Stochas

USER GUIDE

Content

About Stochas

The main component of Stochas is the grid. Each cell in the grid represents a possible note that can be triggered. The column of the cell represents a point in time, or step in the sequence (by default there are 16 steps per measure). The row of the cell represents a MIDI note. Rows can be customized to play different notes, or standard keys and scales can be loaded to facilitate performances in certain keys. Up to 128 rows, and 64 steps can be used. Each cell on the grid has a number of properties. The main property is Probability. This determines how likely the cell is to trigger it's note. Cells also have velocity, length, shift (moved slightly forward or backward in time), chain dependency (will play or not play depending on whether another cell has played).

There are four distinct grids (or layers) that exist. Each layer has it's own set of cells, and all four layers are played simultaneously. Each layer can have it's own independent settings. For example, you might have layer 2 playback at ¼ the speed of layer 1, or you might have layer 3 have a different number of steps than layer 1 and 2 to create polyrhythms. You may also configure different layers to use a different set of MIDI notes, or even a different MIDI channel. Each layer has a set of eight patterns. A pattern can be seen as a separate grid of cells. When changing to a different pattern through the user interface, that pattern number will be selected on each layer. By using patterns, you can create different sections of a song. Using MIDI, you can switch between patterns.

One of the core concepts of Stochas is the Probability Mode. This can be set independently for each layer. When this mode is set to Single, each step in the grid will play one note. The note will be randomly selected from the cells that are turned on in that step. If a step has a higher probability set, it will be more likely to be selected. When the mode is set to Multi, then each cell in a step will play (or not play) depending on it's probability. For drum programming, this mode is recommended. In Multi mode, a maximum polyphony can be set. This enables you to, for example, create 5 possible notes to play for a step, and have Stochas randomly select 2 of them to play.

Installation

Mac/OS X Users

On Mac OS X, plug-ins are installed in the standard plug-in folders in the system Library folder. These are the only possible locations for these files

AU - /Library/Audio/Plug-Ins/Components
VST - /Library/Audio/Plug-Ins/VST
VST3 - /Library/Audio/Plug-Ins/VST3
AAX - /Library/Application Support/Avid/Audio/Plug-Ins

Windows Users

During installation you will be able to select the correct VST and VST3 folders for your DAW. If you use multiple DAWs which cannot share VST folders, you will need to copy the **stochas.dll** and **stochas.vst3** files to the correct folders for your DAW, from the following folders

C:\Program Files\Audio Vitamins\Stochas
C:\Program Files(x86)\Audio Vitamins\Stochas *for 32bit hosts on 64bit systems.*

For the ProTools AAX you will need to copy **Stochas.aaxplugin** to the ProTools AAX Plug-in folder

If you still have any problems please contact us via our websites support page

Registration

To regsiter your copy of Stochas please follow the below steps

Online activation
If your computer is connected to the internet then you can register with the UID and SERIAL that was emailed to you upon purchase.

1. Click on the settings tab
2. Open the registration window by clicking the Registration button
3. Enter in your UID and SERIAL
4. Click Authorize

Offline activation

If the computer that you have installed Stochas onto does not have an internet connection you will need to actiavte Stochas

Quick Start

Load Contra up by clicking on any insert and selecting Structure from the DAW plug-in list, you will find it listed under Audio Vitamins, however in ProTools you will find Structure in the Other sub-menu option and Cubase users will find Structure in the main list.

Before loading a plug-in to you will need to compile a list of plug-ins that are on your computer. To do this either click on the plug-in selector and select Scan Plug-ins from the menu or before your DAW has loaded run the external Plug-in Manager application. Depending on how many plug-ins you have on your computer this may take some time to complete and your computer may seem to become non-responsive, in some cases up to 10 minutes depending on how many plug-ins you have. Our advice go make coffee and relax for a moment.

To load a plug-in into Contra for comparison, click the plug-in selector to bring up the menu, from there you can select to load your plug-ins, note the list is compiled alphabetically and grouped by manufacturer within the list. Once the plug-in has loaded you can click on the orange Open Plug-in Window icon to bring up the interface of the plug-in to access the parameters.

To make a fair comparison click on the loop length selector and set the number of bars you wish to audition in for each plug-in, make sure this matches the number of bars you have selected in your DAW's time line. If you have made an adjustment in a plug-ins settings you will need to click on the Contra UI or the DAW to be able to initiate playback.

Contra will cycle through all the plug-ins that are switched on indicated by the green or red On/Off icon , the plug-in being auditioned will be indicated by the green Speaker/Audition icon.

