AUTOARP

User Manual

BLACK & ORANGE

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Beta Testers

Black & Orange would like to thank the following Reason users for their invaluable help in testing and contributing to AutoArp's patch library.

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Setup

Due to restrictions in the current Rack Extension SDK (software development kit) provided by Propellerheads, there are a few nuances to setting up AutoArp that will not be immediately intuitive to experienced Reason users.

Instrument vs. Utility

Even though AutoArp is a note triggering utility device and not an instrument (i.e., it does not directly generate audio), in order to allow for the use of patches for Reason 6.5/6.5.1 users, AutoArp had to be categorized as an "Instrument". You will therefore find AutoArp listed in this category when you seek to add it to your rack. It is possible that a future update to Reason/the RE SDK will allow AutoArp to be properly categorized as a "Utility".

Auto Routing

Though native Reason triggering devices (e.g., the Matrix and the RPG-8) will auto-route the sequencer control CV connections to the desired instrument, the current RE SDK does not allow this and thus AutoArp must be manually connected to instrument devices. Do this by connecting the "Main" "Gate" and "CV" output connections on the back of AutoArp to the Sequencer Control "Gate" and "CV" CV input connections on any Reason device or Rack Extension that allows for control via CV. Remember, this includes the Combinator, which can be used to send note data to multiple devices.

Notes to Track

Unfortunately, the current SDK does not allow a “Notes to Track” ability so AutoArp cannot “print” notes to the Sequencer. AutoArp will be updated to include this feature as soon as the SDK allows it.

QUICK START

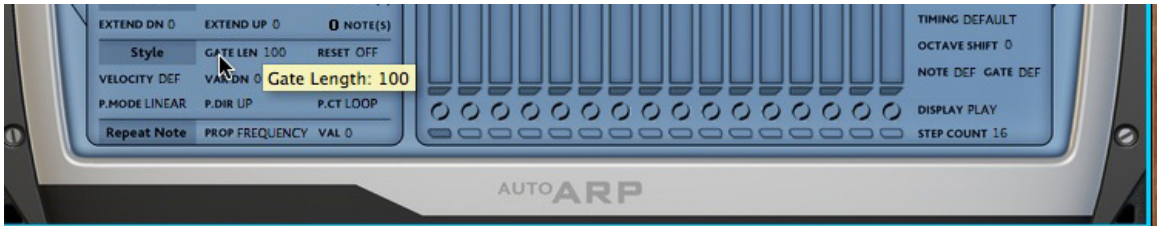
1. Add AutoArp to the rack from the Instrument category
2. Press "Tab" to switch to back of rack
3. Connect AutoArp's "Main" Gate/CV CV outputs to the Sequencer Control CV Inputs on your desired instrument.
4. Input notes to AutoArp via the Sequencer or a MIDI controller, like you would an instrument device.

Interface Guide

AutoArp is conceptually designed to mimic a "touch screen" interface and as such, does not have the normal knobs and switches you'd find on most Reason devices/Rack Extensions. It may take a bit of a learning curve to adapt to this different control paradigm, but it's not very complex once you get used to it.

Most of the properties on AutoArp's front panel are presented in a "label" "value" pairing.

The bolded text on the left is the name of the property and the text on the right is the value. To change the property, click and drag up or down on the label. Not all properties default to the start or end of their control range, so be sure to experiment both up and down on the control to see the full range of values available.



As with all Reason interface items, holding SHIFT while dragging will allow greater precision. Also, pressing COMMAND (Mac)/CTRL (Win) while clicking a control will reset it to its default value.

It may be helpful to conceptualize a rotary dial, which is actually the behavior of these controls. All the rotary dials in Reason behave the same way. You click-drag up on them to rotate clockwise, and click-drag down on them to rotate counter-clockwise. If a dial is mapped to many values (such as 0-127), there are many "degrees" of the dial and thus only a small rotation is needed to see a change in value. The fewer values a dial has, the more "stepped" its response is, and thus the further the rotation distance needed to change the value. This is demonstrated the most for dials with only 2 values, like "Off" and "On". A dial like this would have "Off" at around 7 o'clock and "On" at around 5 o'clock on the dial. To change from "Off" to "On" requires rotating the dial all the way around before the value changes.

This is the case with the label-value controls in AutoArp. Those with only a few values require further drag distance to change. The furthest distance is for the "Off"/"On" controls. If you click on the label and are dragging up or down, you may have to drag further than you were expecting to see the value change.

