

ACDGEN - AU / VST3 EDITION

User Manual

Spektro Audio

<http://spektroaudio.com/acdgen>

Table of contents

1. About ACDGEN – AU / VST3 EDITION	3
2. Features	4
2.1 Real Time Controls	4
2.2 Pattern Shifter	6
2.3 Algorithm / Key / Scale	6
2.4 Algorithm Tweaks	8
2.5 MIDI FXs	8
2.6 Settings	9
3. How to Install	10
3.1 How to Install on macOS	10
3.2 How to Install on Windows	10
4. Using ACDGEN	11
4.1 MIDI Routing	11
4.2 Recording and Exporting ACDGEN's sequences	13
5. MIDI FX	14
5.1 About MIDI FXs	14
5.2 How to Use	14
5.3 Available MIDI FXs	14
6. Troubleshooting	18
7. Change-Log	20
7.1 ACDGEN - AU/VST3 Edition	20
7.2 ACDGEN - Max for Live Edition	22

1. About ACDGEN – AU / VST3 EDITION



ACDGEN – AU MIDI FX / VST3 Interface

ACDGEN is an advanced pattern generator that lets you generate MIDI sequences using one of eight different algorithms and manipulate them in many different ways. It's a powerful tool for live performance and music production.

Product Page: <http://spektroaudio.com/acdgen>

Current version: 1.2

AU / VST3 EDITION – System Requirements:

- 64-bit DAW compatible with VST3 or AudioUnit MIDI FX plug-ins
- Windows 10 or newer / macOS 11 or newer (Intel or Apple Silicon)
- Internet connection required for activation

Download PDF manual

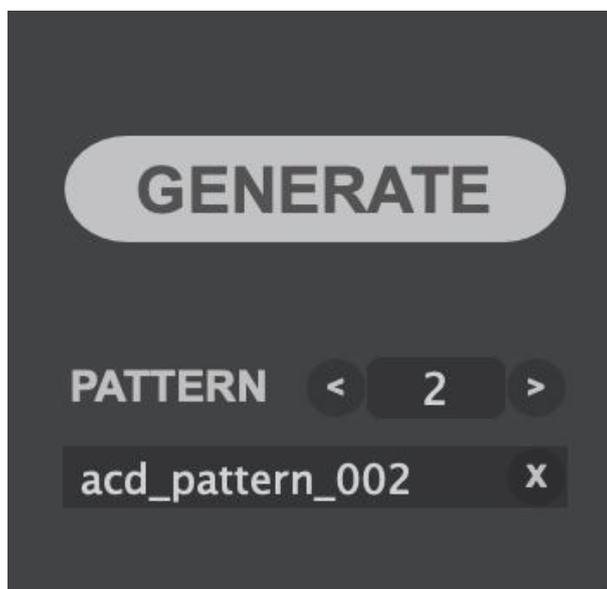
2. Features

2.1 Real Time Controls

ACDGEN includes a number of parameters that can be used to manipulate the generated sequence in real time.

Here's a brief description of each parameter:

2.1.1 Pattern Selector



Parameter	Description
Generate	Generates a new sequence
Select Previous (<)	Selects the previous pattern
Pattern Selector	Selects the active pattern
Select Next (>)	Selects the next pattern
Pattern Name Editor	Sets the name of the pattern
Delete Pattern (x)	Deletes the active pattern (Control + Click to Delete All)

2.1.2 Pattern Parameters



Parameter	Description
Swing	Adjusts the swing amount
Transpose	Transposes the notes
Length	Sets the length of the sequence
Note Len	Sets the proportional length of generated notes
Velocity	Sets the base MIDI velocity
Accent	Sets the accent amount
Rnd Vel	Sets the random velocity amount
Density	Sets the sequence's density (amount of notes)
Variation	Selects the active variation
Auto	When enabled, ACDGEN randomly switches between the 3 variations at the end of each sequence
New	Re-generates the selected variation based on Variation 1
Fav	Flags the selected variation as Favorite

Length & Transpose Tab Controls

The Length and Transpose parameters are available as both knobs and tab controls. The knobs let you adjust their values freely while the tab controls let you quickly switch between Transpose and Length preset values.

