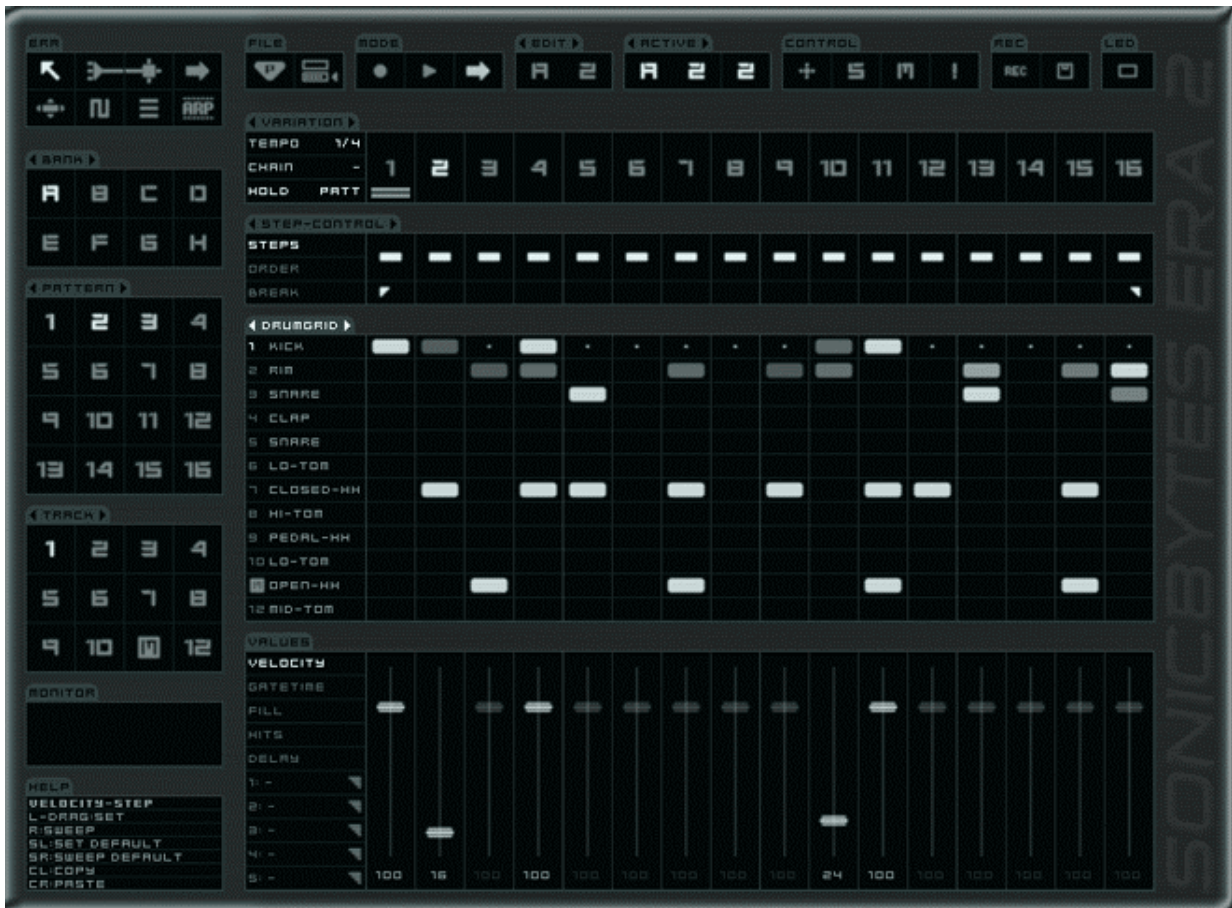


# ERA2 Reference Manual

Version 2.00

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## Introduction

Welcome to ERA2 - Thanks for your support!

ERA2 is a professional multipurpose Midi-Stepsequencer/Arpeggiator-Plugin. It controls up to 12 instruments or effects in a very dynamic way. All in realtime and controllable via Midi. Its unique pattern-variation approach, supporting different views on one pattern, provides an outstanding musical inspiration and expression. ERA2 let you pattern-control certain tracks in your host-project or can be the driving force for a live-performance. Futhermore ERA2 can be seen as a composing tool. You can compose in realtime, combining all features and afterwards use the created phrases in your sequencer. ERA2 is the ideal addition for modular environments. A traditional sequencer will act more lively with ERA2 onboard.

## System Requirements

- Windows 2000 or XP
- Pentium or AMD processor supporting SSE
- VST 2.0 or MFX compatible host

## Specification

### Synchronization

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- Host synchronization for tempo, transport (play, pause, stop) and position
- Multiple instance synchronization (mute, solo, play, record)
- Relative tempo from 1/32. to 32/1t
- Sample accurate timing

### Track Parameters

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- Velocity
- Delay
- Gate-time
- Swing with scalable delay, velocity, first-step and interval
- Humanization affecting velocity, delay and gate time
- Step divide
- Mono mode

### Live performance

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- All global parameters automatable
- Bank, program and variation recall via midi-note
- Start, Stop, Mute/Solo, Sync automatable
- Bar-Freeze and Step-Spin

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- Navigation and editing via controllers (every single step can be controlled)
- Midi-Learn function
- Midi-Thru
- Panic
- Pattern chaining
- Transpose via midi-note (global and single-row)
- Free and Hold mode

### **Recording**

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- Step and Live recording
- Adjustable auto-step, velocity and delay
- Built-in Midi-Recorder, Midi-export

### **Pattern editing**

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- Easy pattern editing with left/right mouse buttons
- Mousewheel support
- Note and pattern audition
- Pattern lock (run one pattern and edit another)
- Cut, Copy and Paste for patterns, variations and step-values
- Mouse sweeping for quick value drawing
- Different random functions for notes, triggers and values
- Rotate, reverse, transpose etc.
- Data-has-changed indicator
- Import/Export functions for banks and single patterns.
- Lock-functions

### **Arpeggiator**

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- Independent midi-channels, keyzones and chorder
- 10\*2 different Algorithms with adjustable range and semitones
- Adjustable In-Velocity sensitivity
- Restart (on first step) and Skip-Mode
- Playing-helps: Quantize and Keep
- Limiter to wrap sequences to certain ranges (4 Algorithms)

### **GUI**

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- Well structured, clear user-interface
- Visualization of patterns (dynamic icons)
- Step-LED's for visual feedback
- Integrated Help system
- Support for right mouse button, wheel and control/shift keys

### **Pattern structure**

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- 16 variations
- 12 trigger rows
- Default variation (optionally), which is automatically selected on pattern change

## Variation structure

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- Tempo (relative to host)
- Mode (free/hold)
- Chained pattern/variation
- First/Last step (pattern length)
- Step-row (every single step can be muted)
- Order-row (defines the actual play-order)
- Break-row (enables triggering other-patterns)
- Mute/Solo states of the trigger rows
- Controller numbers for the 5 free assignable CC's

## Trigger-row structure

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- 16 triggers (on/off) and a note-value and chord-descriptor
- Velocity-row
- Gate-row (note duration)
- Fill-row (re triggers notes automatically, different modes)
- Hits-row (used to create sub-patterns and chord-progressions)
- Delay-row
- Pitchbend-row
- Programchange-row
- 5 free assignable CC/PB/PC/AT-rows

## Playlist

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- Up to 999 patterns
- Independent pattern/variation control
- Multiple loops
- Controllable via Midi

## Additional

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- Midi Echo on all tracks
- Tap recording with mouse
- Midi import (Drumloop and Melody Extractor)
- Chord Strumming
- Global Midi-Muting of rows (independent of Variation-Mute)
- Non-destructive Midi-Import (import into specific patterns)

## Installation

ERA2 comes with a setup utility. Just unzip the file:

**Sonicbytes ERA2 Setup.zip**

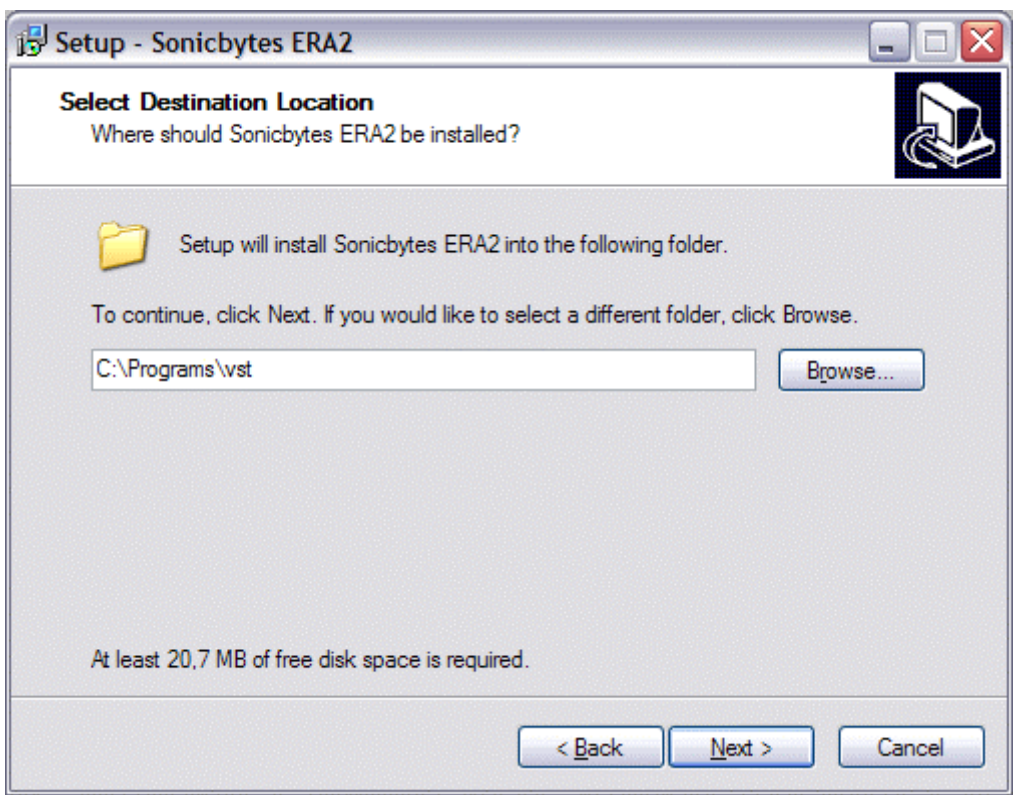
and execute

**Sonicbytes ERA2 Setup.exe**

The following dialogs will guide you through the installation:

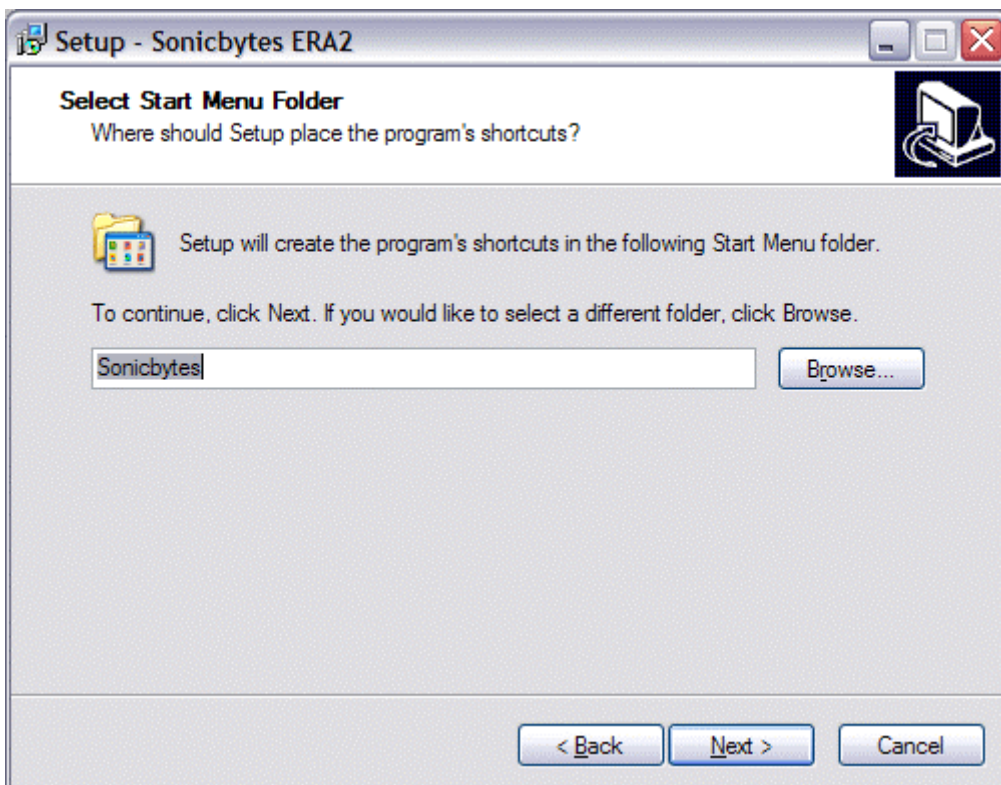


Click Next

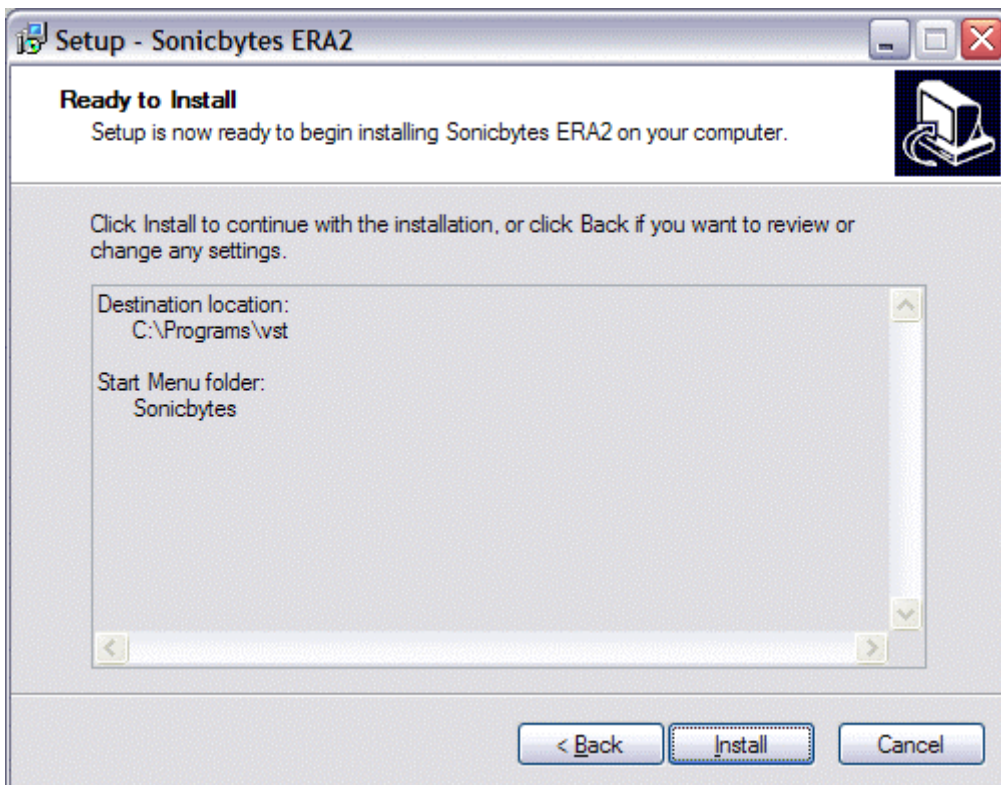


Probably the setup-utility will find your VST directory. Otherwise you can select it with the Browse button. The installer will place ERA2 in a directory called Sonicbytes.

Once you click Next you enter the this dialog. Here you can choose another name for the Start Menu folder.

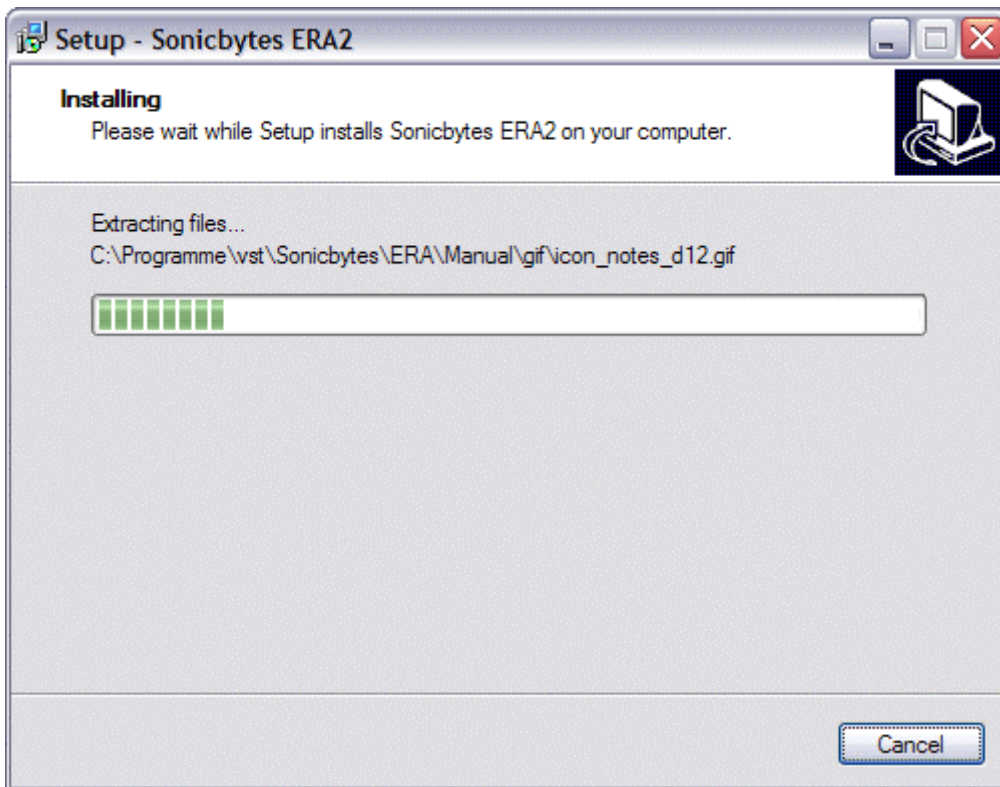


Click Next

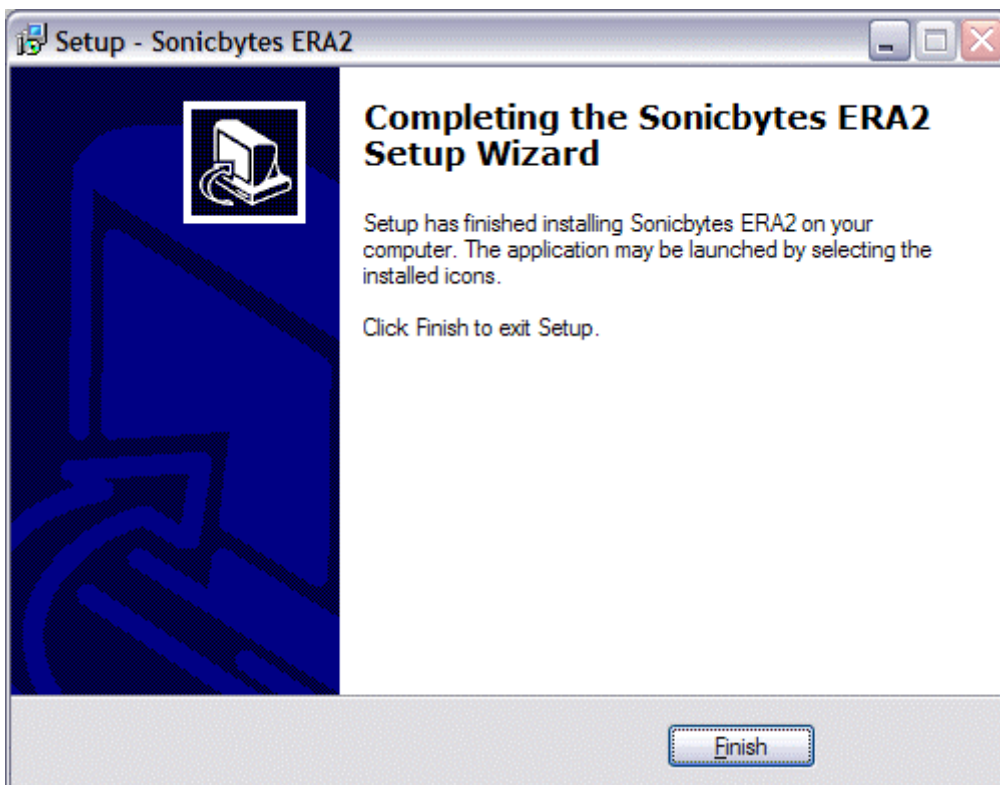


and finally Install:

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wait a few seconds...



Now you are ready to use ERA2.

### **Uninstall**

In the Start Menu you'll find an entry called *Uninstall ERA2*.

## Support

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If you notice any problems, please contact:

**support@sonicbytes.com**

and provide these informations:

- A detailed description of the issue
- A way to reproduce the problem
- Version
- Windows Version, Service Pack
- Hardware: Processor, RAM, Soundcard
- Host-Software: Version, Audio-Configuration (Driver, Samplerate, Buffersize)

Furthermore you can check the Sonicbytes official support forum:

<http://www.kvraudio.com/forum/viewforum.php?f=39>

We are also interested in positive feedback or suggestions - don't hesitate to tell us ...

## Setting up ERA2 in your host

ERA2 is a midi-plugin. Follow these basic steps to setup ERA2 in a minute:

1. Load ERA2 into the host
2. Load the instrument or effect you wish to control
3. Connect ERA2's midi-out to the instruments midi-in

The directory Sonicbytes\ERA2\Host Examples contains some host project-files which will show you the setup.

## Cubase/Nuendo

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1. Create a new project
2. Open the VST instruments window
3. Load a synth e.g. a1 and ERA2
4. Create a new midi track
5. Select in: ERA2, out: a1
6. Open the ERA2 editor window
7. Enter some steps (left button to set, right button to erase)
8. Press Play in Cubase or ERA2 (don't forget to turn on the monitor [speaker] of the midi track)
9. Now you should hear the phrase and see ERA2 in action...

## Tracktion

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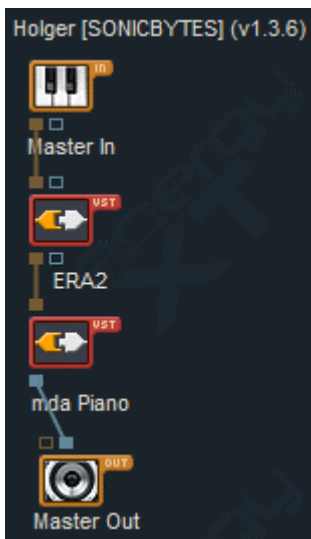
Tracktion follows a modular approach. It is very simple and intuitive to get ERA2 working:

1. Create a new project
2. Drag a 'new filter' on a track and select an ERA2 plugin
3. Drag another 'new filter' behind the ERA2 and select it
4. Edit a phrase and press Play ...

