available modes (in order of appearance) are: Forward, Forward loop, Back, Backward loop.



Rotate the encoder C to change the tune of the playback. The Sample Drum supports 1V/oct tuning, and the initial tune is relative – noted by A4. This means – it will play back the sample in the tune as it was originally recorded. It does not mean that it's necessarily A4. Hold TRG2/SHIFT to change the tune by cents. A + or - symbol will appear next to the note for a sample which is also tuned by cents not just semitones.

NB! Tuning setting is global to channel. All other settings are set individually by sample in the corresponding channel.



Rotate encoders D/BACK, E and F to select start point, loop point and end point of the sample playback. In loop mode the playback will start at the selected start point, play to the end point and then continue looping between start and loop points. Please note that in loop mode sound can fade out depending on envelope settings. Refer to AMPLITUDE menu on envelope settings.

SAMPLE MENU – AUTOMATIC SAMPLE SLICING



In order to activate sample slicing push the A/DATA encoder. Slicing screen will appear and the encoders will change their functions. To exit slicing mode push the A/DATA encoder again. Rotate the encoder A/DATA to select samples from the RAM. Note that slices are saved on the RAM with the samples and will be saved within the project not the samples on SD card.

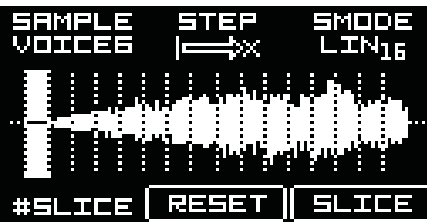


Rotate the encoder C to select slicing mode (SMODE). Available modes for automatic slicing are:

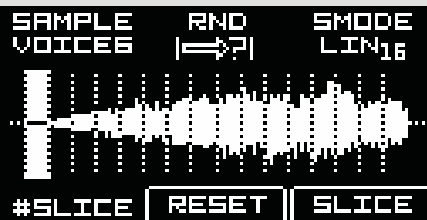
- Linear (LIN in the screen on the left) – the sample is sliced in defined number of equally long slices
- Zero Crossing (ZC, for example) – the sample is sliced in defined number of slices, but the slices are located as close as possible to zero crossing points. This slicing mode will minimize clicks when advancing from slice to slice. Although to get 100% perfect slicing you will need to edit slice points manually.



Rotate the encoder D/BACK to select number of slices: 1 to 32



Push the encoder F to slice the sample in defined number of slices



Rotate the encoder B to select slice playback mode, meaning, in what order the slices will be played back with incoming triggers.

Available modes are:

FWD (forward) – slices are played sequentially from left to right

BKW (backward) – slices are played sequentially from the right to left

RND (random) – slices are played back in random order

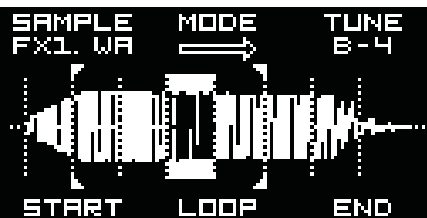
CV (CV controlled playback) – CV setting is divided in equal parts depending on the number of slices and the incoming CV defines, which slice is played back. This mode still need the incoming trigger to actually play back the CV defined slice

NONE – just the first slice is played

Push the encoder E to reset slice playback to the first slice.

Nice trick is to prepare 1 bar long loops and slice up them to 16 slices and then trigger them on every clock tick. This way you can “sync” your loops to the BPM.

You also can use a trigger to reset the playback to the first slice. For that you need to configure one of CV inputs for slice reset. Please, refer to CV assign instructions in this manual.



When the sample is sliced, push the encoder A/DATA and sample play screen will appear. Here you can select slices that are played back sequentially - rotate the encoder D/BACK to select the first slice and rotate the encoder F to select the last slice!

SAMPLE MENU – MANUAL SAMPLE SLICING



When in sample slicing menu, push and hold TRG2/SHIFT button and push the encoder F to enter the manual slicing mode. Manual slicing screen will appear.