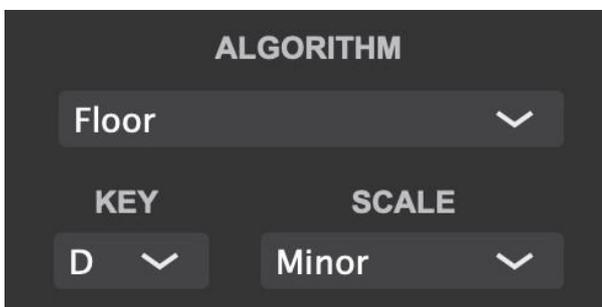
2.2 Pattern Shifter



The Pattern Shifter is a built-in 4-step sequencer designed to shift / transpose ACDGEN's main sequence.

Parameter	Description
Period	Sets the period (clock rate) of the pattern shifter
Step 1	Sets the amount of transposition (in semitones) for Step 1
Step 2	Sets the amount of transposition (in semitones) for Step 2
Step 3	Sets the amount of transposition (in semitones) for Step 3
Step 4	Sets the amount of transposition (in semitones) for Step 4

2.3 Algorithm / Key / Scale



These 3 settings are essential for getting the best results from ACDGEN.

Algorithm selects which algorithm ACDGEN will use when generating new sequences. These are the algorithms currently available:

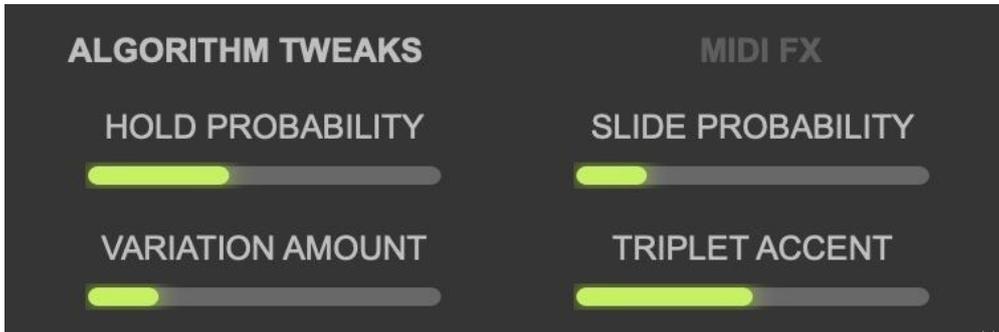
Algorithm	Description
Normal	A simple and straight-forward random algorithm
Floor	Uses a smaller selection of notes and has a higher probability of playing the fundamental / base note (great for basslines)
FifthOct	Limits the note selection to the fundamental / base note and it's fifth
Upwards	Generates a sequence that tends to go up in the selected scale
Up-Stepped	Similar to Upwards but it can also alternate between higher notes and the fundamental / base note
Downwards	Generates a sequence that tends to go down in the selected scale
Down-Stepped	Similar to Downwards but it can also alternate between lower notes and the fundamental / base note
Arp3	Algorithm inspired by arpeggiated sequences
Lead	Generates sequences with longer and more sustained notes that can be used for lead lines and main melodies
Legato	Generates sequences where all notes are played in legato (each note lasts until the next note)

Key sets the key of the generated sequence and **Scale** sets the musical scale of the generated sequence.



Both Key and Scale can be controlled in real-time while Algorithm only affects new sequences.