WARNING: We have noticed on occasion that if you make major changes to a plug-ins' settings during playback you may cause problems which can cause data misconfiguration in the level calculation algorithm and result in dangerously high levels reaching your monitoring system.

Interface

Layer Selector
Toggle between the 4 layers

View Steps Selector
Toggle between the steps that are visible in the EDIT GRID

Bulkd Edit and Help
Edit brings up options to edit, copy and clear a layer, pattern or selection of notes. Help will load the help file

Edit Grid
The grid is where you input the notes, adjust the velocity of the notes, chain notes together, adjust the tart of individual notes and change the length of the notes

Grid Mode Selector
Toggle between the different grid views
Prob - main edit *(see page 5)*
Velo - velocity *(see page 6)*
Chain - Chains *(see page 6)*
Shift - note position *(see page 6)*

Scale / Note Names
This will display the notes for each row depending on the scale selected, in custom mode you can add a label for each row.

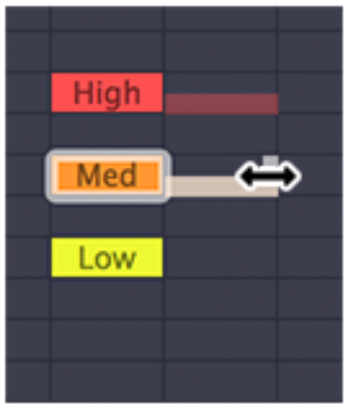
Pattern Selector
Toggle between the 8 different patterns

Options Tabs
Toggle between the options for the editing the layers and midi routing, loading and saving patches, groove and swing options, chord inputting in the main grid edit mode and the global settings for Stochas

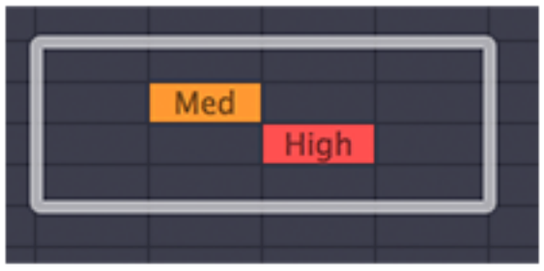
Edit Grid

Probability View - default

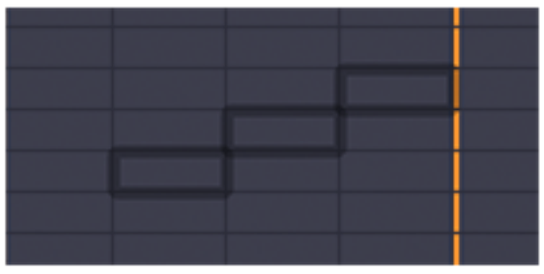
The EDIT GRID has several functions depending on the view you have selected. On first loading up Stochas, the edit grid is in the mode note inputting probability view, where you can input a not by clicking on the appropriate cell, this by default will input a note with a medium probability as indicated by the orange cell with the label 'Med'. To insert a note with a different probability, click and drag either up or right, this will cycle through the probability options for a note. Once a note has been placed you can change the probability by clicking on it and dragging to cycle through the options. To remove a note right click on the note, *(note: the right click action can be changed, more on this on page XX)*



The EDIT GRID also allows for a note length to be extended, by moving the cursor to the edge of the inserted note, the cursor will change to a resize icon, as shown in the image on the right, you can then drag the note to the desired length, dragging to the left of the note will extend the notes length over the end of the grid, for notes that you want to 'hang' over to the next bar in the sequence. The note highlighted and working with will show an upwards tail at the end of the individual length indicator, the orange medium probability note in the image to the right, notes which is not being edited will show a single line with no tail, the red high probability note, in the picture.



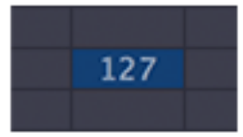
To highlight and select multiple cells, in any view mode, press and hold the shift key on your keyboard and drag over your selection. When selected there are a number of functions available from the BULK EDIT options, such as clear, adjust probability and velocity, repeat to end *(more information on these options can be found on page X)*



In all modes the previous layer that was being edited will show on the grid, as black boxes around the cells, when left, this is useful if you are writing accompaniment sections for a melody