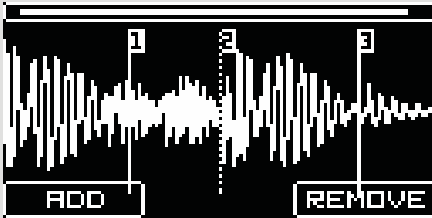
Rotate the encoder C to zoom the waveform! The zoom bar on the top of the screen will show the zoom rate.



Rotate the encoder E to move slicing cursor left or right and push the encoder A/DATA (ADD) to add the slice point! Maximums number of slices per sample is 32. Slice points will be automatically numbered sequentially.

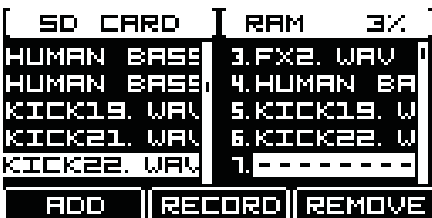
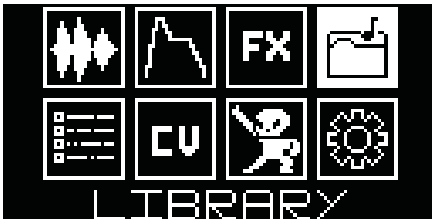
Rotate the encoder A/DATA to move through the slices. The selected slice will appear as a dashed line. Once the slice is selected you can adjust its position (move left or right) by rotating the encoder B or you can REMOVE the slice point by pushing the encoder C.

Push the encoder D/BACK to return to the main slicing screen.



All sample playback settings, slices and play mode settings will be saved with the project. Please refer to the PROJECTS menu.

SAMPLE RECORD MENU – SAMPLING



RECORD mode is an alternative way to obtain samples, and the Sample Drum primarily is designed as a sample player.

Use the encoder A/DATA to navigate to the LIBRARY menu and push to confirm, and then push the encoder B to select RECORD mode.



In RECORD mode you can record samples directly to the RAM of the module and afterwards save them to the SD card. Samples are saved as 16bit 48Khz wav files. 12bits is the resolution of the ADC. Maximum record time is 30". To record the sample, patch the audio signal to CV3/REC (bottom row CV3) input.



In order to ensure the good quality of recorded samples, before recording you may want to adjust RANGE and LEVEL using encoders D/BACK, E respectively.

Use the encoder D/BACK to set the potential RANGE of the incoming audio signal, meaning, if you record samples from the modular synth, set the range 10V (10Vptp signal), if you record samples from external synths with line level output, set the lowest 1,2V range.

LEVEL is digital attenuator for finetuning the incoming signal level.



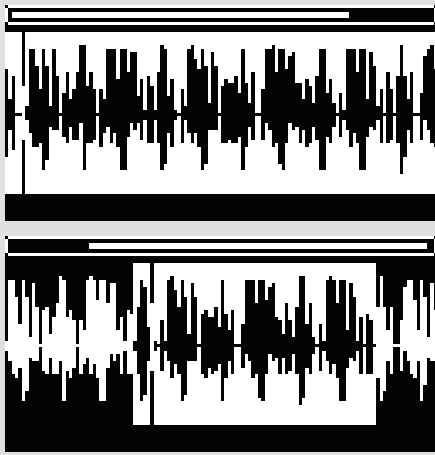
Use the encoder F to set the THRESHOLD of start of the sample record. Meaning, you can set the automatic start of sample record when level of the incoming audio signal reaches certain threshold, for example the first beat of the kick drum.



Once RANGE, LEVEL, and THRESHOLD settings are done, push the encoder A/DATA (REC) to start recording. Record timer will indicate the sampling time and level bar will give visual feedback on audio input level.

You may want to monitor the recording. In order to do so, push the encoder C, and MON menu will become active.

To stop recording push the encoder A/DATA again. As soon recording is stopped, the module will advance to the sample trim and save mode.

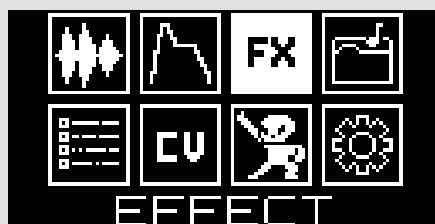


In the recorder sample edit mode you can manipulate the recorded sample:
 Rotate the encoder C to zoom in our out the sample.
 Rotate the encoder B to move the sample across the screen.
 Rotate the encoder D/BACK to move the starting point of the sample, if you want to save a slice of the sample, not the entire recording.
 Rotate the encoder F to move the end point of the sample.
 Rotate the encoder E to move the slice defined by encoders D/BACK and F around the sample.
 You can monitor your selection of the sample by pushing TRG1 button.