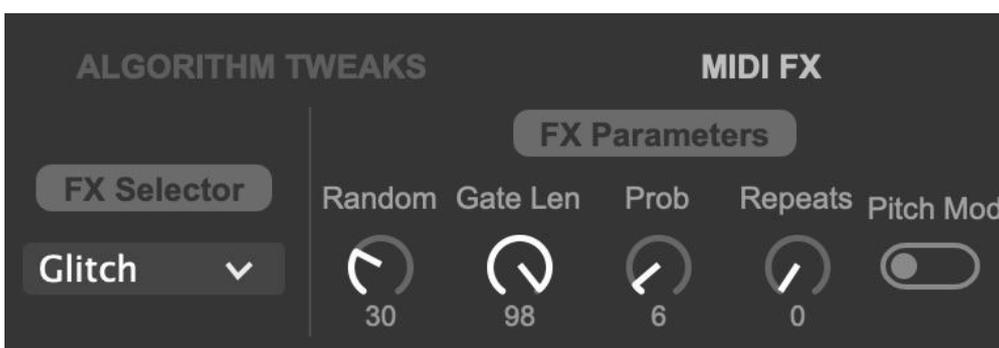
2.4 Algorithm Tweaks



ACDGEN lets you tweak some of the algorithms parameters so you can adjust the generated sequence to your liking. These settings only affect new sequences.

Setting / Tweak	Description
Hold Probability	Sets the probability of generating notes longer than 1/16
Slide Probability	Sets the probability of generating notes that slide to the next note
Variation Amount	Sets the amount of variation between the 3 generated variations
Triplet Accent	Sets the amount of accent for triplet notes

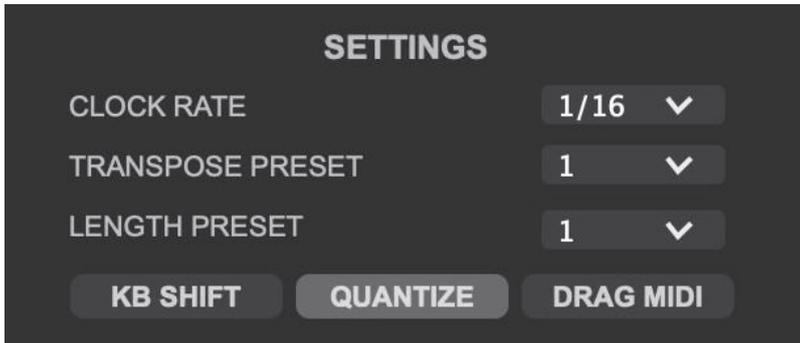
2.5 MIDI FXs



The MIDI FX section lets you active one of the available MIDI FXs and adjust their parameters in real-time.

For more information on each MIDI FX, please refer to the [MIDI FXs](#) section.

2.6 Settings



These are some of the settings available in ACDGEN:

Setting	Description
Clock Rate	Sets the clock rate of ACDGEN's sequences
Transpose Preset	Selects the active preset for the Transpose tab controls
Length Preset	Selects the active preset for the Length tab controls
KB Shift	Enables / disables Keyboard Shift
Quantize	Enables / disables post-transposition pitch quantization
Drag MIDI	Drag and drop to export ACDGEN's sequence as a MIDI file

3. How to Install

3.1 How to Install on macOS

- 1 - Download the latest version of the ACDGEN file (ACDGEN_macOS_x.x.zip)
- 2 - Extract the content of the ZIP file and open the .pkg installer
- 3 - Follow the steps of the installer to install ACDGEN AU / VST3

If you have trouble opening the installer or the plug-in, check out the [Troubleshooting](#) section.



Note

The VST3 plugin will be installed at /Library/Audio/Plug-ins/VST3 and the AU plugin will be installed at /Library/Audio/Plug-ins/Components.

3.2 How to Install on Windows

- 1 - Download the latest version of the ACDGEN file (ACDGEN_Windows_x.x.zip)
- 2 - Extract the content of the ZIP file and open the .exe installer
- 3 - Follow the steps of the installer to install ACDGEN VST3



Note

The VST3 plugin will be installed at C:\Program Files\Steinberg\VstPlugins\VST3.



Attention

The Windows installer is created using the NSIS framework which can trigger false positives in some anti-virus software (see this [page for more info](#)). If you'd rather not use the installer, please download the ACDGEN_Windows_x.x_ManualInstall.zip version of the plugin which only includes the .VST3 files that you can copy to your VST3 folder manually.

4. Using ACDGEN

4.1 MIDI Routing

While both the AU MIDI FX and VST3 plugins are capable of generating MIDI messages, they usually require different routing settings depending on your DAW of choice.