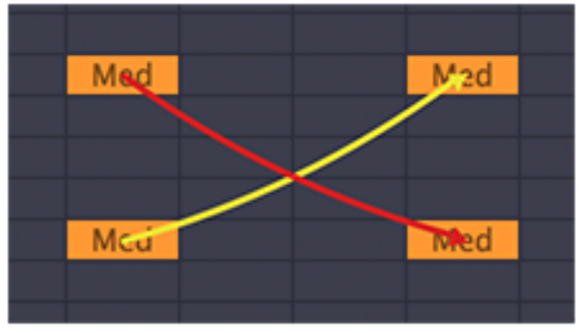
Velocity View

The EDIT GRID in the velocity mode allows you to adjust the velocity of each note, clicking on the velocity view button will change colour of the notes to blue and will display their midi velocity value written inside, the darker the colour the greater the value of velocity. To change a note click and drag up or down to adjust the value, by default each note inputs at 127. Right clicking on a most will set the value to 0 to quickly access the lower velocity ranges.



Chain View

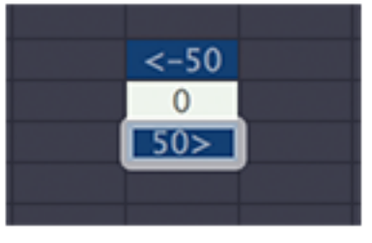
The chain mode is a revolutionary mode that allows you to indicate which note scan and cannot follow a particular note, this is useful if you have a small sequence of notes that you wish to play if a certain note is triggered. To insert a positive / will follow chain (yellow), click and drag from the starting note to the destination note you want to chain, for a negative / do not follow chain (red), hold down the CTRL (windows) / CMD (OS X) modifier key and drag from the start to destination notes.



To remove any chain you have created, right click on the end of the chain to remove, *note that this will remove all chains that point to that cell.*

Shift View

The shift mode allows you to move particular notes to be played in-between the grid positions, similar to ghost notes or accidentals. The notes can be moved to 50% before and after of the grid value. To adjust the shift value, click one the note and drag up or right to add to the start time, drag down or left to play the note earlier. Right clicking on the note will return the value to 0 playing the note on the grid.



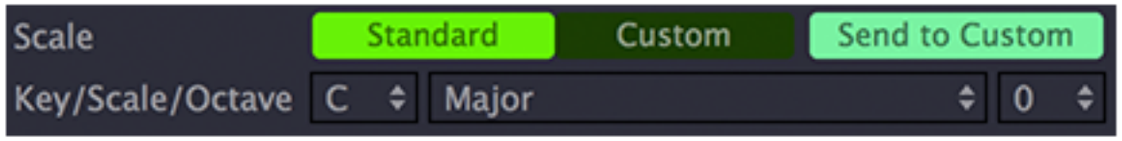
Layer Options

Probability Modes

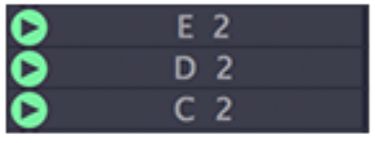
Stochas layers can operate in monophonic and polyphonic modes. In MONO mode, Stochas will pick a single note from the step position based on the weighting given by the Low, Medium and High probabilities set when inputting the note. The higher the weighting the more likely the note is be selected, for the majority of sessions you will only use medium weighting for equal chance of a note being selected.

In POLY mode, Stochas will select and play multiple notes at the same time. In this mode the probability changes from low, medium and high to a percentage value, allowing you to add weighting to root notes if you are writing accompaniment parts to a lead melody. You will also get to additional options., max poly which will limit the maximum number of notes played at any step position, note lengths are ignored. Bias will determine how close to that maximum number will be played. In the grid there is the option to turn a note to ON, which will result in that note always being played and counting towards the max poly. There is also an option for 0%, which will act like ON but can only be played when chained from another note, this prevents Stochas from playing that note.

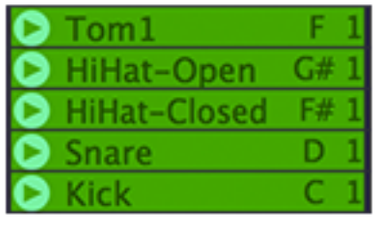
Scales



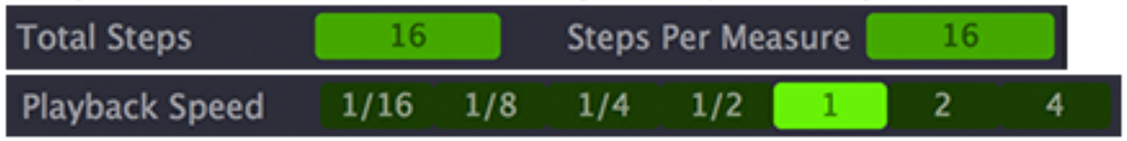
There are 2 options to control the scales that Stochas use in the grid mode. The first is to set use standard scales by clicking on th standard button and then selecting the Root/Key of the scale, the scale type and then the starting octve, this last option is for when you have the grid mode set to show less than the full range of midi notes available. When in standard mode the scale and note indicator on the grid will be the base colour of the theme with the note and octave number in the middle as shown on the right.