## EnergyXT

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The set up in EnergyXT routing-window is very simple:



1. Load ERA2
2. Load a VSTi
3. Connect ERA2's midi-out with the midi-in of VSTi
4. Open ERA2, enter a phrase and press play, have fun

To use ERA2 inside eXT's Sequencer component:



1. Add a midi track
2. Load a VSTi that you want to play on that midi track
3. Select the midi track, go the mixer (F9) and Click 'Add' in the 'MIDI FX - groove' section
4. Select ERA2 from the popup menu

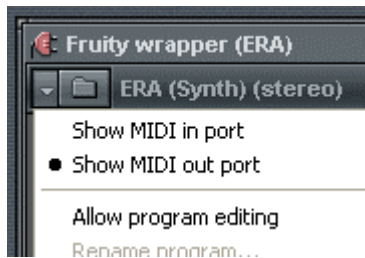
You also can give ERA2 its own track. In this case you have to set the track-output to the instrument track:



## FL Studio

FL does not automatically insert new plugins in the 'Channels > Add one' menu. You first have to get them via 'More... > Refresh'. After that you have to enable the appropriate plugins, if you want to use them regular. FL is working with 'ports'. In ERA2 you have to select the out port (a number). In your preferred plugin you have to select the same number as an in port. That's all.

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1. Create a new project
2. Add ERA2
3. In the 'Extra options' menu of ERA2 select 'Show MIDI out port'
4. At the right top of the ERA2 window select a port number e.g. 0 (this is ERA2's out port)
5. Add the desired instrument channel e.g. Drumatic
6. At the right top of the Drumatic window select the same port number (this is the in port)
7. Set up your beat in ERA2 and press Play ...



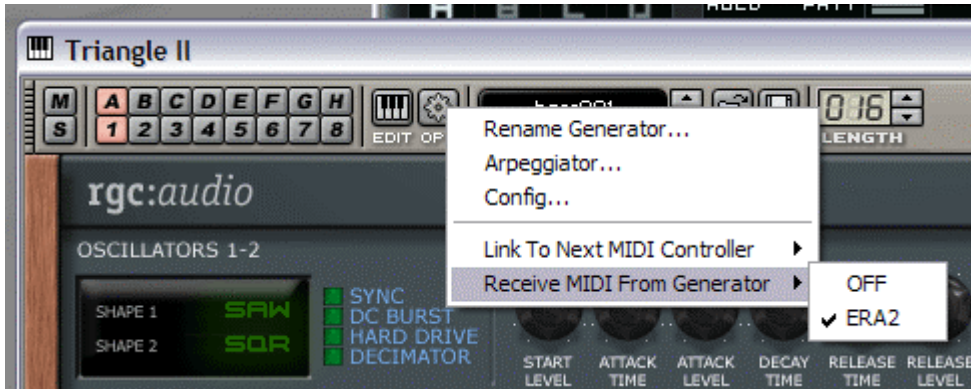
## Orion



1. Load ERA2
2. In ERA2 click OPT > Config and select Automation Type: Midi CC
3. Load an Instrument (VST or Orion)

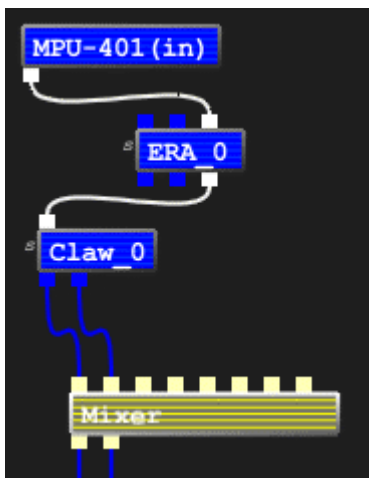
## ERA2 Reference Manual

4. In the Instrument click on OPT > Receive Midi from Generator and select ERA2



### Plogue Bidule

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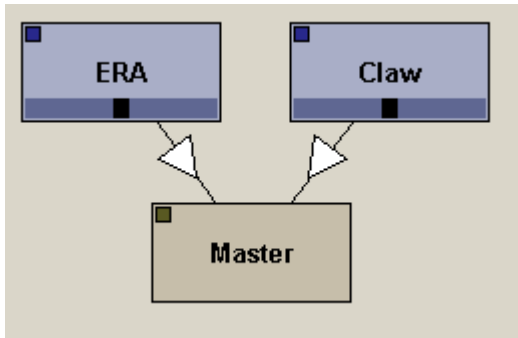


1. Set up in Bidule is very simple, too.
2. Load ERA2 and the VSTi you want to trigger
3. Make a midi-connection (white cable) between them
4. Connect the VSTi with the Mixer
5. Press play in ERA2

### Buzz

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1. First of all you have to install Polac's VSTi loader.
2. Load ERA2 (right click on polac > plugins > ERA2) and connect it to master
3. Load another VSTi and connect it to master
4. Right click on ERA2 > MIDI send... > select target VSTi
5. Double click ERA2, edit a phrase and click play in Buzz or ERA2



## Basics

Please read this chapter attentive because it makes you familiar with the structure, the terminology and basic GUI elements.

## Structure and terminology

ERA2 can store up to 128 different patterns. These patterns are grouped in banks (A-H):

- Bank A contains the patterns 1 - 16
- Bank B contains the patterns 17 - 32
- Bank C contains the patterns 33 - 48
- ...
- Bank H contains the patterns 113 - 128

This allows a better overview. Each pattern contains up to 16 different variations. A variation is basically a view on a pattern. A variation controls how the pattern will be played, i.e. the tempo and mute/solo-state. You can use variations but this is optionally. Of course you can setup 'ordinary variations' based on pattern-copies.

### Bank

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- a set of 16 patterns

### Pattern

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- 12 tracks
- 16 variations
- Optionally: The default variation

### Track

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- The 16 note-triggers (note, on/off), optionally a chord-setting
- Velocity row
- Gatetime row  
Controls the duration of each note-event.
- Fill row (has 2 values: count and gate)  
Fills can retrigger notes in variuos modes.
- Hits row (has 3 values: fill-pattern, length and mode)  
Work in conjuntion with Fills.
- Delay row  
Used to delay certain note-events in 1/128<sup>th</sup> steps.
- 5 automation rows  
Can send CC's, Pitchbend, Aftertouch and Program-Change events.

## Variation

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- Tempo (relative to host)
- Playmode  
Defines how to treat pattern/variation changes.
- Restart-mode  
Controls the restart of lfo's and slowdown tracks
- Chained pattern/variation  
The chained one is played when the last step has been played. Used for 32 or more step-patterns.
- First/Last step (define the pattern length)  
Let you easily set individual start points.
- Step-row  
Controls if a step is active – will be played.
- Order-row  
Defines the actual playorder of a pattern. Traditional Stepsequencers often provide a reverse-play. The order-row is much more flexible: Any playorder can be defined.
- Break-row  
A break triggers a simultaneously playing pattern/variation. The time within this pattern has to be played is adjustable.
- Mute/Solo states of all tracks

*Don't mix up patterns and variations! Variations are used to vary a pattern by muting some triggers, changing the order, inserting some breaks, changing the tempo etc. Only the patterns contain triggers and notes!*

## Drummap

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A Drummap contains the names for each key and the rootkey setting for each track. You can easily create maps for your favourite instruments. The rootkey is the default midi-note if triggers are set in the drumgrid. Drummaps are also useful in the pianoroll: You can name your tracks or take advantage of the rootkey.

The maps can be automatically created by importing midi-files. Furthermore assignment can be midi-learned. A set of special functions is provided. Drummap management is handled in the track-selector.

## Gatetime

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Since ERA2 is a step-sequencer it doesn't provide a common pianoroll where you can move the note around. This is not a limit – it's the nature of step-sequencing. Therefore it's not possible to change the durations by dragging the note-tails with the mouse. Instead you have to set the gatetime for each step. The gatetime defines the length of a note from 1/8<sup>th</sup> to 16 steps.

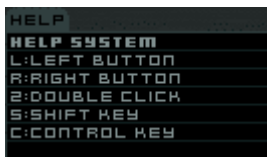
## GUI

ERA2's GUI was developed to allow quite fast and intuitive composing. Both the left and right mousebutton are frequently used. Additionally a combination of mousebutton and control or shift key provides further functions. Furthermore the mousewheel-support let you control many parameters.

### Help-system

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Always have a look on the help-panel at the bottom left. It gives you a short description of what you can do. The help-text is automatically updated when you move the mouse over ERA2's GUI.



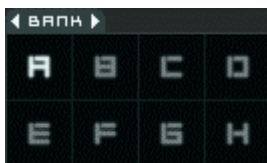
Then watch the widget at the mouse-position. If the widget provides functionality it will change it's color to a brighter one.

Anyhow it's strongly recommended to read the complete manual.

### Panels

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The GUI is build of panels. Each panel has a title. Example:



The title is BANK. The arrows emphasize that mouseclicks on the title provide different functions on each mousebutton - normally selection- or context-menus.

### Parameters

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The parameter-widgets contain the parameter-name, the value and one or two control buttons.

State-parameters (i.e. Audition) can only be on and off. Click on the rhomb to change the state.

Value-parameters (i.e. Velocity) can be controlled in different ways:

- A left or right mouseclick on the up/down button. The right button changes the value with an larger, appropriate increment.
- Mousewheel or left drag the value up- or downwards.
- Right click on the value resets it to the default.

Selection-parameters (i.e. Playmode) provide a selection-menu, which opens if you click on the button. Furthermore you can select the previous or next value with a left or right click on the value.

### Midi-controlled parameters

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The midi-parameters are used to control ERA2 via Midi. This can be done from the pianoroll of the host or directly with your keyboard or controller-box. The source can either be a note-on or a control-change event (CC). Basically both types are valid for all parameters. Actually this depends on the nature of target parameter.

The midi-parameters have to be learned: Click on a parameter to enter the learn-mode. The text *WAIT* appears. Press a note or move a controller. The learned parameter will be immediately displayed in the form *source:channel*. To 'forget' a source-parameter or cancel the learn-mode do a right-click.

Note: Midi-automation has a big advantage over VST-parameter-automation. Midi events contain the exact time and thus is much more accurate! VST automation is blocksize dependent and therefore has a latency.

## Main-Section



This section gives access to ERA2's main-functions:

- Main menu
- Transport
- Mute/Solo
- Pattern access
- Midi recorder

## File



<i>Action</i>	<i>Location</i>	<i>Effect</i>
Click	Title	Opens the main-menu (see below)
Left click	P	Opens the preset-menu, used to load a stored presets.
Right click	P	Opens the main-menu (see below)
Left click	Roll/Map icon	Switches between the pianoroll and drumgrid.

## Main-menu

This menu provides all file input/output functions. Most functions are also available via the special browser-menus (like the preset browser) or context-menus on the appropriate titlebars.

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Load Cubase Program...	Midi Drumloop Extractor (Auto-Drummap, current Patterns will be lost)...
Save Cubase Program...	Midi Drumloop Extractor (using current Drummap, start at current Pattern)...
Load Cubase Bank...	Midi Melody Extractor #1...
Save Cubase Bank...	Midi Melody Extractor #2...
Load ERA Bank...	Midi Melody Extractor #3...
Save ERA Bank...	Midi Melody Extractor #4...
Load ERA Pattern...	Midi Melody Extractor #5...
Save ERA Pattern...	Midi Melody Extractor #6...
Set Data directory...	Midi Melody Extractor #7...
Set Pattern directory...	Midi Melody Extractor #8...
	Midi Melody Extractor #9...
	Midi Melody Extractor #10...
	Midi Melody Extractor #11...
	Midi Melody Extractor #12...
	Midi Melody Extractor #13...
	Midi Melody Extractor #14...
	Midi Melody Extractor #15...
	Midi Melody Extractor #16...