4.1.1 AU MIDI FX with Logic Pro X

Logic Pro X is capable of loading AU MIDI FX plugins directly into any instrument track. To load ACDGEN to your instrument track, you can use the following steps:

- 1 - Open the inspector of the instrument track
- 2 - Click on the MIDI FX button
- 3 - Go to Audio Units, Spektro Audio, and select ACDGEN

4.1.2 VST3 with Ableton Live

To use the VST3 version of ACDGEN with Ableton Live, follow the steps below:

- 1 - Create a new MIDI track and load the VST3 version of ACDGEN into it
- 2 - Create a separate MIDI track for your instrument
- 3 - Open Live's I/O settings (by clicking on the IO button available in the right side of Live's UI)
- 4 - In your instrument track, open the dropdown menu below "MIDI From" and select the MIDI track containing ACDGEN
- 5 - Click on the second dropdown menu below (where it says Post FX by default) and select ACDGEN

4.1.3 VST3 with BitWig

To use the VST3 version of ACDGEN with BitWig, follow the steps below:

- 1 - Create a new Instrument track
- 2 - In the Device panel, click on the + button to open the browser
- 3 - Navigate to Plug-ins > VST3 > Spektro Audio and select ACDGEN (we recommend using the Instrument version of the VST3 plugin in BitWig)
- 4 - Now add your instrument of choice to the same track by clicking on the + button in the Device panel and selecting your instrument. MIDI routing should be set automatically

4.1.4 VST3 with FL Studio

To use the VST3 version of ACDGEN with FL Studio, follow the steps below:

- 1 - Click on the + button in the Channel Rack and select the Patcher plugin
- 2 - In FL Studio's browser, navigate to Plugin Database > Installed > Generators > VST3
- 3 - Drag and drop ACDGEN to the Patcher plugin
- 4 - Now add your instrument of choice to the same Patcher plugin by dragging and dropping it from the browser to the Patcher plugin
- 5 - Remove the default MIDI IN routing by un-patching the green cable from "From FL Studio" to your instrument
- 6 - Route the MIDI OUT from ACDGEN to your instrument by dragging and dropping the green cable from ACDGEN to your instrument
- 7 - Click on the ACDGEN icon (puzzle piece) to open the plugin's UI
- 8 - Open ACDGEN's plugin settings by clicking on the cog icon in the top left corner of the plugin window.
- 9 - In the plugin settings, set the MIDI Output port to 1 (or any other port that you'd like to use)

4.1.5 VST3 with Presonus Studio One 6

To use the VST3 version of ACDGEN with Presonus Studio One 6, follow the steps below:

- 1 - Create a new track and add ACDGEN as an effect plugin.
- 2 - Create a second track and add your instrument of choice to it.

3 - Open the Inspector (F4) for your second track (instrument) and set the In (Instrument Input) to ACDGEN.

4.2 Recording and Exporting ACDGEN's sequences

After creating a sequence that you like using ACDGEN, you may want to add it to your arrangement as a MIDI clip.

4.2.1 AU / VST3 Edition

To export ACDGEN's sequences into your arrangement, drag the  button (available in the bottom right corner) into your arrangement. You can also drop into a folder to export a MIDI file.

Alternatively, you can record ACDGEN's MIDI output using a MIDI track in your DAW (this process depends on which DAW you're using).



MIDI FXs are **not** rendered to MIDI clips exported via the Drag MIDI feature. If you'd like to store the MIDI output of the MIDI FXs, we recommend recording the MIDI output of the track containing ACDGEN to another MIDI track in your DAW.

4.2.2 Max for Live Edition

The "Export to MIDI Clip" button, available under the Options tab, exports the current sequence as a MIDI clip and saves it in the first available clip slot in the track's session view.

5. MIDI FX

5.1 About MIDI FXs

ACDGEN – AU/VST3 Edition now includes 6 MIDI FXs ported from NGEN – Algorithmic MIDI Workstation: Accent, Chords, Echoes, Glitch, Humanizer and Spray.

ATTENTION

MIDI FXs are currently only available for ACDGEN – AU / VST3 Edition.