The second option available for scales is a completely custom setup, where you can change the order of the notes to match any playback device or setup that you wish to use. This will allow you to layout the grid for different drum machines and sound effects units. You can save these custom scales to be recalled again in any layer or session. In custom scale mode, the scale and note indicator will change colour and you can click on each row and input a custom label, as shown right.



Steps Per Measure, Total Steps, Playback Speed and Note Length



These three options control the rhythmical and time signature aspect of each layer.

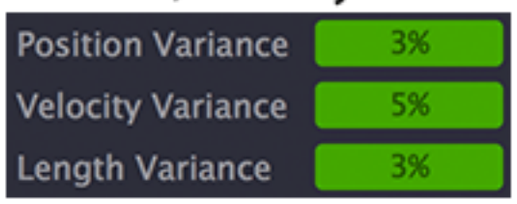
TOTAL STEPS will determine the number of steps that Stochas will show and play on this layer before it repeats. The maximum number of steps availble is 64. STEPS PER MEASURE will set the number of steps in each bar as set by the TIME SIGNATURE of your DAW, this setting will also control the length of each step, when the TOTAL STEPS is greater than the STEPS PER MEASURE, the grid shows a yello line to show where the measure / bar will finish. The by default it is set to 16, taking into consideration that most music is written in 4/4 time signature, this will give each step a length of a semi-quaver (1/16th). If the DAW is set to 3/4 ,Stochas will need to be set to 12 steps for each step length to be the equivilant of a semi-quaver (1/16th).

With a combination of these 2 Stochas can create really unique and complex polyrhtms, that can sit off beat such as a 9 step length pattern that with a 14 steps per measure with the DAW set to 4/4 will set each note length to 1.14 semiquavers, which will repeat every 2.57 crochets (1/4th). A rhythm that nobody could keep to, but is possible!

PLAYBACK SPEED can be used to speed up and slow down the cycle of Stochas. Setting it to 2 will playback at double speed, 1/2 will playback at half speed.

NOTE LENGTH determins how long each note is played for, a a number less than 100% will result in shorter notes leading to stocatto,

Position, Velocity and Length Variance



The variance options add a humanised feel for the layer by changing the position start, velocity and the length of the note, by a any value between a + and - of the number chosen, in the example above the start position will vary randomly between + / -3% of a step length

Other Layer Otptions

Mute Layer - This will mute the layer from outputting it's midi signal, however it will continue to randomise the selection
Visible Rows- This allows you to determine how many rows are visible in the layer, use mouse scrolling or the scroll bar to move up and down
Midi Output - Stochas has the ability to send midi out over 16 channels routing Stochas to a number of different instruments

Patch Options

The PATCH OPTIONS are focused around the midi handling in Stochas, with thte ability to 'freeze' a pattern and to load in patches that you have created or have been created by one of our 3rd party partners. Stochas not only generates midi output but can receive midi data from a any midi controller.

Passthru MIDI Data

These options control what happens to any midi data that Stochas receives. *ALL* will send all the midi data that comes in along with its randomised sequence out through the midi output channel set in the layer options tab. *UNHANDLED* will send any midi data that is note received and handled by the RESPOND TO MIDI settings. *NONE* will not send any data through to the midi output channel

Respond to MIDI

When turned ON you can assign the midi input to Stochas to control up to100 actions. Clicking the MIDDI MAPPING button will bring up another dialgoue in which you can edit the actions. Each action can be applied to all layers or a particular layer. Clicking the learn button and then pressing any, key, pad or button on your midi controller will assign that key to control that actions

The actions that can be mapped are:
Change Pattern: will change that current pattern that is playing to any determined value, 1-8
Mute/Unmute: options are mute, unmute and toggle mute on and off
Set Speed: will change the playback speed to either 1/16, 1/8, 1/4, 1/2, 1, 2 or 4
Transpose: you can transpose the entire pattern on the selected layer in semitones, as well as 1 and 2 octaves
Set Number of Steps: you can set the number of steps to 1-16, 32, 64
Set Poly Bias: you can set how close to the maximum poly Stochas will select the notes
Reset Action: ???