### **Presets**

Cubase Program/Bank provides support for the standard Steinberg preset format. Since ERA only uses one preset, both formats contain the same information.

### **Banks and Patterns**

An ERA2 Bank contains exactly the 16 patterns (including all triggers, notes, values-rows and variations)

An ERA2 Pattern is exactly one pattern (including all triggers, notes, values-rows and variations)

### **Directories**

*Set Data directory* sets the default directory for presets and drummaps.

*Set Pattern directory* sets the default directory for Banks and Programs. This one can be the same as EST's. Banks and programs can be shared between ERA2 and EST.

### **Midi-Import**

On the right side of this menu you find the midi-import commands. Since ERA is a step-sequencer the imported patterns may slightly differ from the original. The main use is to extract certain phrases and reuse them.

The Drumloop Extractor scans a midi-file for note-events on channel 10, which is the standard drum-channel. Almost all available files follow this standard. While the import up to 128 patterns are created. The playlist will not be changed.

Tip: If you want to listen to all imported patterns without activating each again and again, you can use the *Reset continous* function of the playlist-context-menu.

The Drumloop Extractor can work in two modes:

The first one automatically creates a drummap which is based on the occurring notes. If an import fails because there are no channel-10 notes no changes are made. The imported patterns are stored beginning with the currently selected one.

Tip: Select one of the upper banks before importing. Then you can copy the desired patterns.

The second import-mode doesn't change the drummap at all. It imports only events which fit to the current drummap.

The Melody Extractor scans the midi-file for note-events of the specified channel. The drummap will not be changed. Chords a split over ERA2's tracks.

## Mode

The mode-panel controls the record-mode, play-mode and playlist-mode.



Circle	Turns record-mode on and off. Step-recording is active if ERA2 is not playing.
Triangle	Turns sequencer on and off. If global playmode is set to SEQ, this will be done automatically if you press play in your host. The global playmodes FREE and HOLD start ERA2 with the first note-event.
Arrows	Turns playlist-mode on and off. The playlist-mode is on by default. If this is on, ERA will jump to the next playlist-step, when the last step has been played.

## Edit



The displays of the edit panel are used to select the edit pattern, especially if the selector view is not activated. You have to distinguish between the edit and the active pattern. The edit pattern is the one you 'see'. The active pattern is the one you 'hear'. If both are identical the colors of both numbers are the same. If they differ the active pattern is darkened. They can be different because it is possible to change the edit pattern while ERA2 is running (and the variation is in HOLD mode, which is default).

<i>Action</i>	<i>Location</i>	<i>Effect</i>
Left click	Title	Select the active pattern.

Left click	Icon	Switches between pianoroll and drumgrid.
Left click	Letter	Selects the next lower bank.
Right click	Letter	Selects the next higher bank.
Left click	Number	Selects the next lower pattern.
Right click	Number	Selects the next higher pattern.
Mousewheel	Number	Scrolls through the patterns.

### Active



This display shows the currently active bank/pattern. As mentioned the edit- and active patterns can be different – in this case the display is less bright.

Pattern editing is possible while ERA2 is playing. To make editing more comfortable two lock-modes are provided:

Left click	Switches between play-lock and normal mode. Play-lock means that the active pattern will not change: The playlist-indicator doesn't proceed and chains are ignored.
Right click	Switches between edit-lock and normal mode. Edit-lock prevents the edit-pattern being changed when the active-pattern changes.

### Midi-recording

ERA2 provides different types of midi-recording:

Step-recording becomes active if record is on and play is off. ERA2 records one note and jumps to the next step.

Live-recording becomes active if record and play is on. The recorded note is set at the current play-position. The delay-row is affected.

You can even record longer phrases. Setup a playlist and record...

### Control



BAR-FREEZE (+)	This one freezes ERA2's sequencer until the host-sequencer reaches a new bar. Using bar-freeze in a live-situation gives you a break-like effect.
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Solo (S)	Mutes all other instances of ERA2.
Mute (M)	Mutes this instance of ERA2.
Panic (!)	Forces an internal all-notes-off event. All notes will stop at once.

## Record

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The REC icon turns midi-record on and off. If set to on, all generated midi-events are internally stored. This buffer is cleared everytime the play-button is clicked.

The disk-icon opens a file-selector to save the events as a standard midifile.

Tip: Keep REC on if when you are improvising. Everytime when you like the phrase(s) save to midi. Later you can import and reuse the material. Melodic phrases can be easily be created with the Arpeggiator – use the limiter to keep the lines within a certain range (i.e. bass). For drumloop improvising and recording sessions remember that the Drumloop Extractor imports only on channel 10.

## LED

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This is the beat-indicator. The LED blinks on every 4<sup>th</sup> beat. Your can turn all visual-feedback on and off. For that click on the title.

## Variation-Control



Each of the 128 patterns can have up to 16 different variations. These variations change the 'sound' of patterns at runtime. They can improve your inspiration and musical expression, especially in a live-situation in many ways.

The variation-numbers are displayed in three intensities:

- Low: The variation is default.
- Medium: The variation contains data.
- High: The variation is selected.

A variation contains:

- the actual play order
- step-state (mute) and the mute/solo state of all tracks
- tempo
- chained pattern/variation (optionally)
- first step, last step
- playmode (FREE/HOLD)
- Restart option (PATT/VARI/ON/OFF)
- Breaks, which trigger complete (sub-) patterns at any step

<i>Action</i>	<i>Location</i>	<i>Effect</i>
Right click	Title	Opens a context-menu, which allows you to set tempo, playmode and restart for all 16 or the selected variations. Here 'selected' means actually the selected steps.
Left click	TEMPO	Opens a selection-menu to adjust the tempo (relative to host).
Left click	CHAIN	Opens a selection-menu to set a chained pattern. ERA2 will activate the chained pattern when the last step has been played.
Right click	CHAIN	Opens a selection-menu to select the variation of the chained pattern.
Left click	HOLD/FREE	Switches between the two variation playmodes:

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		<p><b>HOLD:</b> Forces ERA2 to takeover a pattern-change only when last step of the current pattern has been played.</p> <p><b>FREE:</b> The selected pattern becomes active at once. Use FREE to create totally free combinations of existing patterns/variations at runtime.</p> <p>By default FREE is set. Use one of the provided templates if you want to work mainly in HOLD mode.</p>
Left click	PATT/VARI ON/OFF	<p>Sets the restart mode, which affects the moment when a reset of the LFO's and the internal step-counter for slowdown-tracks should be performed:</p> <p><b>PATT:</b> A reset is performed when the pattern or bank changes.</p> <p><b>VARI:</b> Reset when the variation changes.</p> <p><b>ON:</b> Reset everytime on the first step.</p> <p><b>OFF:</b> Never reset.</p>
Left click	1-16	Selects the variation.
Right click	1-16	<p>Opens a context-menu providing the clipboard-functions and:</p> <p><b>Reset:</b> Resets the variation to the default values.</p> <p><b>Auto:</b> Makes this variation the auto-variation, which means that this variation becomes active if the pattern is selected.</p>
Left click + shift	1-16	Cut the variation into the clipboard.
Left click + control	1-16	Copy the variation into the clipboard.
Right click + shift or contr.	1-16	Paste variation from the clipboard.

### Step-Cursors (LED's)



## ERA2 Reference Manual

The dots beside the numbers indicate that this variation is the auto-variation.

There are four step-cursors:

The two rectangles above the variation numbers indicate the current play-step if ERA2 is running.

The two rectangles below the variation numbers show the current edit-step, which is useful if you control the edit-step via midi or if the actual play-order is not default.

In both cases the lower rectangle shows the actual play-step for the step visualized with the upper rectangle. The rectangles are different if the actual play-step differs, which means that the ORDER-row is not default or you are step-spinning via Midi.

Example:



ERA2 is not running. Thus the upper step-cursors are not visible.

The current edit-step is 1 (the upper rectangle is at step 1)

The actual play-step for step 1 is step 5 (the lower rectangle is at step 5)

The actual play-step for step 1 is step 5 because the step-order at step 1 has been set to 5 (the bars of the order row represent the actual play-steps, the light lines emphasize the first grid-step regarding the grid-size parameter).

## Step-Control-Rows



This panel contains the three step-control-rows. All 'parameters' are part of the variation. So it's possible to setup 16 different configurations for one pattern. The variation approach is very useful to create new 'patterns' based on a the basic pattern. Simply mute some steps or change the play-order.

Furthermore the selection of steps can be controlled here. Certain tools consider this selection.

Note: The brightness of labels on the left (STEPS, ORDER, BREAK) indicate the state:

- Low: not selected, row-data is default
- Medium: not selected, row-data is not default
- High: the row is selected

A left mouse click selects the appropriate row. Use the right mousebutton to open a context-menu for the clipboard functions.

The rows are:

## Steps

The step-row is used to:

- set the state of steps (on or off)
- adjust the first and last step
- select steps

A left click turns a step on, a right click turns it off. This is visualized by the brightness of the step.

Holding the control-key while pushing the left or right mousebutton, selects or deselects steps. Selected steps are visualized by a lighter background.

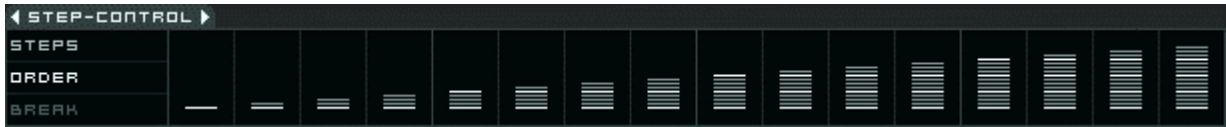
Tip: A double left click solos a steps. This is useful to check the audible influence of single steps. A second double click undo's the operation.

The first/last step indicators can be dragged with the left mouse button. It not possible that the first and last step are equal. If you really want a one step pattern use the play-order.

In the example above the steps 5, 6, 7 and 8 are mute. First step is 1, last step is 13. The steps 3, 4, 11, 12 are selected.

## Order

The order-row affects the actual play-order of the pattern. Normally ERA2 processes the steps in an ascending order:

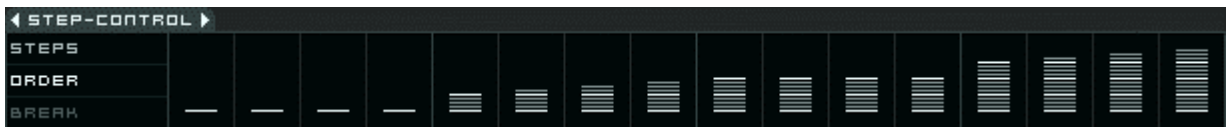


The bars indicate the actual play-step. Each line correlates one step-number beginning at step-1 (one line). The picture above shows the default setting, where the sequence is played linear from step 1 to 16.

By modifying the order-row you can setup any order. The next picture shows a reversed order:



The following order-row creates a play-order of 4x1, 5, 6, 7, 8, 4x9, 10, 11, 12, 13:



Mouse actions on the bars:

Left drag (up/down)	Changes the actual play-step for the selected step.
Right drag in all directions	Changes the actual play-steps.
Left + shift	Sets play-step to default for the selected step.
Right + shift	Sets play-steps to default.
Left + control	Copies the play-step to the clipboard.
Right + control	Pastes the play-step from the clipboard.
Mousewheel	Changes the actual play-step for the selected step.

## Break

A break (in the ERA2 terminology) means: trigger a complete pattern/variation at any step and play it within a specified number of steps:



At step 1 there's a A1/1/16 break - at step 1 Pattern A1 is triggered. Variation 1 is used. The pattern is played within 16 steps.