Once you are happy with the result push the encoder A/DATA and the module will advance to the recorded sample save mode. You can enter the name of the sample (see the PROJECTS menu for naming instructions). Recorded samples are saved on the SD card in the dedicated <REC> folder in the <SAMPLES> folder.

FX MENU – EFFECTS



Use the encoder A/DATA to navigate to EFFECT menu and push to confirm.



Rotate the encoder A/DATA to select the EFFECT, you want to apply to the sample. Available effects are:
DELAY, REVERB, LOWPASS FILTER, HIGHPASS FILTER, BITCRUSH, FOLD, DRIVE, RINGMODULATOR and **NONE** – effects are bypassed. Each effect has three parameters that can be controlled manually via encoders D/BACK, E and F or via CV, if the CV is assigned to the effect parameters (see the CV assign menu).
NB! For filter effects you need to set the dry/wet to fully wet position to fully hear the effect!

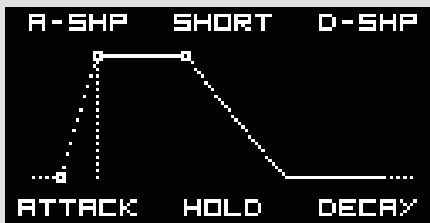
AMPLITUDE menu – ENVELOPES



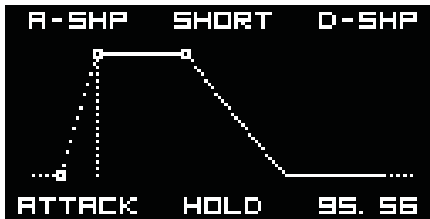
Use the encoder A/DATA to navigate to AMPLITUDE menu and push to confirm.



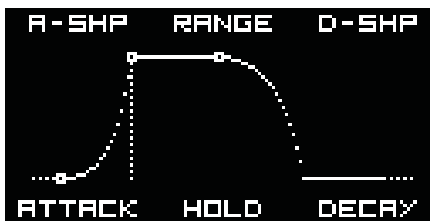
Here you can control the envelope of each sample or slice, when it's triggered. Three variables on the bottom row of the screen (ATTACK, HOLD and DECAY) are linked to the encoders D/BACK, E and F and ones in the bottom row (A-SHP, RANGE, D-SHP) are linked to the encoders A/DATA, B and C.



Start with selecting the envelope RANGE! Rotate the encoder B to choose between SHORT (max attack, hold and decay time is 1"), MID (max attack, hold and decay time is 3"), LONG (max attack, hold and decay time is 10") or RELATIVE. RELATIVE mode is particularly useful in sample slicing. Attack, Hold and Decay time is automatically defined by sample or slice length; changing the number of slices will automatically change envelope time. In the RELATIVE mode default setting is 0" Attack, 100% Hold time, and 0" Decay time.



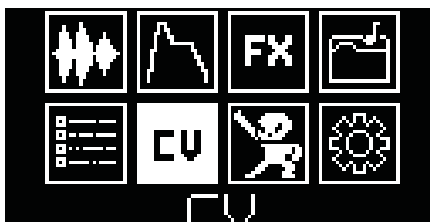
Rotate the encoder A/DATA to adjust the Attack time, the encoder B to adjust the Hold time and the encoder C to adjust the Decay time. When in loop mode the Decay setting will define the time in which the loop fades out. **In order to have an infinite loop, the Decay time is set to 100 by default, meaning that the sample will play all length.**



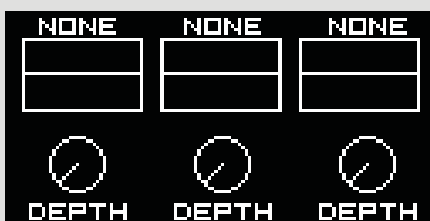
Rotate the encoder A/DATA to morph the Attack shape from exponential (-50 setting) through linear (0 setting) to logarithmic (50 setting)
Rotate the encoder C to morph the Decay shape from exponential (-50 setting) through linear (0 setting) to logarithmic (50 setting).