Scale Configuration

Key
Sets the Key of the scale used for Mapping.

Scale
Sets the Scale used for the Mapping. There are currently 64 scales to choose from.

Audition Scale
When set to “ON”, many of AutoArp's settings are overridden to provide a relatively consistent setup to optimize the presentation and comparison of the various Keys/Scales/Modes. While in "Audition Scale Mode", any note input will trigger the playing of the current Scale starting at that note (or mapped note). This allows for hearing the Scale's different Modes. It is important to note that Audition Scale is meant as a temporary convenience to aid in the selection of a Scale and should normally turned off when not being used, since it overrides other settings.

NOTE

If you are finding AutoArp is not responding to setting changes as you expect, always first check to see if Audition Scale is mistakenly left on.

Input

Hold
While enabled, all note releases will be ignored. Also known as a “latch”.

Input Mode
Single Note
: Only the latest note input is recognized.

Single Note Retrigger (Single Retrig)
: Same as Single Note, except if multiple notes are still held down when the latest note is released, the previous "latest note" still held will be retriggered.

Multi-Note
: With multiple notes are held, will "override" the Note Mapping and Chord Generator sections and send the "chord" created by the held notes to the Arpeggiator. I.e., a "traditional" arpeggiator behavior.

Multi-Note Mapped (Multi Mapped)
: Same as Multi-Note, except all held notes are mapped via the Note Mapping section before being sent to the Arpeggiator (therefore only skipping the Chord Generator). Can be considered a "scale-safe" traditional Arpeggiator mode.

Reset Gate on Input (R.Gate)
When on, each time a note input is received, the Single Note, Chord, and Main outputs have their gates reset to 0 momentarily. This is useful for a series of note inputs where you don’t release input between notes and the Gate Length is set to tie (127). Previously, in this case, for an instrument with a high sustain/long decay, a “wall of sound” could start building. This setting prevents that by releasing the gate before continuing. Think of it as a quick release then pressing of a sustain pedal.

Octave Shift (Oct Shift)
Transposes each note at input, thus acting as a "global" octave shift. Note, subsequent octave shift parameters (e.g., Chord Generator:Octave Shift or Sequencer Step:Octave Shift) are still applied when relevant.

Quantize

NOTE

> The Quantize parameters are modified by first setting the control "Quantize" to the parameter name (e.g., "START", "INPUT", "RELEASE"), and then setting the control "Value" to the desired value for that parameter.

Start
This is only active when the transport is playing. When set to a value other than "OFF", will quantize the first input to the transport's timing. "First" input is the first note input after any time of no held notes. For example, if the transport is playing, and Quantize Start is set to "1/4", the input will not be registered until the timeline is on a quarter note division. Depending on the timing of the input, this might be instantly, or there might be a delay. The end result though is that the first note triggered by AutoArp, and all subsequent patterns, will be quantized to the timeline. Note, this doesn't mean all subsequent notes will be quantized to 1/4 notes (per the

example), only the first note. Subsequent notes will follow other settings regarding to timing/rate. When the transport is not playing, this mode is ignored, or effectively treated as "OFF".

Input

These settings only take effect if the Arpeggiator is enabled.

Instant

Note inputs after the first input will trigger instantly, regardless of timing of input.

Step/Rate

Note inputs after the first input will only take effect on the next Arpeggiator note (according to the Arpeggiator:Timing:Rate timing) or Sequencer Step (if the Sequencer is enabled; can be the same as Rate, but could be different due to the ability set Step specific timing). This is useful to maintain the continuous timing of an arpeggio pattern.

Arpeggio Loop (Arp Loop)

Note inputs after the first input will take effect once the currently playing Arpeggio loops/ends.

Sequencer Loop (Seq Loop)

Note inputs after the first input will take effect once the currently playing Sequencer loops.

Release

When "ON", will not register the release of a note until the timing specified in Quantize Input.

EXAMPLE

With a fresh AutoArp instance (or right-click->"reset device"), set Quantize Input to "Arp Loop" and Quantize Release to "On", then press a note and release it immediately. The Arpeggiator will play once through the pattern and then stop, effectively creating a "One Shot mode".

Note Mapping

Enabled
Turns on/off Note Mapping. Note, if disabled, this will also disable the Chord Generator even if Chord Generator:Enabled is "ON" since the Chord Generator depends on Note Mapping.

Root Notes

The Note Mapping module is organized into Root Notes. Notes that are grayed out are do not fit into the current scale. These notes can still be utilized via changing their Disabled Action.