At step 5 there's a A1/2/16 break - at step 5 Pattern A1 is triggered. Variation 2 is used. The pattern is played within 16 steps.

At step 11 there's a B3/8/6 break - at step 11 Pattern B3 is triggered. Variation 8 is used. The pattern is played within 6 steps.

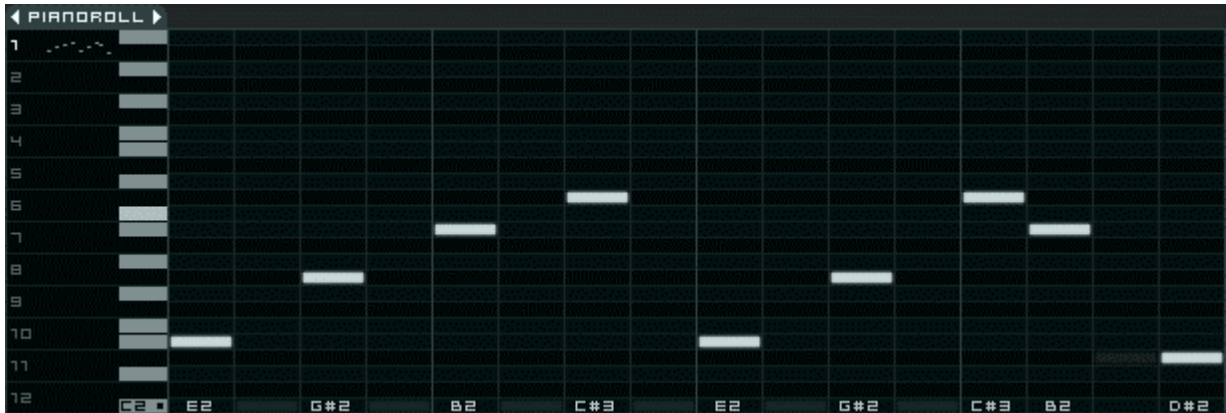
The break-patterns are played simultaneously to the main pattern. The difference is that they are buffered: the track-settings are used when the break-pattern starts, after that point they don't have an effect.

**Mouse actions**

Left	Selects the step.
Right	Opens a selection-menu. If no break has been set before the pattern-menu appears. If a break has already been set the selection depends on the row: First row: pattern selection Second row: variation selection Third row: length selection (steps)
Left + shift	Cuts the break setting into the clipboard.
Right + shift	Copies the break setting into the clipboard.
Right + shift or control	Paste from the clipboard.

## Pianoroll-Rows

In the pianoroll you can edit phrases and select/mute/solo tracks. The pianoroll is preferably used for melodic phrases.



There's no audible difference when editing in pianoroll or drumgrid. The only difference is that the drumgrid is specialized on drum-programming, which means that all tracks are visible at any time. It's perfectly ok to edit drumbeats in the pianoroll or contrariwise. Pianoroll and drumgrid are only different 'views' on the same data.

The note-triggers are visualized with rectangles. The brightness is velocity-dependent.

A left click on the titlebar toggles between pianoroll and drumgrid. The right click on the title opens a context-menu with a set of functions:

All mute	Sets mute on all tracks.
All mute off	Turns mute off on all tracks.
Show all tracks	Shows the note events of all tracks. These notes are a displayed smaller.
Show keys	Controls the display of the track-rows. You can either show the phrase as dots combined with the audition keyboard or simply display the track-names.
Center rootkey	Automatically scrolls the pianoroll so that the rootkey is centered.
Center ...	Automatically scrolls the pianoroll so that the selected note is centered.

The panel is split in two parts: The track-rows on the left and the editor on the right.

## Track-Rows

The track-rows contain the 12 track-numbers, the visualized phrase (as dots) or the track-names and the audition keyboard.

<i>Action</i>	<i>Location</i>	<i>Effect</i>
Left click	1-12	Set track mute on and off. Mute is visualized with an M icon.
Right click	1-12	Set and reset track solo.
Left click + shift	Dots	Cuts the triggers and appropriate value-rows into the clipboard.
Right click + shift	Dots	Pastes from clipboard to the selected track.
Left click	Dots	Selects the track.
Right click	Dots	Opens a context-menu containing the clipboard functions. There two sets of cut, copy, paste and reset. The first set of functions encloses the value rows. The second means that only the triggers are enclosed.
Left click	Keyboard	Plays the note.
Right click and drag up/down	Keyboard	Scrolls the pianoroll up and down. The scroll-offset is stored and saved for each track.
Right click + control or doubleclick right	Keyboard	Centers the pianoroll to the rootkey.
Mousewheel	Anywhere	Scrolls the pianoroll up and down.

## Editor

The editor is used to edit the pattern with the mouse. You'll notice that the handling differs from common sequencers. May be it is a bit annoying for you – but remember: ERA2 is a step-sequencer and not a pianoroll-replacement. Does your host-pianoroll provide all of ERA2's dynamic runtime-features?

The difference is that ERA2's pianoroll is strictly step-based and restricted polyphonic. You cannot enter free chords – you either have to use one of the predefined chords or use more tracks. Furthermore ERA2 separates

## ERA2 Reference Manual

between triggers and notes. Triggers can be on and off, Notes only define the pitch and will only be played if the trigger is on. That means that setting a trigger off, doesn't delete the note.

This approach might be a little confusing at the beginning, but if you're used to it you'll see that this composing-method has its own flair and has a high musical potential.

On-triggers are have a bright color, off-triggers a dark one. The notes are visualized with rectangles.

Left click	Sets a note and sets the trigger to on.
Right click	Sets a note and turns the trigger off.
Left click + control	Turns the trigger on, the note is not modified.
Right click + control	Turns the trigger off, the note is not modified.
Left click + shift	Adjusts the note, the trigger is not modified.
Right click + shift or left doubleclick	Opens the chord-menu.
Mousewheel	Scrolls the pianoroll up and down.

## Drumgrid-Rows

In the pianoroll you can edit phrases and select/mute/solo tracks. The pianoroll is preferably used for drum-programming.



The note-triggers are visualized with rounded rectangles. The intensity is velocity dependent.

The right click on the title opens a context-menu with a set of functions:

All mute	Sets mute on all tracks.
All mute off	Turns mute off on all tracks.
Show only triggers	The trigger-rectangles do not contain textual information.
Show note	Inside the trigger-rectangles the midi-note is displayed.
Show offset to rootkey	Inside the trigger-rectangles the offset to rootkey is displayed.
Show numeric	Inside the trigger-rectangles the midi-note-value is displayed.

The panel is split in two parts: The track-rows on the left and the editor on the right.

## Track-Rows

The track-rows contain the 12 track-numbers and the track-names.

<i>Action</i>	<i>Location</i>	<i>Effect</i>
Left click	1-12	Set track mute on and off. Mute is visualized with an M icon.
Right click	1-12	Set and reset track solo.

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Left click + shift	trackname	Cuts the triggers and appropriate value-rows into the clipboard.
Right click + shift	trackname	Pastes from clipboard to the selected track.
Left click	trackname	Selects the track.
Right click	trackname	Opens a context-menu containing the clipboard functions. There two sets of cut, copy, paste and reset. The first set of functions encloses the value rows. The second means that only the triggers are enclosed.
Left click	trackname	Plays the note.

### Editor

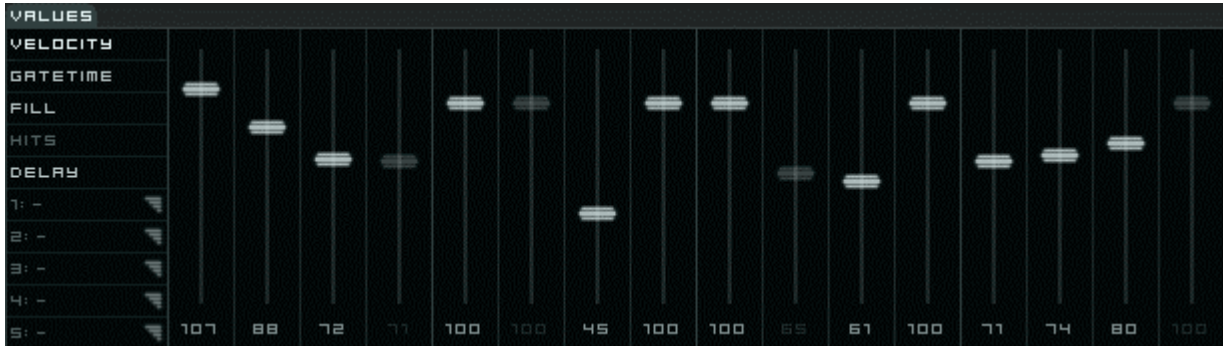
The editor is used to edit the pattern with the mouse.

On-triggers are have a bright color, off-triggers a dark one. The notes are visualized with rectangles.

Left click	Sets a note and sets the trigger to on.
Right click	Sets a note and turns the trigger off.
Left click + shift	Cuts all 12 triggers into the clipboard.
Left click + control	Copies all 12 triggers into the clipboard.
Right click + shift or control	Pastes from the clipboard to the selected step.
Mousewheel	Changes the note relative.

## Value-Rows

The value-panel contains additional rows which refer to the selected track. The sliders show the values for the selected value-row:



Each track contains 10 value-rows. The first five are fixed:

1. Velocity
2. Gatetime
3. Fill
4. Hits
5. Delay

The last five rows are used for parameter-automation - they send control-change events. The controllers are assignable. This assignment is stored in a pattern. Therefore it is possible to automate different sets of parameters in different patterns!

The value-panel is split in two sections: The row-selector on the left and the slider-part.

## Selector

The mouse-actions are almost identical for all value-rows:

Left click	Selects the row.
Right click	Opens a context-menu, providing the common clipboard functions.
Left click + shift	Cuts the step-values into the clipboard.
Left click + control	Copies the step-values into the clipboard.
Right click + shift or control	Pastes the clipboard values to the selected value-row.
Left click on the triangle-icon	Opens the controller selection-menu, where you can select the controller number for an automation-row.

## Sliders

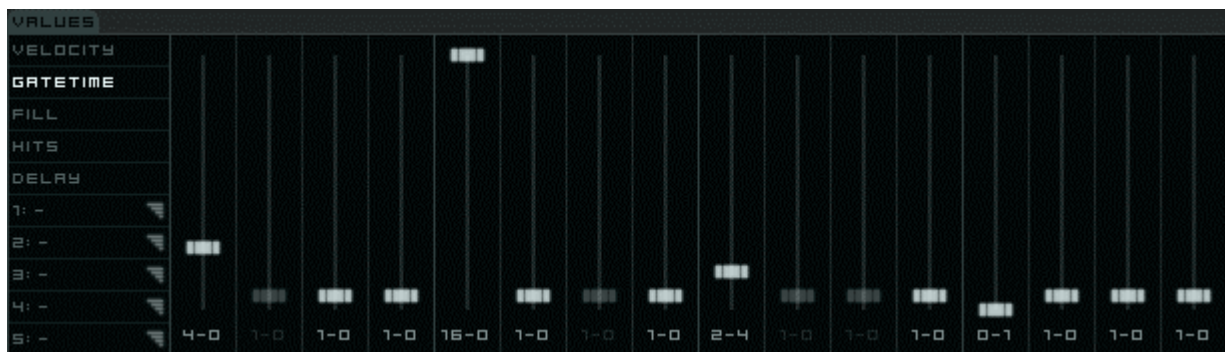
The mouse-actions are similar for the value-rows. Exceptions are described below.