All envelope settings are saved with the channel instead of individual sample. Please refer to the PROJECTS menu.

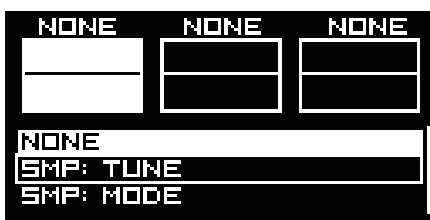
CV ASSIGN MENU – CV MAPPING



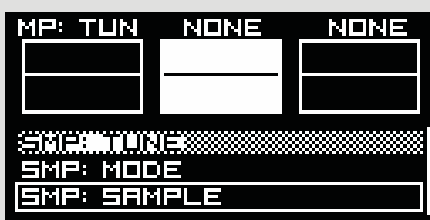
Use the encoder A/DATA to navigate to the CV menu and push to confirm.



In the CV menu you can assign each of three CV inputs to different parameters of the Sample Drum, like tune, play mode, sample select, start, loop and end point, envelope attack, hold and decay, etc., as well as adjust modulation depth via attenuators.



Rotate the encoder A/DATA to assign CV1 input to some of the parameters (TUNE is selected as the parameter in the example on the left) and push the encoder to confirm.

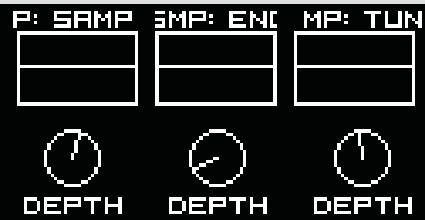


Rotate the encoder B to assign CV2 input to some of the parameters (SAMPLE SELECT is selected as the parameter in the example on the left) and push the encoder to confirm. Note that previously assigned (to CV1) parameters can not be assigned to the next CV input. In the example on the left TUNE is not available for CV2, because it's already assigned the CV1.

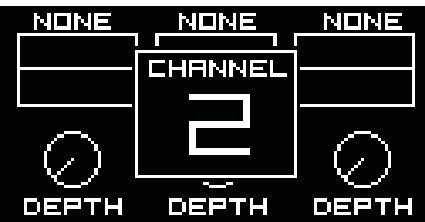
Same logic is to assign the CV3 to some of parameters using encoder C.

Note, that, if you assign LEVEL to the CV input, you have CV control over the volume of the sample, basically a VCA.

Now you can use encoders D/BACK, E and F to adjust CV1, CV2 and CV3 respectively levels. The encoders act as attenuators.

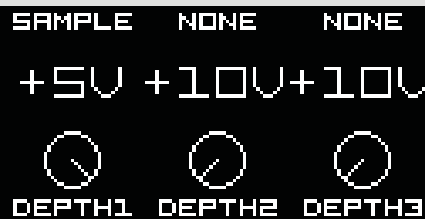


Small screens will act as oscilloscopes and indicate the incoming CV.



To assign the second channel (bottom row CV1, CV2, CV3) flip the switch to the channel 2 and repeat assign operations, described above. Assigned CV destinations and level settings can be saved in PROJECTS. This is particularly useful in live performances.

To change the CV input settings hold shift and turn the encoders A, B, C.

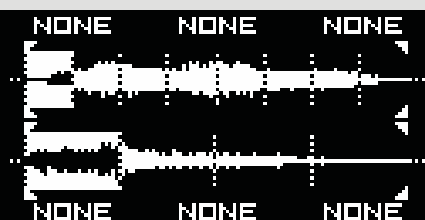


You can also adjust the CV input range by holding SHIFT and rotating the encoders A, B and C. Ranges are -5 to +5, -10 to +10, 0 to +5, 0 to +10

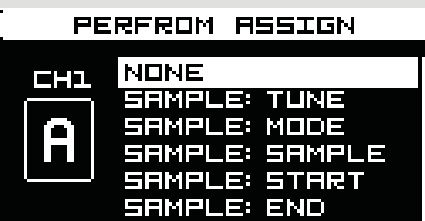
PERFORMANCE MENU – LIVE PERFORMANCE INTERFACE



Use the encoder A/DATA to navigate to the PERFORM menu and push to confirm.