Each Root Note has an "Audition Note" button which triggers that note to allow quick auditioning. It is not meant to replace note input via MIDI/Sequencer Control.

Next to the Audition button is a symbol. If the symbol has a single note, that indicates that Root Note does not have a chord mapped to it. If the symbol has two notes on it, that means that Root Note has a chord mapped to it.

Below each Root Note is a selection button. The currently selected Root Note can be further configured in the Chord Generator module as this module reflects the settings for the currently selected Root Note.

Disabled Action
When a Root Note is in the current scale, it will play when that note is input (regardless of which octave the input is on). When a note is input that is not in the current scale, the Disabled Action determines what happens.

Down
: Will play the closest in-scale Root Note down the keyboard.

Up
: Will play the closest in-scale Root Note up the keyboard.

Ignore
: That input is not registered and has no effect.

Play
: Will play that Root Note even though it is not in-scale. Since the Root Note is not in-scale, there will not be any chords in the 3 matched chord slots in the Chord Generator. You can still create a Custom Chord and/or use Mapping to configure a chord for this Root Note.

Stop
: Will stop all output from AutoArp. Intended as a method to make obvious any playing mistakes to assist in learning new scales, or could be used as a way to stop output when Hold is on.

Mapping

Map to a different Root Note. Though this effectively remaps the note, it also creates a unique Chord Generator "slot".

EXAMPLE

To demonstrate how to utilize mapping, start with an initialized/reset AutoArp which will be in the scale of C Major. The Root Note "C" is by default configured for C Maj chord. Select C#/Db Root Note, which is not in-scale. Set "Disabled Action" to "Play" and Mapping to "1". Then set Chord Select to Chord 3, which will be C sus4. Now when you play a C#/Db note, it will output a C sus4 chord, giving you an alternate C chord to play.

The patch "All for 1" demonstrates how you could map ALL the Root Notes to alternate C chords. It is of course an extreme example, but demonstrates the possibilities. Say you had a song with a 4 chord progression. You could use mapping to split the 12 Root Notes up so that each of the Root Notes in your progression had 3 chord variations.

Chord Generator

Enabled
Turns on/off Chord Generator. The Chord Generator is dependent on Note Mapping, so even if the Chord Generator is Enabled, if Note Mapping is not, the Chord Generator will be off.

Chord Select
Selects which chord "slot" will be used. Values of "Chord 1[1-3]" are the "matched" slots which are chords found from the Chord Dictionary that match the current scale. "Scale" is the current scale starting at the current root note. "Custom" is a chord made solely from Custom Notes.

Chord Size Indicator
Shows the number of notes in the currently configured chord.

Octave Shift (Oct Shift)
Transposes the chord by selected number octaves. This only applies to this chord and is not a global setting.

Invert
Inverts the current chord (first inversion). Does not apply to Custom Chords or Custom Notes.

Add Custom Notes (Add Custom)
Will add the Custom Notes configured to the currently selected Chord/Scale. Has no effect on Custom Chords. Duplicate notes will be ignored.

Octave Trimming

Octave trimming is a method of extending, and/or shaping your chords. It works by giving you control over 3 "octave sets" of your chord.

To explain this, let's consider a C Maj chord played at middle C (C3 in Reason). The "base" "octave set" is controlled by "Oct +0". This is C3 E3 G3. "Oct -1" is the chord transposed down one octave at a time far enough that there are no duplicate notes so that the full chord is replicated transposed down. Since our base chord "fits" within one octave, the octave shifting is only one octave. So "Oct -1" is C2 E2 G2 and "Oct +1" is C4 E4 G4.

Each control sets the maximum number of notes per octave set. The controls allow positive and negative values, allowing you to "trim" the octave set from either end.

By default, "Oct +0" is set to full value of 36 notes. That doesn't mean it will have 36 notes, only that any chord 36 notes or less will be kept without trimming. Our example chord, C Maj, is a triad/3 notes, so it is not trimmed. By default, the other two octave sets are set to 0 notes. So only the base octave set is used. If you set the other octave sets to a number the same or greater than the source chord (3 notes in this case), you will get a full version of the chord transposed down and/or up. This is useful for "filling out" the chord to give it a thicker sound, and more size to the pattern when sent to the arpeggiator.

The way trimming can "shape" your chord is by setting the trim sizes to less than the size of your source chord. The trimming works directionally; positive max note values work from low-to-high, and negative max note values work from high-to-low.