5.2 How to Use

To use one of the available MIDI FX, click on the MIDI FX panel and select one of the FXs in the FX Selector drop-down menu. The selected MIDI FX activates itself automatically.

The parameters available for each of the MIDI FXs are available under the FX Parameters area.

5.3 Available MIDI FXs

5.3.1 ACCENT

Accent changes the MIDI velocity of incoming MIDI notes according to its internal velocity sequence in order to create more repeatable and prominent accent patterns.

List of Parameters:

Parameter	Description
Generate	Generates a new accent sequence
Length	Length of the accent sequence
Intensity	Increases the velocity of all MIDI notes to 127

5.3.2 CHORD

Chords transform single notes into chords by adding up to 4 notes on top of incoming notes based on specified intervals. There's also an option to quantize those additional notes or leave them unquantized.

List of Parameters:

Parameter	Description
Quantize	Quantizes all intervals to the active key / scale
Chord Interval 1	Interval of the first chord note
Chord Interval 2	Interval of the second chord note
Chord Interval 3	Interval of the third chord note
Chord Interval 4	Interval of the fourth chord note

5.3.3 ECHOES

Echoes is a MIDI delay effect that creates additional notes that are delayed by the specified delay time.

List Of Parameters:

Parameter	Description
Time	Delay time
Feedback	Feedback amount
Probability (<input type="text"/>)	Probability of the echoes
Falloff (<input type="text"/>)	MIDI Velocity falloff of the echoes
Octave Random (<input type="text"/>)	Randomizes the octave of the echoes

5.3.4 GLITCH

The Glitch MIDI FX can be used to mangle and glitch up sequences via a random ratcheting processor and pitch/velocity modulation. It's great for spicing up sequences and adding some IDM-style glitches to a performance.

List of Parameters:

Parameter	Description
Repeats	Maximum number of note ratchets
Gate Length	Length of the note ratchets
Probability	Probability of a glitch happening
Random	Amount of glitch randomization
Pitch Mod	Enables octave randomization

5.3.5 HUMANIZER

Humanizer is designed to make sequences sound more natural as if it was played by a human. It works by adding random amounts of delay and velocity modulation to incoming notes.

It's great for making polyphonic sequences sound less mechanical and static.

List of Parameters:

Parameter	Description
Delay Probability (<input type="text"/>)	Probability of delaying a MIDI note
Velocity Probability (<input type="text"/>)	Probability of a modulating a note's velocity
Max Delay	Maximum delay length
Velocity Modulation (<input type="text"/>)	Depth of velocity modulation

5.3.6 SPRAY

The Spray MIDI FX creates a delay-like effect by generating copies of incoming MIDI notes based on probability and random delay time.

List of Parameters:

Parameter	Description
Time	Maximum delay time (in milliseconds)
Max Repeats (<input type="text"/>)	Maximum number of repetitions of delayed notes (similar to feedback)
Probability (<input type="text"/>)	Probability of spraying a note
Octave Random (<input type="text"/>)	Randomizes the octave of the sprayed notes
Falloff (<input type="text"/>)	MIDI Velocity falloff of sprayed notes

6. Troubleshooting

6.0.1 I can't find ACDGEN in my DAW's Plug-ins list

- Check if your DAW is compatible with either AU MIDI FX or 64-bit VST3.
- After installing ACDGEN, check if the files were properly installed at `/Library/Audio/Plug-ins/VST3` and `/Library/Audio/Plug-ins/Component` on macOS and `C:\Program Files\Steinberg\VstPlugins\VST3` on Windows.

6.0.2 When trying to open the installer on Windows, my anti-virus software flags it as a virus / trojan

- The Windows installer is created using the NSIS framework which can trigger false positives in some anti-virus software (see this [page for more info](#)).
- If you'd rather not use the installer, please download the `ACDGEN_Windows_x.x_ManualInstall.zip` version of the plugin which only includes the `.VST3` files that you can copy to your VST3 folder manually.

6.0.3 When trying to open the `.pkg` file on macOS, I get an error similar to "ACDGEN cannot be opened because it is from an undefined developer."