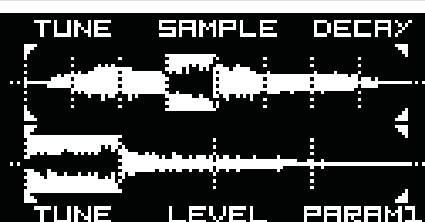
The PERFORMANCE mode is dedicated interface to use the Sample Drum in live performances. Once you have completed sample management (adjusting start/loop/end points or slicing), CV assign and applied FXes on both channels, in the Performance screen you will see both samples associated with the project with slices applied and also CV mappings for both channels are active. In the performance mode you can operate both manual trigger (TRG1 and TRG2) buttons to play back the samples depending on the mode set in the sample slicing mode.



In the Performance mode you also can assign Sample Drum parameters to the six encoders, so you can instantly tweak the parameters during live performance. Encoders A/DATA, B and C are dedicated to the channel 1, encoders D/BACK, E and F are dedicated to the channel 2. Push the encoder A/DATA and the encoder assign menu will appear. Rotate the encoder A/DATA to select the encoder (indicated by the letter A in the example on the left) and rotate the encoder C to select the parameter. Push the encoder C to confirm.



Now use the encoder A/DATA to navigate to the next encoder (B in the example on the left) and rotate the encoder C to assign a parameter to the encoder B, and so on. Parameters assigned to other encoders of the relevant channel (1 or 2) are not available.

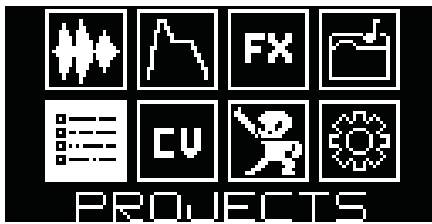


This is complete performance screen, where two different samples are loaded in channel 1 and channel 2, the sample in the channel 1 is split in 8 slices, the sample in the channel 2 is split in 4 slices. For the first channel the encoder A controls TUNE, the encoder B selects the SAMPLE and the encoder C controls DECAY time.

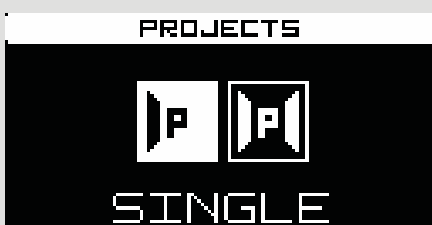
For the second channel the encoder D controls TUNE, the encoder E - LEVEL (or volume) and the encoder F - PARAMETER 1 of the FX assigned to the channel 2.

After active tweaking of parameters you may want to return to the original settings that are saved with the Project. To do so simply push the encoder C (channel1) or the encoder F (channel2).

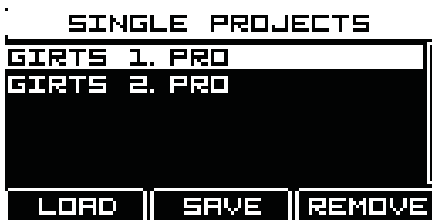
PROJECTS MENU – SAVING PERFORMANCE SETTINGS



Use the encoder A/DATA to navigate to the PROJECTS menu and push to confirm.



In PROJECTS menu you can save your samples with start/loop/end, slicing, play mode, amplitude envelope and FX settings, as well as CV and encoder (Performance mode) configurations. This feature is particularly useful for live performances, when you want to recall complex patches instantly.



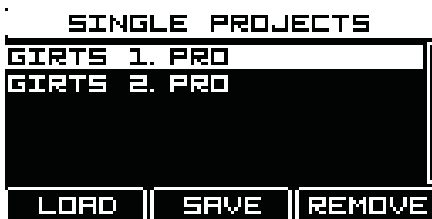
There are two options for the PROJECT saving – SINGLE or DOUBLE. In SINGLE projects only one channel, depending on the 1/2 switch setting is saved. In DOUBLE projects both channels are saved simultaneously.