So for C Maj, let's see what the different settings result in (pipes "|" added between octave sets just to provide visual distinction):
Oct -1:0, Oct +0:36, Oct +1:0: | C3 E3 G3 |
Oct -1:1, Oct +0:36, Oct +1:0: C2 | C3 E3 G3 |
Oct -1:2, Oct +0:36, Oct +1:0: C2 E2 | C3 E3 G3 |
Oct -1:3, Oct +0:36, Oct +1:0: C2 E2 G2 | C3 E3 G3 |

Note how increasing "Oct -1" each time adds another note from the chord, low-to-high.

See how negative values work:
Oct -1:0, Oct +0:36, Oct +1:0: | C3 E3 G3 |
Oct -1:-1, Oct +0:36, Oct +1:0: G2 | C3 E3 G3 |
Oct -1:-2, Oct +0:36, Oct +1:0: E2 G2 | C3 E3 G3 |
Oct -1:-3, Oct +0:36, Oct +1:0: C2 E2 G2 | C3 E3 G3 |

You can combine these controls to create unique styling of your chord:
Oct -1:-2, Oct +1:-1, Oct +1:36: E2 G2 | G3 | C4 E4 G4

Experiment!

As mentioned earlier, the octave sets are transposed as far as necessary, by octaves, to allow for a full copy of the chord without duplicate notes. For source chords that are contained within the span of a single octave (12 semitones), the transposed octave sets -1 and +1 will be only one octave difference. But for source chords that extend beyond a single octave, like 11^{th} or 13^{th} chords, the transposing will most likely be 2 octaves in order to contain a complete copy of the chord without duplicating notes from the base octave set. This approach was chosen to make sure the shaping ability was maintained since the structure of the transposed octave sets remains the same as the source. Again, the majority of chords are within one octave, so the multi-octave transposing won't come into play very often.

Custom Notes

In the area on the right side of the Chord Generator module is the Custom Note input area. This area is populated with the current scale in the mode of the currently selected Root Note. Above each note are the reference notes. These icons show which octave the reference note is on (first circle is octave down, center circle is current octave, third circle is octave up).

Below each note is the same 3 circle icon. Click and drag on this icon to set a Custom Note. You can select which of the 3 octaves, or combination of the 3 octaves, you want the note to be on. For your Custom Notes to take effect, you must either have Chord Select set to "Custom", or have "Add Custom" set to "ON".

Chord Dictionary

The Chord Dictionary serves as a reference in building custom chords. When the currently selected Root Note's Chord Select is set to "Custom", the reference notes will be from the currently selected Chord Dictionary chord. You can audition this chord by clicking the "Audition Chord Dictionary" button next to the Chord Dictionary menu.

Unfortunately, the current SDK does not allow the ability to use the Chord Dictionary drop down menu to select a chord and have that chord be the one mapped for the current Root Note. So until the SDK allows this, the Chord Dictionary serves only as a reference and you must still input the Custom Notes to construct your chord to match the one you've selected from the Dictionary.

Arpeggiator

Enabled
Turns on/off the Arpeggiator. Note, if disabled, this will also disable the Sequencer even if Sequencer:Enabled is "ON" since the Sequencer works off the Arpeggiator.

Timing

Rate
Sets the speed/frequency of the Arpeggiator. When Timing:Sync is "ON", the rate is in musical time divisions and when the transport is playing, is synchronized to the timeline. When Timing:Sync is off, the rate is set in Hz.

Sync
Determines if the Arpeggiator rate is synchronized to the timeline (when transport is playing) using musical time divisions, or is "free running" in Hz.

Human
Introduces random error into the timing of the note triggering. The higher the percentage, the larger the "range" of timing error that is randomly selected from. In other words, notes will trigger early or late on a random basis, just as a human player would do.

Shuffle
The Shuffle in AutoArp is based on the concept of an "Emphasis Note" within a group of notes (size set by Arpeggiator:Timing:Shuffle Group Size). Shuffle is only applied to groups of notes set to the main rate (i.e., individual step timing set through the Sequencer will not be affected by Shuffle). The Shuffle value determines the amount of "increased share" of the group time that the Emphasis Note will receive (the other notes in the group receiving the remaining time. Positive values make the Emphasis Note the first note of the group. Negative values make the Emphasis Note the last note of the group.

Shuffle Group Size (S.Group)
Determines the number of notes Shuffle will be applied to. The Default, 2, allows for "standard" shuffle effect; a long note and a short note pairing. Larger group sizes allow for the same "shuffle feel" to be applied to larger runs.