- Right click on the `.pkg` file and select Open from the contextual menu.
- Another popup will appear asking you to confirm that you'd like to open the file. Click on the "Open" button.

6.0.4 When scanning for the ACDGEN plugin on macOS, I get an error similar to "ACDGEN cannot be opened because it is from an undefined developer."

- Open System Settings and navigate to Security & Privacy, General.
- You should see a message at the bottom that says *"ACDGEN cannot be opened because the developer cannot be verified"*.
- Click on "Open Anyway".

- Try scanning for plugins again in your DAW and you should now get a message that reads *"macOS cannot verify the developer of ACDGEN. Are you sure you want to open it?"*.
- Click on Open and you should be able to open ACDGEN from your DAW.

6.0.5 ACDGEN loads but I can't get any MIDI notes out of it

- Check the [How To Use](#) section for more information about MIDI routing.
-

If you come across any other issues, please get in touch with us at <https://spektroaudio.com/contact>.

7. Change-Log

7.1 ACDGEN - AU/VST3 Edition

7.1.1 Version 1.2

Added

- ACDGEN can now store multiple patterns (of 3 variations each) per instance
- Each pattern can be renamed, flagged as Favorite, and store settings for Mode, Swing, Transpose, Length, Density, and Note Length
- Replaced "Restore" button with new parameters for pattern management (Pattern Selector, Select Previous and Select Next).
- Added new "Re-Generate Variation" button
- Added new "Favorite Variation" button
- Added Chromatic Scale
- New option for removing all patterns (Control + X button)
- Existing projects will be automatic upgraded to new pattern system
- Added MIDI mapping support for Generator, Select Previous and Select Next buttons

Improvements

- Exported MIDI clips now include pattern's name and variation number
- Swing offsets are now applied to exported MIDI clips
- Optimized data storage
- Improved Triplet Accent
- Improved accented notes distribution
- Improved Floor mode
- Improved scale handling
- Improved ACDGEN consistency across all platforms

Fixes

- Accent MIDI FX no longer creates doubled notes
- ACDGEN now properly re-selects a previously selected variation when loading existing projects
- Fixed a bug that required the GUI to be open after loading a project to properly restore the last generated sequence
- Fixed FifthOct mode

7.1.2 Version 1.1

Added

- 2 New Algorithms:
- Lead: Generates sequences with longer and more sustained notes that can be used for lead lines and main melodies
- Legato: Generates sequences where all notes are played in legato (each note lasts until the next note). This mode can be used with sustained / legato instruments such as strings and pads.
- New [MIDI FXs](#) ported from NGEN:
- Accent: Modify the velocity of generated MIDI notes using an independent 8-step velocity sequencer with optional Intensity parameter
- Chords: Generate chords by generating up to 4 extra notes based on user-adjustable intervals
- Echoes: A MIDI delay fx that features additional features such as random octave changes and MIDI velocity falloff
- Glitch: Mangle and glitch up sequences via a random ratcheting processor and pitch / velocity modulation
- Humanizer: Adds a more natural feel to sequences via random delays and velocity changes
- Spray: Delay-like effect that generates copies of certain notes based on probability and random delay time

Improvements

- Minor design improvements to the GUI
- Improvements to existing algorithms (specially Floor)

Fixes

- Improved note-off timing
- Improvements to the GUI display's accuracy and responsiveness
- Minor performance improvements

7.1.3 Version 1.01

Added

- Native support for Apple Silicon
- Phrygian scale

Fixes

- Export MIDI clips should now contain the correct note length in all clock rates
- ACDGEN no longer crashes when trying to restore a previous sequence before generating a second sequence
- Fixed a bug that would cause ACDGEN to generate noise in certain DAWs (Windows only)

7.1.4 Version 1.0 – 2022-02-15

- Initial Release
-

7.2 ACDGEN - Max for Live Edition

7.2.1 Version 2.2

Added

- ACDGEN can now store multiple patterns (of 3 variations each) per instance
- Each pattern can be renamed, flagged as Favorite, and store settings for Mode, Swing, Transpose, Length, Density, and Note Length
- "Export as MIDI Clip" can now export to the arrangement (at current song time) while in the Arrangement View