Once you are happy with all settings, rotate the encoder A/DATA and select the project save mode (SINGLE/DOUBLE) and click the encoder to confirm the selection. Project management screen will appear. In the example on the left GIRTS 1 and GIRTS 2 are previously saved projects. To save the new project, push the encoder B!

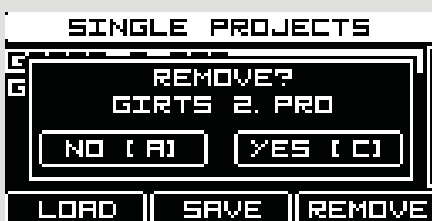
Note that SINGLE project allows you to reload one side while the other is playing, but for double projects the playback will be interrupted while the samples will load!



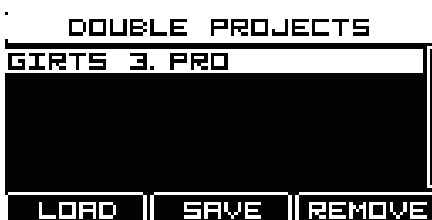
A new screen with the project naming will appear. Use the encoder A/DATA to navigate through the letters in the project name and encoder C to navigate through the characters below (in the example to the left the digit 2 is selected). Push the encoder C to enter the selected character. You can clear entire name by clicking CLR. Once you have assembled the project name, click OK to confirm, and the project will appear in the list.



To recall the project from the list, rotate the encoder A/DATA (LOAD) to select the project and push to confirm. The project will be loaded in the channel 1 or 2, depending on the 1/2 switch setting.



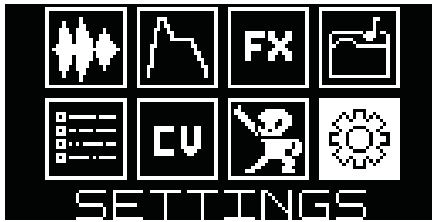
To delete the project, push the encoder C (REMOVE) and confirm YES/NO popup will appear. Rotate the encoder A/DATA to select and push to confirm.



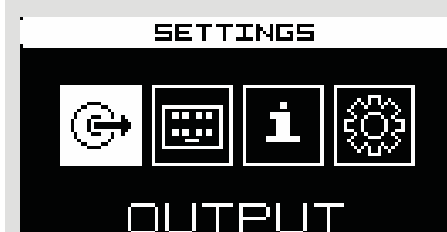
Same goes with DOUBLE projects. In this case make sure that samples are loaded and configured in both channels and save them. When recalled (LOAD), the project will load to both channels simultaneously.

Take note that double project loading will interrupt the sample playback on both channels!

SETTINGS MENU – MAIN SYSTEM AND USER SETTINGS



Rotate the encoder A/DATA to navigate to the SETTINGS menu and push to confirm.



Here you can adjust master settings of the module. Four setting pages are available: Audio Output configuration, Display configuration, blablabla and the System information. Rotate the encoder A/DATA to navigate to the relevant menu and push to confirm.

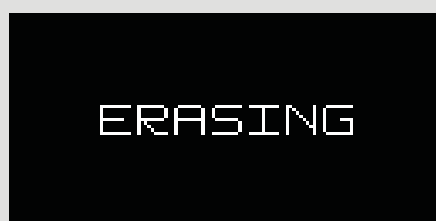


FIRMWARE UPDATE



Power off the Sample Drum. Copy the latest firmware file to the root directory of the SD card and insert the SD card in the module and power it on.

The module will automatically detect the latest firmware version on the SD card and compare it with the one installed.



Push the encoder A/DATA to initiate the firmware update procedure or push the encoder C to quit the firmware update. Only the firmware files will be replaced, all settings and samples on the SD card and in the module will remain unchanged.



Once the update is completed, power off the module and power it on again. Enjoy the great features of the latest firmware!



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 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 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.



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

Items for return, exchange and/or warranty repair have to be sent to:

Erica Synths
Andrejostas Str. 43
Riga
Latvia
LV-1045

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Copying, distribution or any commercial use in any way is prohibited and needs the written permission by Erica Synths.

Specifications are subject to change without notice.

In case of any questions, feel free to contact us through www.ericasynths.lv or via e-mail info@ericasynths.lv