Source

Max In
Restricts the size of the input chord. Useful for maintaining consistency in arpeggio patterns during a chord progression.

Extend Down (Extend Dn)
Adds notes to the arpeggio pattern, moving down the keyboard and adding notes that match the input chord.

Extend Up
Adds notes to the arpeggio pattern, moving up the keyboard and adding notes that match the input chord.

Source Size
Displays the number of notes in the input chord.

Output Size
Displays the number of notes used in the arpeggio pattern.

Style
Gate Length (Gate Len)
Determines how long the gate is left open for each note. Full value is the same as a "note-tie" mode where the gate is not closed between notes.

Reset Gate On Loop (Reset)
When "ON", closes the gate when the arpeggio pattern loops before the gate is re-opened for the first note of the new loop. This is only noticeable if the Gate Length is set to full (127).

Velocity
When set to "DEF", the velocity will be whatever the input velocity was. Any numerical value setting will be a fixed velocity that ignores the input. After the numeric values are the Performance Modulation options: Pitch Bend (PBEND), Mod Wheel (MOD), Channel Aftertouch (AFT), Expression Pedal (EXP) and Breath Controller (BRTH). Note: Due to the number of options, you may need to hold SHIFT while interacting with this control to precisely select one of the Performance Modulation settings.

Velocity Variation Range Down (Var Dn)
Sets the range below the current velocity where random variation can occur. When Velocity is set to one of the Performance Modulation settings, this setting defines the bottom end of the relative modulation range.

Velocity Variation Range Up (Var Up)
Sets the range above the current velocity where random variation can occur. When Velocity is set to one of the Performance Modulation settings, this setting defines the upper end of the relative modulation range.

VELOCITY MODULATION EXPLANATION

When Velocity is set to "DEF", the velocity is input velocity + the random variation set with the Velocity Variation Range controls + CV modulation.

When Velocity is set to 1-127, the velocity is this static value + the random variation set with the Velocity Variation Range controls + CV modulation.

When Velocity is set to any of the Performance Modulation sources, the first note velocity is the same result as "DEF", but subsequent notes can be modulated with the selected source. This only happens once the modulation source is "engaged" (changed from a 0 value). If the modulation source hasn't been engaged, velocity continues to be determined the same as "DEF".

Continued on the next page...

VELOCITY MODULATION EXPLANATION CONTD.

For Performance Modulation, there are 2 “modes”. If the VAR DN and VAR UP settings are both 0, then the Performance modulation source is directly used to determine velocity. So if MOD is selected, and the Mod Wheel is at 50%, the velocity will be 63. The exception to this is the Pitch Bend Wheel which, because it is bipolar, modulates the input velocity. So if you play a note with a velocity of 63 and then move the Pitch Bend down 25% of its range, the resulting velocity will be 32.

The second mode is when either VAR DN and/or VAR UP is set to a non-zero value. In this case, these values determine the modulation range, relative to the input velocity.

For example, if you input a note with velocity 63 and VAR DN is -10 and VAR UP is 25, the Performance Modulation range is 53 to 88. The Performance Modulation source (e.g., Mod Wheel, Expression Pedal, etc.) is then mapped to this range. The Mod Wheel at 100% would be 88 and then moved down to 0% (remember, it must first be engaged with a non-zero value, so leaving it at 0% has no effect) would result in 53. The exception to this is the Pitch Bend Wheel, because it is bipolar and spring-centered to 0. So the Pitch Bend moved upwards selects values between the input velocity and the upper range (63 and 88 in our example) and when moved down, selects values between the input velocity the lower range (63 and 53 in our example).

Thanks to Reason/AutoArp user “blackreign” for suggesting this Performance Modulation feature and for providing detailed input into its design and implementation.

Play Mode (P.Mode)

Determines the pattern applied to the chord resulting in the arpeggio. Note, most modes require a minimum of 4 notes to be active, otherwise they revert to Linear. Use Extend Up/Dn to ensure a larger arpeggio pattern to take advantage of the different modes.