Left drag	Changes the value of a single step.
Right drag	Changes the values of multiple steps (sweep).
Left click + shift	Cuts the step-value into the clipboard.
Left click + control	Copies the step-value into the clipboard.
Right click + shift or control	Pastes the step-value from the clipboard.
Mousewheel	Changes the value of a single step.

## Velocity

The velocity-row allows you to set the trigger-velocity for each step. The sliders are only light-colored if a trigger is on for the step. A velocity of zero will act as a note-off.

## Gatetime



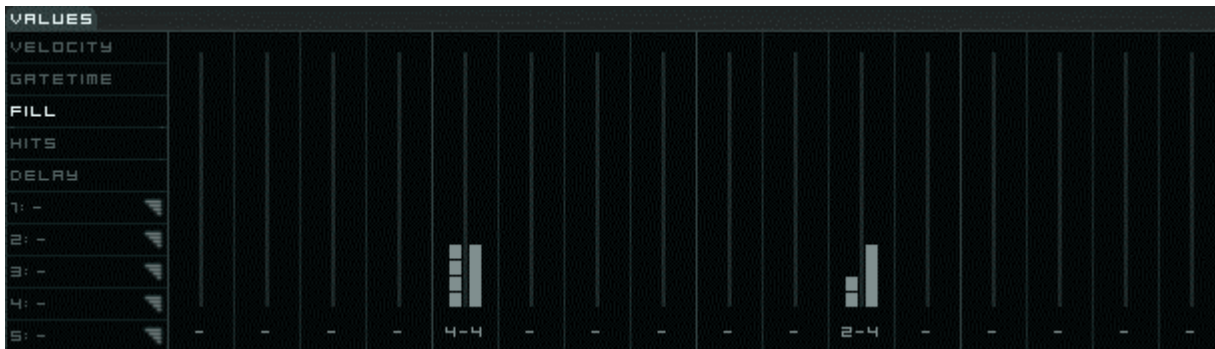
The gatetime-values adjust the duration of each note-event. The first number is the gatetime in full steps. The second number represents 1/8th steps. A value of 4-0 means exactly 4 steps, a value of 2-4 means  $2 + 4/8 = 2 + 1/2 = 2.5$  steps.

To modify the 1/8th time (the second number) the shift key has to be held while using the left or right mouse button.

Note: In case of fills (see below) the gatetime has a special meaning!

## Fill

Fills are basically used to retrigger certain steps automatically. Fills break the 4/4 - 16-step barrier!



The left fill value (before the minus) describes the number of fill-repetitions within the gate-time! The second value the duration of each trigger in 1/8th fill-steps. The duration of a fill-step is the gate-time divided by fill-repetitions.

In the example above a gatetime of 1 is assumed. A fill 4-4 means that the trigger will be played four times with a duration of  $4 \times 1/8 = 4/8 = 1/2$  fill-step. Because of 4 fill-repetitions and a gate-time of 1 the duration of each fill-step is 1/4 pattern-step. That means that fills can create extremely short gate-times. Later we'll see that even shorter gate-times can be achieved by using the hits.

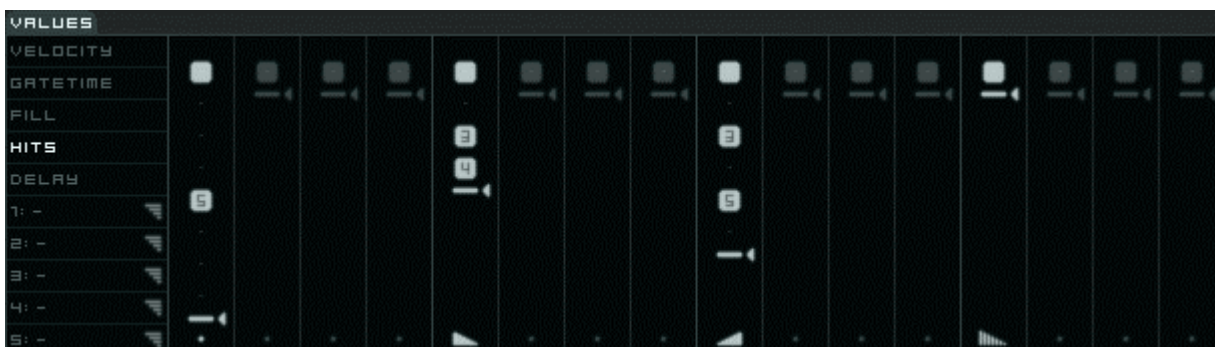
At step 11 the trigger is repeated two times.

Use the left mouse button to set the number of retriggers, the right mouse button to set the retrigger-gatetime. A left click on the number removes the hit-setting.

Fills are powerful, because they allow a very dynamic way of composing. You don't have to think about triplets or dotted and set every note statically in your host. For example a triplet is just a step with gatetime 1 and a 3-n fill.

Using hits is useful for drum-programming and for melodies as well. A combination of chords and fills will create progressions through the chord.

## Hits



Hits generate for each fill-generated (re-)trigger up to eight note-events. A sub-pattern controls when an event should be generated. This sub-pattern contains up to eight on and off triggers. Off-triggers are skipped, on-triggers will fire a note-events.

A hit-stepvalue contains:

## ERA2 Reference Manual

- the length, which can be set by moving the little triangle up and down
- its triggers (in the picture above the triggers 1 and 5 are set for the first step)
- optionally a mode, which controls how the hit is played

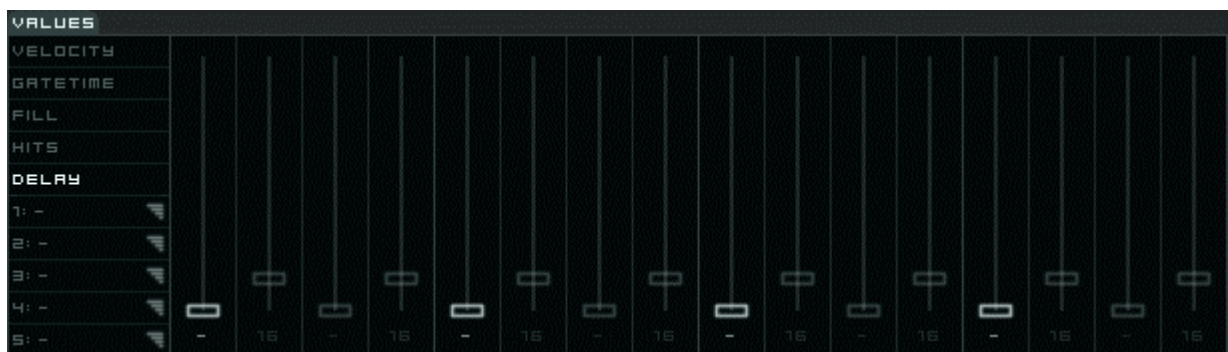
The default hit-setting is length 1, a 1-trigger, default mode.

For the example above we assume a gatetime of 8 and a 1-4 fill at step-1. The fill is played within 8 steps (gate-time). Because of the 8-step gate-time and the single play of the fill, the hit is played as if there were real triggers at steps 1 and 5. If the gatetime is shorter, exactly the same hit-pattern is played, but within the gatetime (faster).

A right click on the dot at the bottom opens a context-mode menu, where you can set the mode:

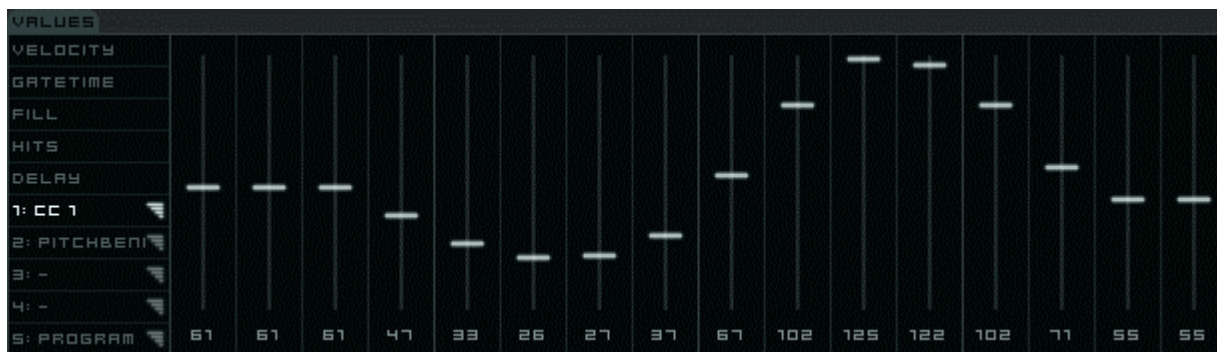
Same	Default mode: The triggers are only repeated.
Soften	The velocity will decrease for each generated event.
Louder	The velocity will increase for each generated event.
Slower	The triggers are played off-beat and linear slower.
Faster	The triggers are played off-beat and linear faster.

## Delay



The delay-row allows to adjust a delay for each step. Things like swing, groove and flams can be achieved this way. The maximum value delays the step almost one step. The delay unit is 1/128<sup>th</sup> step.

## Automation



The automation-rows send control-change events. The controllers are assignable. This assignment is stored in a pattern. Therefore it is possible to automate different sets of parameters in different patterns!

Click on the triangle to assign a controller.

Note: ERA2 can send pitchbend, aftertouch and program-change events as well.

## View-Selector

ERA2's GUI is separated into three logical areas. The left section contains eight tabs, which can be activated with the view-selector:



Use you mouse to switch between the different views:

- Selector for banks, patterns and variations
- Global settings and midi-configuration
- Additional midi-settings
- Playlist
- Tools
- LFO's
- Track settings
- Arpeggiator

## Pattern Selector

The selector view is the default one. It contains the important selection widgets:

### Bank-Selector



We know that ERA2 stores up to 128 different patterns. They are organized in banks. Bank A contains the patterns 1 to 16, bank B the pattern 17 to 32 etc.

<i>Action</i>	<i>Location</i>	<i>Effect</i>
Left click	Title	Opens the browser-menu, used to load a stored banks.
Right click	Title	Opens context-menu:  Save            Opens a file-save dialog, used to save the selected bank on a media.  Autochain      Automatically chains all 128 patterns: A1>A2>A3 etc.  Unchain         Resets all pattern-chains.
Left click	A-H	Selects the bank, indicated by a lighter color.
Right click	A-H	Opens context-menu:  Reset            Resets all patterns of the selected bank.  Save...         Opens a file-save dialog, used to save the selected bank to a media.  Load...         Opens a file-open dialog, used to load a bank from a media into the selected bank.

Pattern-Selector



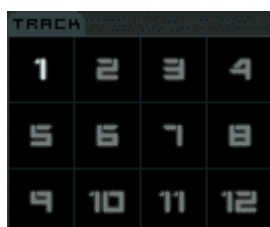
The pattern-selector allows selection and management of the currently selected bank. The pattern-numbers are displayed in three intensities:

- Low: The pattern contains no data – it is default.
- Medium: The pattern contains data.
- High: The pattern is selected.

<i>Action</i>	<i>Location</i>	<i>Effect</i>
Left click	Title	Opens the browser-menu, used to load a stored patterns.
Right click	Title	Opens context-menu:  Save            Opens a file-save dialog, used to save the selected pattern on an external media.  Autochain      Automatically chains the patterns of the selected bank.  Unchain        Resets all pattern-chains of the selected bank.
Left click	1-16	Selects the pattern, indicated by a lighter color.
Right click	1-16	Opens context-menu:  Copy  Paste            Opens a file-save dialog, used to save the selected bank to a media.  Cut              Opens a file-open dialog, used to load a bank from a media into the selected bank.  Reset            Resets the selected pattern.