Load and Save Patch

You can load and save entire patches to load in other projects

Groove/Swing Options

Swing

As with all midi sequencers you can apply a traditional swing which affects every other note, click and drag to change the value, when you add traditional swing the grid will look blank, the manual controllers will be hidden and the CLEAR GROOVE button will change to COPY SWING TO GROOVE, so that you can manually adjust the swing pattern further creating you own rhythm.

Manual Editing

You can manually djust the groove template, make sure it is not in swing mode by cseeting the swing to 0%. You will then see the green controllers appear, click and drag to change the values, you can djust the goove by + / - 50% of a step length.

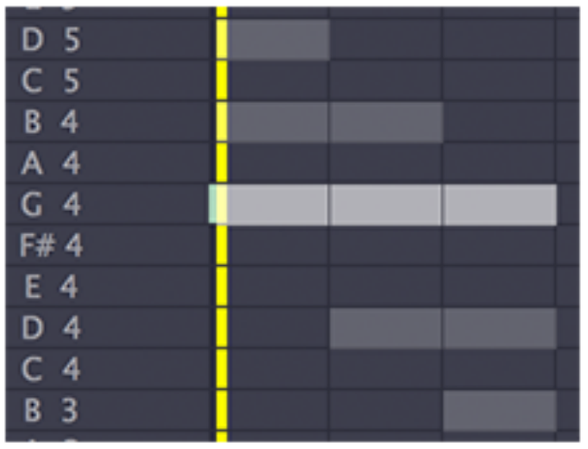
Import and Save

You can import a midi file and extract the groove from it, good for using groove templates from drum machines. You can also save the grooves that you have created, as midi files, to be imported into external drum machines / sequencers and and other software that accepts groove template files.

Chord Options

The Chord tab enables an additional edit grid mode, which will input multiple notes at a time, that will fit the pattern of the chord selected in the chord selection panel, with the route note of the chord always being the note the cursor is on. In this mode using the up and down arrows will change the inversion / shape of the chord.

In the exmple right, the chords shown are the 3 inversions of the G Major chord. The route note of the chord or position of the cursor is indicated by the lighter coloured cells.



Global Settings

a lower value will need to be moved

Right Click
This allows the change of function when right cliking on a cell in the edit grid

Default Single and Default Multi
This changes the probability value of a nw note when it is added on the EDIT GRID

Default Velocity
Changes the velocity that is assigned to each new cell when it is added on the EDIT GRID

Lowest Octave
Some playback devices and software have a different octave starting point for C0, changing this will only visually change the octave number in Stochas for easier note input, it does not have any effect on the midi output.

Color scheme
The color scheme can be changed between a light and dark colour scheme ???

Shift Key
This is a bulk edit feature, that when set to reversed allows the selection tool, shift + click and drag, to be the default click and drag action.

Support

If you need help with problems or questions, and the help file does not provide an answer, please visit the support pages on our web site. From here, you have direct access to the customer support forum, very useful tutorial videos for all Audio Vitamins plug-ins, online and PDF vversions of all our help files,

Go to Audio Vitamins Support

For sales-related questions and any other technical support, you can also contact Audio Vitamins directly info@audiovitamins.com.

Reporting a bug
If you have encountered a bug in Stochas, first of all make sure that you are using the latest version of the plug-in, which you can find by logging into your account at www.audiovitamins.com .

If the bug is still present in the latest version, please send us an e-mail at support@audiovitamins.com and include as much technical information as possible: operation system and version, host software and version, steps to reproduce the bug, etc.

Thanks in advance!

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About Audio Vitamins

Audio Vitamins was founded in 2015 by Dave Clissold, a mix engineer with a background in both music production and theatre. The idea for the first release came about when sitting and trying to program Applescripts to automate a comparison process for ProTools to speed up his workflow.

The approach of the company is to design plugins that assist the user in their creative process, be it making their workflow more efficient with plugins, combining multiple processes into to streamline the mixing process or allowing the user to use their already, exceptionally well designed plugins in new ways.

In October 2016, in it's first year, Audio Vitamins' free version of their first release, **Contra Free,** was voted as one of the top 6 freeware utilities by MusicTech Magazine for 2017.

To contact Dave with regards to anything business or marketing orientated, please email dave@audiovitamins.com