Example Pattern – 1 2 3 4 5 6

Linear

1 2 3 4 5 6

Skip

1 3 2 4 3 5 4 6

Skip Rev

3 1 4 2 5 3 6 4

3-1

1 2 3 2 3 4 3 4 5 4 5 6

3-1 Rev

3 2 1 4 3 2 5 4 3 6 5 4

4-2

1 2 3 4 2 3 4 5 3 4 5 6

4-2 Rev

4 3 2 1 5 4 3 2 6 5 4 3

Play Direction (P.Dir)
Determines the direction the arpeggio pattern is played.
Up
Up+Dn
Does not repeat notes.
Down
Dn+Up
Does not repeat notes.
Random
Randomizes each loop so that all notes are played once, but in a random order.
Manual
If Multi-Note input is used, the pattern is in the order of input.

Play Count (P.CT)
How many times the arpeggio pattern will play. Default is "LOOP". Can be set 1-4 times. A setting of 1 is the same as a "One Shot" mode.

Repeat Note
The Repeat Note function allows the selection of one note from the pattern to behave differently to achieve a variety of effects. Repeat Note mode is only active when Frequency is set to a value greater than 0.

NOTE

The Repeat Note parameters are modified by first setting the control "PROP" to the parameter name (e.g., "FREQUENCY", "NOTE #", "OCT SHIFT" etc.), and then setting the control "VAL" to the desired value for that parameter.

Frequency
How often, in notes of the pattern, the note is repeated. A value of 0 effectively turns off the Repeat Note function.

Note #
Which note from the pattern will be considered the repeat note. If the pattern is shorter than the value chosen, the last note in the pattern will be selected.

Octave Shift (Oct Shift)
Octave transpose just for the repeat note.

Velocity
Repeat note specific velocity. The value "DEF" applies the global velocity (Style:Velocity) to the Repeat Note.

Restart Arpeggio (RStart Arp)
When "ON", every time the Repeat Note plays, the arpeggio pattern is restarted.

Remove From Pattern (Remove)
When "ON", the Repeat Note is removed from the pattern. If "OFF", the Repeat Note is kept in the pattern and thus doubling is possible since the note can play in the pattern, and then the Repeat Note will play the same note.

Skip First
When "ON", the Repeat Note system only starts playing after the first arpeggio pattern loop has completed.

Simultaneous (Simult)
When "ON", the Repeat Note will play simultaneously with the current note from the pattern. When "OFF", the Repeat Note is inserted into the pattern and plays alone.

Sequencer

The Sequencer allows you to further refine and shape the pattern provided by the Arpeggiator

Enabled
Turns on/off Sequencer. The Sequencer is dependent on the Arpeggiator, so even if the Sequencer is enabled, if the Arpeggiator is not, the Sequencer will be off.

Step Count
Max is 16. Sequence is only played within the step count range, so steps outside the range are ignored.

Display Mode (Display)
Sets the display of the Sequencer. Set to "OFF" to save a little CPU or reduce visual distraction in your rack. "PLAY" will show the pattern as it is played. The other values allow for visual reference in editing the steps.

Step

Below each step (at the bottom) is a selection button. Clicking it will bring up the Step configuration on the right of the display. You can also change which step is selected by clicking and dragging up or down on the step title "Step [#]" in the top right of the Sequencer module.

Enable
Below each step's display is a toggle button to enable/disable the step. Disabled steps do not play a note, allowing for more control over the pattern.

Type

Note
: Plays the current note.

Release>Note (Rel>Note)
: Releases the gate then plays the note. Only noticeable if the previous step/global Gate Length is 127 (a tie).

Rest
: Releases the gate but does not play a note. Arpeggio pattern is not advanced.

Current Chord (C.Chord)
: Plays the arpeggiator's current source chord (i.e., without the Extend Up/Dn applied)

Release>Current Chord (Rel>C.Chord)
: Same as C.Chord but releases the gate first. Only noticeable if the previous step/global Gate Length is 127 (a tie).

Mapped Chord (M.Chord)
: Takes the current note, matches it to the Root Notes, and plays the chord for that Root Note.

Release>Mapped Chord (Rel>M.Chord)
: Same as M.Chord but releases the gate first. Only noticeable if the previous step/global Gate Length is 127 (a tie).

Arpeggiator Restart (Arp Restart)
: Restarts the Arpeggiator pattern. Doesn't necessarily reset the Sequencer.

Extended Chord (E.Chord)

Plays the chord extended by the Extend Up/Down controls in the Arpeggiator module.

Release>Extended Chord (Rel>E.Chord)

Same as E.Chord but releases the gate first. Only noticeable if the previous step/global Gate Length is 127 (a tie).

Velocity

"DEF" uses global velocity (Style:Velocity). Other values set step-specific velocity.