		<p>Rotate left      Rotates the selected pattern one step to the left.</p> <p>Rotate right     Rotates the selected pattern one step to the right.</p> <p>Reverse            Reverses the step order.</p> <p>Load...            Opens a file-open dialog, used to load a pattern from a media into the selected pattern.</p> <p>Save...            Opens a file-save dialog, used to save the selected pattern on a media.</p>
Left click + shift	1-16	Cuts the pattern into the clipboard.
Right click + shift	1-16	Paste the clipboard pattern to the selected one.
Left click + control	1-16	Copies the pattern into the clipboard.

## Track Selector



The track-selector allows selection of ERA2's tracks. Furthermore it allows you to setup drummaps.

<i>Action</i>	<i>Location</i>	<i>Effect</i>
Left click	Title	Opens the browser-menu, used to load a stored drummap.
Right click	Title	Opens context-menu (see below)
Left click	1-12	Selects the track, indicated by a lighter color.
Right click	1-12	Opens context-menu:

		Learn	Activates the midi-learn mode for the selected track. The learned rootkey is displayed in the drumgrid. Click on learn again to store it.
		Rename...	Opens a text-enter dialog, used to name the selected track.
		C2 – G8	Assigns the rootkey manually.
Left click + control	1-12	Mute on/off	
Right click + control	1-12	Solo	
Left click + shift	1-12	Record the event, even if record if off.	

## Help



This panel displays a quick info, depending on the current mouse position. The following abbreviations are used:

L	Left mousebutton
R	Right mousebutton
2	Doubleclick
S	Hold the shift-key while mouseclick
C	Hold the control-key while mouseclick

Examples:

L2 = Doubleclick with left mousebutton

RC = Hold control-key and click right mousebutton

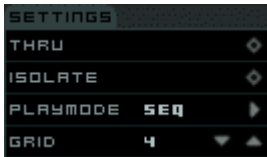
## Global settings and midi-configuration



This view allows the setup of the global settings and the common midi-recall and control parameters.

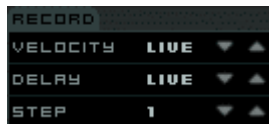
All settings are stored in presets.

## Settings



THRU	Midi-thru. Received note events are directly send to midi-out, unless they are used for recall-purposes.
ISOLATE	Forces ERA2 to ignore host-tempo and play-position at all.
PLAYMODE	<p>Selects the main playmode:</p> <p><b>SEQ</b> Step-Sequencer (default) In this mode ERA2 will only run if you manually press the START button in ERA2 or in the host application (if host provides transport information).</p> <p><b>FREE</b> Free mode ERA2 will start automatically as soon it receives a note-on event. It stops when no more keys are held.</p> <p><b>HOLD</b> Hold mode ERA2 will start automatically as soon it receives a note-on event and will play until the right marker step is reached. If no more keys are held it stops, otherwise a new cycle will be played.</p>
GRID	Sets the visually gridsizes. The LED is also affected by this setting.

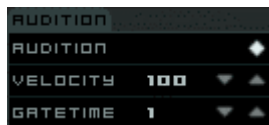
## Record



These settings are used when ERA2 is in record-mode.

VELOCITY	Sets the record-velocity. It can be a fixed value up to 127, the original recorded velocity (LIVE) or OFF, which leaves the step-velocity untouched.
DELAY	Sets the record-delay. It can be a fixed value up to 127, the original recorded delay (LIVE) or OFF, which leaves the step-delay untouched.
STEP	If ERA2 is not running (START/STOP is not pressed) and MIDI-RECORD is ON, the step-cursor will skip this number of steps. This is useful for step-recording if you don't want to record every step.

## Audition



AUDITION	Turns audition on and off.
VELOCITY	Sets the velocity for audition-notes.
GATETIME	Adjusts the audition gatetime.

## Midi-Recall



The midi-parameters are used to control ERA2 via Midi. This can be done from the pianoroll of the host or directly with your keyboard or controller-box. The source can either be a note-on or a control-change event (CC). Basically both types are valid for all parameters. Actually this depends on the nature of target parameter.

The midi-parameters have to be learned: Click on a parameter to enter the learn-mode. The text *WAIT* appears. Press a note or move a controller. The learned parameter will be immediately displayed in the form

*source:channel*. To 'forget' a source-parameter or cancel the learn-mode do a right-click.

The parameters bank, pattern and variation can easily be controlled with note-events:

BANK	Midi-controller for bank-selection. If controlled via note-events, the controller-note selects bank A, the subsequent semitone selects bank B etc.
PATTERN	Midi-controller for pattern-selection. If controlled via note-events, the controller-note selects pattern 1, the subsequent semitone selects pattern 2 etc.
VARIATION	Midi-controller for variation-selection. If controlled via note-events, the controller-note selects variation 1, the subsequent semitone selects variation 2 etc.

If you control these parameters via CC's, the source-range (0..127) is mapped to the target-range. This allows a handy control.

## Midi-Control



Most of these midi-parameters have two states, MAN. START, PANIC and BAR-FREEZE are triggers. If the two-state parameters are controlled via note-events, the state toggles on each received note. The triggers are fired on each note-event – a single keystroke is enough. If you prefer to control them via CC's, the on/off threshold is in the middle position (64).

START-STOP	Corresponds to the play-button, which turns the sequencer on and off.
RECORD	Corresponds to the record-button, which turns the record-mode on and off.
PANIC	Corresponds to the panic-button, which sends all-note-off events on all channels.
MUTE	Corresponds to the mute-button, which turns the ERA2 into mute-mode.
SOLO	Corresponds to the solo-button, which turns this ERA2

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	instance into solo-mode.
BAR-FREEZE	Corresponds to the bar-freeze-button, which puts the sequencer into wait-mode until the host-sequencer reaches a new bar.
STEP-SPIN	This unique function allows to spin the play-step while ERA2 is running. You can see the effect if you are watching the play-cursor. Contolled by CC's the controller value is mapped to the range -16 .. +16 so that the ERA2 plays normal at 0, 64 and 127. Controlled by note-event, the range is mapped from 0..15, where the control-note is 0.

## Additional midi-settings



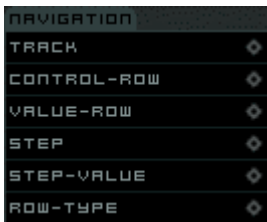
This view contains more useful midi-parameters:

### First Mute Key



FIRST MUTE KEY	Midi-controller for muting certain tracks. If controlled via note-events, the controller-note mutes track 1, the subsequent semitone mutes track 2 etc.
----------------	---------------------------------------------------------------------------------------------------------------------------------------------------------

### Navigation



Navigation means: Control ERA2 via Midi instead of the mouse.

TRACK	Midi-controller for track-selection. If controlled via note-events, the controller-note selects track 1, the subsequent semitone mutes track 2 etc.
CONTROL	Switches between the control-rows <i>STEPS</i> , <i>ORDER</i> and <i>BREAK</i>
VALUE-ROW	Goes to the addressed value-row.
STEP	Selects one of the 16 steps.
STEP-VALUE	Adjusts the value of the current step. Use CC's to control it – otherwise the velocity is mapped to the value.
ROW-TYPE	Switches between the three edit-panels <i>CONTROL</i> , <i>PIANOROLL/DRUMGRID</i> and <i>VALUES</i> .

Basically you can remote-edit all patterns using the above parameters. A more handy way is to directly access each step:

## Direct Step Access



These midi-parameters allow direct adjustment of any of the 16 steps – for all track-rows! Use this technique if you have enough controllers. The target-parameters can either be controlled by note-events or CC's. In most cases control-change events are preferable. Only the step-1 controller has to be learned. The following steps are controlled by the subsequent controllers:

Learned CC#100

Step 1 is controlled by CC#100

Step 2 is controlled by CC#101

Step 3 is controlled by CC#102

...

Step 16 is controlled by CC#115

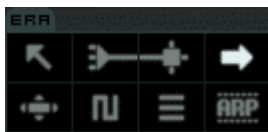
If you use note-events, the note-velocity is interpreted as value.

## Global



TRANSPOSE	Turns global midi-transposing on and off. The midi-transpose parameter is found in the track-panel. Normally the only the affected track is transposed. Turn global TRANSPOSE on, will make track-transpose affect all tracks. This option was needed before the Arpeggiator was available. This option can be seen as obsolete – use the Arpeggiator instead.
MUTE	Works in conjunction with FIRST MUTE KEY. Normally FIRST MUTE KEY really changes the mute-state in the variation. If you set MUTE to on, the variation remains untouched. Tracks get muted ignoring the variation mute-state. This can be useful in a live-situation where you want to temporary control all track-mutes with one octave of your keyboard.

## Playlist



The playlist view allows the arrangement of pattern-playlists. A playlist is a sequence of patterns and variations. The patterns are played as if they were triggered manually or via midi.

PLAYLIST			
1	A1	1	
2	A1	-	
3	A2	-	▼ ▲
4	A2	-	
5	-	-	
6	-	-	
7	B1	-	
8	B2	-	
9	B1	-	
10	B2	2	
11	A2	2	
12	-	-	
13	-	-	
14	-	-	
15	A3	-	
16	A2	-	
17	-	-	
18	-	-	
19	-	-	
20	-	-	

The playlist contains up to 999 entries. The entry-number is displayed in the first column. A left mouseclick on the number sets the locator (a frame around the entry) and activates the assigned pattern/variation.

A right click on the number sets/resets a loop-marker. Loops are described below.

The pattern is displayed in the second column, followed by the variation. A right mouseclick on pattern or variation opens a selection-menu, where you can assign pattern or variation to an entry. The - means that nothing is assigned to the entry. The active pattern/variation keeps playing.

The forth column contains two buttons for duplicating and deleting. The buttons are only visible if the mouse is over the entry.

Scrolling: Click with the left mousebutton on an entry and drag the mouse up or down. Hold the control-key to speed up scrolling. Another way is move the mousewheel.

## Import/Export

Playlists can be separately saved. This allows to create several playlists for the same set of patterns.

Left click on the title to open the browser-menu. A right click on the title opens the typical context-menu where you can save, load and reset the playlist.

## Activation

To activate the playlist you have to enter the playlist-mode:



Otherwise ERA2 will work as usual – the locator will not move. In playlist-mode the locator jumps to the next entry when the last pattern-step has been played. ERA2 ensures that the current bar will be visible – it automatically scrolls. To avoid that you can hold the shift-key.

There are no restrictions in playlist-mode: you can setup shorter or faster patterns or control the arpeggiator with the playlist. Even pattern-chaining is possible: If an entry contains a – as pattern or variation, ERA2 checks the variation if a chain is present.

## Recording

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If you have defined bank, pattern or variation midi-recall, you can easily record a playlist. Click the record button additionally:

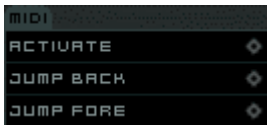


Now you can record pattern/variation entries by using your keyboard. Note: This works only if ERA2 is not in playmode.

## Midi-Control

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The playlist is designed for live-usage as well. You can toggle the playlist-mode and jump between loops:



Midi-learning works as described in the previous chapters.

ACTIVATE	Sets playlist-mode on and off.
JUMP BACK	If no loops are defined, the locator is moved one bar up. If a loop-marker is found above the current position, the locator jumps to beginning of the previous loop.
JUMP FORE	If no loops are defined, the locator is moved one bar down. If a loop-marker is found below the current position, the locator jumps to the bar followed by the marker – the start of the next loop.