- Replaced "Restore" button with new buttons for selecting and removing patterns
- Added new Pattern Selector, Select Next and Select Previous pattern
- Added new "Re-Generate Variation" button
- Added new "Favorite Variation" button
- Added Whole Tone, Phrygian and Chromatic scales

Improvements

- Improved scale handling
- Improved sequence display
- Updated Push 2 integration
- Updated Info View for some parameters
- Updated Parameter Banks on Push (including Generate button)
- Exported MIDI Clips now use different colors per sequence
- Renamed "Mode" to "Algorithm" for consistency across ACDGEN versions

Fixes

- Fixed ACDGEN UI colors when using different Ableton Live themes
- Exported MIDI clips are now set to the correct octave
- MIDI clips can now be exported with the correct amount of Swing
- ACDGEN no longer outputs MIDI notes during edits / changes to the arrangement / timeline (while transport is off)
- Fixed FifthOct Mode
- Fixed Algorithm Bias, Octave Probability and Octave Balance tweaks
- Fixed a bug that would prevent notes on step 1 to play when turning transport on

7.2.2 Version 2.1

Added

- 2 New Algorithms:
- Lead: Generates sequences with longer and more sustained notes that can be used for lead lines and main melodies
- Legato: Generates sequences where all notes are played in legato (each note lasts until the next note). This mode can be used with sustained / legato instruments such as strings and pads.

Improvements

- Various improvements based on AU / VST3 and Hardware Editions (ACDGEN Hardware Edition and NGEN)

7.2.3 Version 2.0

Added

- Added 10 new scales: Minor Harmonic, Minor Melodic, Minor Pentatonic, Major Pentatonic, Blues, Dorian, Lydian, Locrian, Arabic, and Augmented.
- New Clock Rate parameter: adjust the rate of ACDGEN's internal clock.
- New Note Length parameter: control the total length of all notes generated by ACDGEN.
- New Accent parameter: control the intensity (MIDI velocity) of accented notes.
- New Period parameter for Pattern Shifter: change the period in the Pattern Shifter advances to the next step.
- New Variate button: generates 3 new variations based on the previously generated pattern.
- Velocity, Random Velocity, Key, and Scale can now be adjusted in real-time.

Improvements

- Updated design to improve usability
- Improved density distribution: notes are now better distributed across the density range.
- Improved clip export
- Transposition and Length will now automatically output new values when selecting a different preset.

- Improved Swing calculation: note lengths are dynamically adjusted based on the swing amount to prevent additional slides.
- Improved note length calculation.
- Improved pattern storage.

7.2.4 Version 1.3

Added

- Added support for longer notes
- Added new Hold Probability tweak
- Added new Random Velocity tweak
- Added new Keyboard Shift feature (transposition via MIDI)

7.2.5 Version 1.2

Added

- New Arp3 algorithm – The new Arp3 algorithm combines ideas from classic arpeggiators and other ACDGEN algorithms to create more dynamic and interesting arp-like melodies
- New Note Display – ACDGEN can now display activate step, note velocity and density state
- Added 4 new presets for the main Transpose and Length tab buttons
- Added new option to enable or disable the Post Quantizer

Improvements

- Key and Scale parameters now work in real time and can now be midi mapped
- Pattern display now properly updates according to the sequence length
- Improved Push 2 support: added controls for the Key, Scale, Restore and Export to MIDI parameters.
- ACDBrain Quadrant selector is now available in the Options view
- Settings tab was renamed to Main

Fixes

- Fixed a bug that would cause the Swing and the Pattern Shifter to output doubled notes in certain situations

7.2.6 Version 1.1

Added

- Added ACDBrain device
- Patterns can now be generated via the Push 2's 1/32t button (will light up green when track is selected)

Improvements

- MIDI Export now works when the device is grouped

Fixed

- Note lengths on export MIDI clips now properly match the generated patterns

7.2.7 Version 1.0

- Initial Release