Timing

"DEFAULT" uses current Timing:Rate. "SIMULT" will play current step and immediately play next step too. Other values set step-specific timing.

Octave Shift

Step-specific octave shift.

Note

"DEF" plays the current note. Changing this will select that note's number from the current source chord. If the Note # is higher than length of the current source chord, will use the last note (highest note) in the chord. Used for overriding the Play Mode and Play Direction settings to create a custom pattern.

Gate Length (Gate)

"DEF" uses the Style:Gate Len value. Other values set step-specific gate length.

STEP EDIT CONTROL EXPLANATION

Added in 1.1.5, there is now a Step Edit control under each step, between the Step Select button and the Step Enable button. This round icon allows for quick editing of multiple steps. To use, change "Display Mode" to a setting other than "Off" or "Play". "Velocity" for example. The display for each step will now show the value for each step's velocity property. Clicking and dragging up/down on the Step Edit control will modify that respective step's velocity setting. Now change "Display Mode" to "Octave Shift" and the displays will update to show that setting. The Step Edit control will now edit the "Octave Shift" parameter.

If you want to fine tune a single step, then selecting that step and editing its parameters is the most efficient method. But if you want to edit a single parameter across multiple steps quickly, then using the Step Edit controls is best.

Back Panel

Settings

Restart Arpeggio on Settings Change

When "ON", any currently playing arpeggio will restart if any of the following properties are changed:

- Max In
- Extend Down
- Extend Up
- Play Mode
- Play Direction
- Play Count
- Repeat Note Frequency
- Repeat Note Number
- Repeat Note Octave Shift
- Repeat Note Restart
- Repeat Note Remove
- Repeat Note Skip First
- Repeat Note Simultaneous

A good rule of thumb is that the properties that will trigger a restart are those that will change the structure of the pattern being played. Properties that affect the "sound" of the current pattern but leave the pattern unchanged (such as Velocity or Gate Length) will not trigger a restart.

When "OFF", these property changes will take effect the next input change to the Arpeggiator and thus will not disturb the current pattern.

Disabled Sequencer Steps Advance Arpeggio

When "ON", the arpeggio pattern will advance on disabled sequencer steps even though a note will not play. This effectively "skips" notes. Setting to "OFF" will not "skip" but resume the pattern with the expected next note on the next enabled step.

Disabled Sequencer Steps Trigger CV Out

When "ON", the Sequencer Step CV output will trigger for ALL steps of the sequencer, even those that are disabled.

Restart Sequencer on Arpeggio Loop

When "ON", the Sequencer will reset when the current arpeggio pattern loops.

Multi-Note Retriggers On Individual Release

When Input Mode is set to "Multi-Note" or "Multi Mapped" and multiple notes are held at the same time, that chord is used as input. When this "Multi-Note Retriggers…" setting is on (default), releasing some of the held notes (partial release), while still holding at least one note, will cause the input to be retriggered, since the chord configuration has changed. Turning this setting off will not retrigger when there is partial release. Retrigger will happen when a new note is input though.

Multi-Note Input Delay

When Input Mode is set to "Multi-Note" or "Multi Mapped", multiple notes held at the same time will override the Chord Generator and send the input notes as a chord to the Arpeggiator. If this input is from MIDI notes in the sequencer, the chord will register right away. However, due to the probability that a chord entered by human hands on a keyboard will not trigger all notes at EXACTLY the same moment, the Arpeggiator may register only the first few notes and begin playing with the incomplete chord. Depending on Quantize Input settings, this could cause a "doubling" of the first few notes. The Input Delay knob creates a solution for this. When in a Multi-Note input mode, the Arpeggiator will not start until after a delay specified by this knob, ensuring the complete input is registered before playing.

CV In

NOTE

> CV modulation for AutoArp is based on an "additive" model. This means the value of the CV signal will be added to the control position of the front panel setting (with noted exception for Velocity). For example, if the Shuffle setting is at "50%" (75% of its range as a control) and the CV input for Shuffle has a signal of -0.25/-32, the result will be 50% of the range, which equates to "0%" for that property. Experimentation will make this more clear.

Input: Octave Shift

Octave Shift is a 7 step property, with values of -3, -2, -1, 0, +1, +2, +3. Modulating this property via CV will snap to the nearest stepped value, just as the front panel control does.

Arp Timing: Rate

There are technically 2 Rate properties, "Rate Free" and "Rate Synced". This CV input will modulate whichever control is currently active (determined by the Timing:Sync button).