## Loops

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To enhance the playlist-funcionalitiy, especially in a live-situation, the playlist can be grouped by multiple loops. A loop is just the playlist-segment between two loop-markers:

## ERA2 Reference Manual

PLAYLIST			
1	A1	1	
2	A1	-	
3	A2	-	
4	A2	-	
5	-	-	
6	-	-	
7	B1	-	
8	B2	-	
9	B1	-	
10	B2	2	
11	A2	2	
12	-	-	
13	-	-	
14	-	-	
15	A3	-	
16	A2	-	
17	-	-	
18	-	-	
19	-	-	
20	-	-	

In this example the locator is a bar 4.

Loop-markers are visualized as lines below an entry:  
 The first loop begins at 1 and ends at 6.  
 The second loop begins at 7 and ends at 11.  
 The 3<sup>rd</sup> loop ends at bar 18.

ERA2 will always play the loop in which the locator is found. In the example the locator will jump to 1 after bar 6 has been played.

To force ERA2 to loop from 7 to 11 you have to move the locator somewhere between 7 and 11. In a live-situation you'll use the mentioned JUMP parameters.

Moving the locator while ERA2 is playing doesn't change the active pattern at once. It changes when the current pattern has finished. So you have enough time to switch to the desired loop.





To set/reset a loop-marker you have to do a right click on the bar-number.

## Tools







The toolbox view contains a lot commands to make pattern editing quite convenient:

### Row

	Left click: Auto compose (major based) Right click: Auto compose (minor based)
	Left click: Rotates selected row left. Right click: Rotates selected row right.
	Reverses selected row.
	Shuffles sequence by random.

### Clipboard

These function affect only the currently selected row. They work for all types of rows: control, trigger/note and value. The cut, copy and paste function are also available with the right button context menu on the row-selectors. It's perfectly ok to hold the data of different row-types in the clipboard.









	Cuts row into clipboard. You can use it to reset a row.
	Copies the row into the clipboard.
	Pastes the clipboard data into the row.
	Left click: Takes a snapshot of the current pattern, including variations and all rows.  Right click: Opens snapshot menu.  The snapshot-function saves up to 32 patterns in a history-list. All toolbox-commands insert a pattern-copy before they are executed. The take-snapshot-function (left click) allows to insert pattern-copies manually.  If you select a history-pattern, you'll get the pattern-copy,

	<p>which was taken before the toolbox-function was executed.</p> <p>You can think about the snapshot as an automatic multi-clipboard. Its memory is not cleared if you selected another pattern. So you can use it to copy between programs and banks!</p> <p>The Clear command clears the complete history-list.</p> <p>Note: Pattern-copies are only saved if the pattern is not empty and differs from the previous one.</p>
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## Triggers

These functions affect only the currently selected trigger-row.









They can be used with the left or the right mouse button. A left click affects all steps. A right click affects only the selected ones. Step are selected in the step-control panel: Click left or right mousebutton and hold control-key.

	Resets all triggers.
	Sets all triggers.
	Sets every second trigger.
	Sets every fourth trigger.
	Sets every third trigger.
	Sets every sixth trigger.
	Inverses all triggers.
	Sets triggers by random

## Notes

These function affect only the currently selected trigger-row.








They can be used with the left or the right mouse button. A left click affects all steps. A right click affects only the selected ones. Step are selected in the step-control panel: Click left or right mousebutton and hold control-key.


	Transposes one semitone up.
	Transposes one semitone down.
	Transposes one octave up.
	Transposes one octave down.
	Set all notes to rootkey.
	Sets notes to the last (set or changed) note.
	Opens chord menu to create a chord progression.
	Transpose notes up or down at random (one semitone).

## Values

These function affect only the currently selected value-row.

They can be used with the left or the right mouse button. A left click affects all steps. A right click affects only the selected ones. Step are selected in the step-control panel: Click left or right mousebutton and hold control-key.

	Increases values by 1.
	Decreases values by 1.
	Increases values by 10.
	Decreases values by 10.
	Sets values to the current value of X.
	Sets values to the current value of Y.
	Changes values relative by random with a maximum deviation of X.

	<p>Changes values absolute by random between X and Y.</p>
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XY



<p>X</p>	<p>Sets the X value, which is used in the commands above.          Note: The X value is also used for the automation rows, where holding shift sets values using a snap defined by this value.</p>
<p>Y</p>	<p>Sets the X value, which is used in the commands above.</p>

## LFO's



The LFO-View contains the four track lfo's. The lfo's can modulate different targets to bring more live into your patterns.

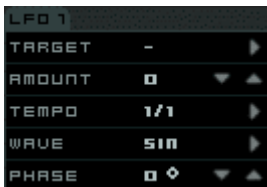
The LFO's are synchronized to ERA2 and the host. It is possible to define when the LFO phase should be set to zero (reset):



The variation-parameter at the right bottom (here PATT) adjusts controls when the LFO's are reset:

Off	Never
On	Evertime when ERA2 starts
Vari	Everytime when the variation gets active
Patt	Everytime when the pattern gets active

## LFO-parameters



TARGET	<p>Sets the target parameter:</p> <ul style="list-style-type: none"> <li>VELO     Velocity</li> <li>GATE     Gatetime (Fills remain untouched)</li> <li>GATE*    Gatetime (Fills get modulated too)</li> <li>DELAY    Delay</li> <li>TRANS    Transpose</li> <li>AUTO     Automation, the assigned target of the specified automation-row 1-5 gets modulated</li> </ul>
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## ERA2 Reference Manual

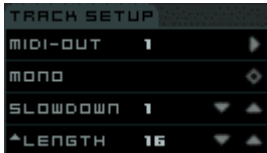
AMOUNT	Adjusts the amount of modulation. The max. value of 127 means maximum modulation.
TEMPO	Sets the LFO speed: ERA2's lfo's are synchronized to exactly 16 steps. A tempo of 1/1 means that one cycle takes 16 steps. A tempo of 1/4 means that the lfo-waveform will be cycled 4 times.
WAVE	Adjusts the LFO-waveform:  SIN      Sine TRI      Triangle PLS      Pulse (Square) PLS..    A pulse with different phases SAW-+   Sawtooth down/up RAMP-+   Ramp down/up RND      Random (calculated)
PHASE	Controls the startpoint of the cycle

## Track Settings



The track-view contains all track dependent parameters:

## Track-Setup



MIDI-OUT	Adjusts the midi-out channel. Tip: Click on the title to apply a certain channel to all tracks.
MONO	Activates the mono-mode, which means that in no case more than one midi-note will be active. This option might be useful for certain monophonic instruments.
SLOWDOWN	Slows a track down by this factor. This parameter allows you to have independent track-tempi.
^LENGTH	If slowdown is activated (a value above 1), this parameter adjusts the length of the pattern in steps.

## Offsets

These parameters are also midi-controllable. Click on the label to activate midi-learn – the text 'WAIT' appears. Now press a key or move a controller. The value will immediately get updated and is now midi-controlled. Do a right-click on the label to 'forget' or cancel midi-learn.



TRANSPOSE	Transposes the track notes up or down (semitones).
VELOCITY	Changes the velocity of each trigger relative (this value is added to the trigger-velocity).
GATETIME	Changes the gatetime of each trigger relative.

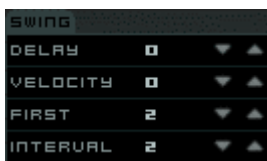
DELAY	Changes the delay of each trigger relative.
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Note: If you control these parameters via midi, the currently selected track is affected. This means that the track has to be selected before controlling one of these parameters. So it's useful to control the TRACK parameter too. Example: The left hand selects the track and the right hand transposes.

## Swing

The swing parameters change the delay and/or velocity of triggers regarding a definable interval. Swing brings 'groove' into your patterns.

Midi-automation works equally to Offset.



DELAY	Sets the amount of delay modification.
VELOCITY	Sets the amount of velocity modification. This amount can be negative, which means that affected triggers are played with a lower velocity.
FIRST	Defines the first swing-affected step.
INTERVAL	Defines the swing-interval.

Examples:

FIRST = 2, INTERVAL = 2 : The steps 2, 4, 6 ... are swing-affected

FIRST = 3, INTERVAL = 4: The steps 3, 7, 11 and 15 are swing-affected

## Humanization



Humanization changes trigger velocity, gatetime or delay at runtime with an random value up to the specified maximum.

Midi-automation works equally to Offset.

## Echo

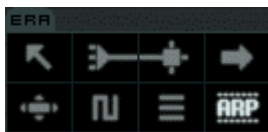
The echo is a midi-effect. Notes between an adjustable velocity range are repeated with a fallen velocity.

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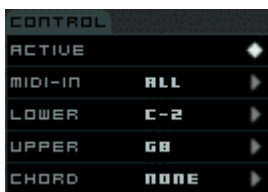
COUNT	Sets the total number of notes. A value of 4 means: play the original note and 3 echo notes.
TIME	Adjusts the time within all notes are played.
DECAY	Defines the velocity-curve. Positive values make the echo shorter, negative values damp the velocity-loss.
LO/HI-VELO	Allows to define a velocity-range within the echo becomes active.

## Arpeggiator



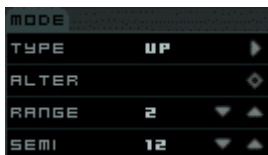
The Arpeggiator -View contains the track Arpeggiator's. Each Arpeggiator can be assigned to a certain key-range. The ERA2 Arpeggiators are designed to create wonderful phrases on the fly.

## Control



This panel activates the Arpeggiator and controls midi-in channel, key-range and the chorder. Since ERA2 has an Arpeggiator on each track, it is possible to adjust the midi-in channel and/or an key-range. You can play different Arpeggios on one keyboard or host-track! Even multiple Arp's can play simultaneously. There are no restrictions regarding the other features of ERA2 - everything can be used together in realtime.

## Mode



The mode parameters control the algorithm:

TYPE	Sets the basic algorithm:  UP       Climbs up  DN       Climbs down  UP-DN    Climbs up, then down  DN-UP    Climbs down, then up  RO-UP    Rotates upwards  RO-DN    Rotates downwards  SPLIT    Diverges
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	<p>TRAP     Goes to center</p> <p>CROSS    Diverges, then goes to center</p> <p>RND       Shuffles by random</p> <p>XRND     Selectes by random (stronger than RND)</p>
ALTER	Forces the Arpeggiator to process stages before semitones.
RANGE	Sets the number of stages (octaves if SEMI is set to 12).
SEMI	Adjusts the number of semitones per stage.

### Options



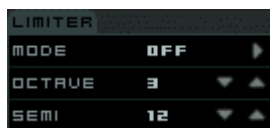
This panel lets you adjust further options:

RETRIG	Restarts the Arpeggiator-pattern on the first step.
SKIPS	Adjusts the treatment of deactivated triggers. If this option is set to on, the deactivated triggers are treated as if they were on. The result is that the audible sequence of notes complies with the basic algorithm.
LATCH	If this playing-help is on, the held keys 'played' until no more keys are held and new keys are pressed.
QUANTIZE	This playing-help option forces ERA2 to takeover new chords only within an interval specified in steps.
VELO-SENS	Normally (default 0) the velocity of incoming notes are ignored. A higher VELO-SENS mixes the note-velocity with the step-velocity, which can lead to interesting dynamic arpeggios.

### Limiter

The limiter specifies a key-range and forces the created notes to fit in this range:

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MODE	<p>Sets the limiter-mode :</p> <p>OFF      The Limiter is off.</p> <p>LIMIT     Wraps all notes into the specified range.</p> <p>LIMIT-   Wraps all notes into the specified range and mirros them.</p> <p>RANGE    Wraps notes outside the range into the specified range.</p> <p>RANGE-   Wraps notes outside the range into the specified range and mirros them.</p>
OCTAVE	Adjusts the lower key (always C) of the range.
SEMI	Sets the limiter range in semitones.