Arp Timing: Shuffle

Modulates the Shuffle property. Shuffle is "bipolar", so the default value of 0% is actually 50% of the control range.

Arp Style: Velocity

Modulates the Velocity property. Though this also uses an additive CV model, as described above, the difference with velocity is that it's not strictly a modulation of the control position (as all other CV inputs are), since the Velocity control now (as of 1.1.5) includes Performance Modulation options in addition to set values. So the modulation is of the current velocity value (0.0-1.0/0-127), not the control position. I.e., if the current velocity (played, or set) is 0.5/63 and the CV input signal is 0.25/32, the resulting velocity is 0.75/95.

Arp Style: Gate Length

Modulates the Gate Length property.

Sequencer Control

Follows the Reason standard for CV control of AutoArp. When the Gate CV Input is connected alone (i.e., without CV/Note connected too), it acts as a "Retrigger/Restart" control. In this mode, any time the Gate CV signal goes from 0 (inactive) to > 0 (active), the currently held notes in AutoArp are retriggered, in accordance with the Input Quantize setting.

CV Out

Arpeggio Playing

Outputs a full value (1.0/127) while the Arpeggiator is playing. There is a momentary toggle to 0.0/0 each time the Arpeggiator loops.

Sequencer Step

Outputs a signal for each step in the sequencer. The strength of the signal is the velocity of the current step. The signal output is also tied to that step's Gate Length. A full Gate Length will output a signal the entire length of the step, momentarily toggling to a zero signal before triggering the next step. Shorter Gate Lengths will toggle to a zero signal before the step is completed.

Performance

Outputs a CV signal for each of the following performance controls
Pitch Bend Wheel (P.Bend) - Bipolar (-1.0 to 1.0/-127 to 127) signal
Mod Wheel (M.Wheel) – Unipolar (0.0 to 1.0/0 to 127) signal
Sustain Pedal (S.Pedal) – Unipolar switch signal (0.0 or 1.0/0 or 127)
Channel Aftertouch (A.Touch) – Unipolar signal
Expression Pedal (Exp) – Unipolar signal
Breath Controller (Breath) – Unipolar signal

Single Note

Outputs the last input held note.

Gate
: Gate/velocity signal

CV
: Note signal

Auto Release
: If set to "OFF", output will cease when all notes are released. Otherwise, sets an automatic release timer for this output that resets every new note input.

Chord

If the Chord Generator is active, outputs the current chord, as a chord (i.e., not arpeggiated).

Gate
: Gate/velocity signal

CV
: Note signal

Auto Release
: If set to "OFF", output will cease when all notes are released. Otherwise, sets an automatic release timer for this output that resets every new note input.

Main

Main output for AutoArp. Output is dependent on which modules are active.

Gate

Gate/velocity signal

CV

Note signal

Version History

1.1.7 – 4.25.2013 – Update

Fixed

-Octave Trimming bug

Added

-Sequencer Control Gate Input acts as retrigger when connected alone
-New Extended Chord and Release>Extended Chord Step Types
-New Patch: Extended Chord Example.repatch

1.1.5 – 2.20.2013 – Update

Fixed

-Handling of transport tempo changes during playback

Added

-Step edit controls
-Step editing process refined
-Velocity performance modulation
-Sequencer Control inputs
-Multi-Note Retrigger Setting
-New Patches
    -2 Pattern Keysplit at C3 (req ReVolt).cmb
    -3 Pattern Selector (req ReVolt).cmb
    -CV Quantizer (req ReVolt).cmb
    -Roll-Flam via PBend-Kong [C1-D#2].cmb
    -Roll-Flam via PBend-NN-XT [C1-D#2].cmb
    -Sequencer Control Example.cmb

1.1.0 – 2.06.2013 – Update

Fixed

-Root Note audition buttons
-Chord Dictionary audition button
-Intermittent uninitialized settings bug
-Intermittent looping bug
-Intermittent playhead positioning bug
-Chord Select control standardized
-Removed unintended value tooltips
-Custom Note 12 labeling

Added

-Gate Reset On Input parameter
-Held notes that are re-input (through CV-controlled hosting Combinator) are re-triggered
-Performance CV Outputs (Pitch Bend, Mod Wheel, Sustain Pedal, Aftertouch, Expression, Breath)
-Turning Hold off does not stop playback if notes are still held
-Organized Patches
-Strummer patch and variations

1.0.0 – 1.15.2013 – Initial Release