iUNO

POLYPHONIC SYNTHESIZER

Pilot's Handbook

version 1.5.0

by Andras Haasz

Table of contents

Introduction

I first encountered Juno in 1986, when I borrowed a Juno-106 for some concerts I was playing. I was completely amazed by the thick and warm sound. I had never heard anything like it live before. I've used a lot of synthesizers since then, but I still remember that first impression: simple, but fat, warm and powerful.

iUNO is a modern synthesizer, based on the original oscillators and lush chorus of Roland's legendary instrument.

Rather than a hardware emulation, iUNO reimagines the original concept - a simple yet powerful instrument - infused with modern technology while preserving the warmth and character of its classic sound.

That's it. Another synth from PinkNoise. Experience it for yourself. You won't be disappointed! :)

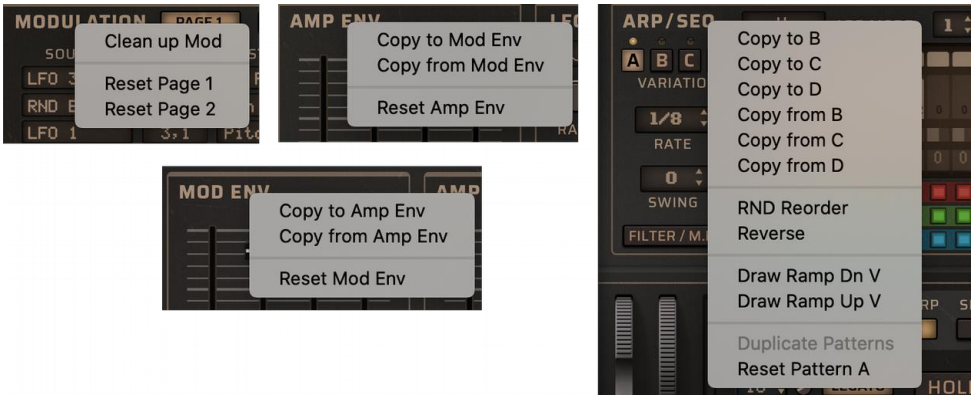
Features

- 3 oscillators based on the DCO of the Juno-6 and JP-8000, with two types of the original Juno chorus
- Five play modes with hold function: poly, mono, chord, arp, seq
- Discrete Glissando (two types: legato and retrigger mode) **NEW!**
- High Pass & Low Pass filters with dedicated envelope
- Flexible modulation matrix
- XY Control pad
- Arpeggiator and step sequencer
- 3 FX units (compressor, delay and reverb) with modulation options
- Output control with EQ, stereo width and safe limiter

Tool menus

I thought I'd cover this part separately at the beginning, because although they are very useful and can speed up editing, their use may not be obvious.

If you click on some labels - such as Amp Env, Mod Env, Seq/Arp, Modulation -, a drop-down menu will appear with various functions.



Front panel overview

1. Panic button
2. Patch Selector for browsing, loading and saving patches
3. Oscillator section
4. Mod panels (Mod matrix, Control Pad)
5. Filter panel / Seq & Arp Editor
6. Envelope panels
7. LFO panels
8. Performance panel
9. FX section
10. Pitch Bend setup
11. Master out

Panel reference

1. Panic button

If you get problems with “hanging” notes, click the Panic button to send out an “All Notes Off”. This button also resets the arp / sequencer.

2. Patch selector

Loading and saving patches is done in the same way as with any other internal Reason device. To select a patch, either click on the patch name, the folder icon or the arrow buttons. To save a patch, click on the disk icon.
If you [Alt]-click on the disk icon, the patch will be overwritten without question. See the “Sounds and Patches” chapter in the Reason/Reason Rack Plugin/Reason Intro/Reason Lite Operation Manual pdf for details.
As with all Rack Extensions, you can find the included patches by clicking "Rack Extensions" in the Reason browser, navigating to the “iUNO Synthesizer” folder and opening it.

Controlling parameters

Knobs, faders, and numerical displays are controlled by left-clicking on them, then dragging the mouse up or down in a vertical direction. Hold down Shift while turning the knobs to slow down movement, in order to set precise values. Use [Ctrl]-click to set the controllers to the default position.
Note: some items have special features that can be accessed via modifier keys (ctrl, alt, shift). These features can effectively speed up editing and are described in the appropriate section.

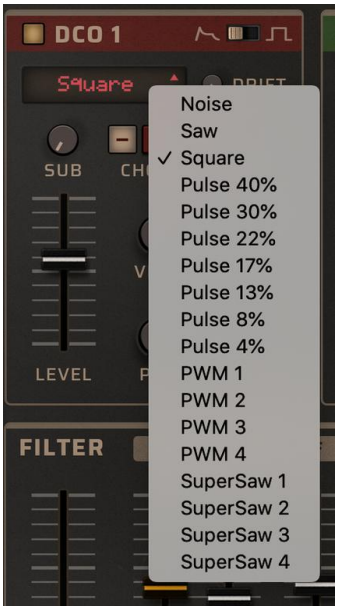
3. Oscillator (DCO) panels

DCO stands for Digital Controlled Oscillator. iUNO has 3 identical oscillators, each with its own color: DCO 1 is red, DCO 2 is green, and DCO3 is blue. We use these colors uniformly for the parameters, i.e. if you see a colored LED or button somewhere, it shows which oscillator it belongs to. The global color is gold.

DCO Enable button: each oscillator has a small led in the upper left corner. You can enable or disable them. Please note that if you disable an oscillator, the corresponding CV output will also be disabled.

VCA source switch: you can choose whether you want to use the AMP Envelope or a simple gate (similar to the original hardware). If you choose GATE, you can use the AMP envelope for other modulations in the mod matrix (e.g. pitch modulation).

Waveform selector: you can select various waveform from a drop-down menu. The first 13 waves (from Noise to PWM 4) are from Juno, the next 4 (SuperSaw variations) are from the JP-8000.



DRIFT: Similar to the inaccuracy of analog instruments, here you can control random pitch drift over time. The default value (0) does not have this effect.

SUB: you can set the relative volume of an additional sub oscillator, which is a square wave one octave lower

CHORUS: Yes, the famous stereo JUNO Chorus! Button 1 gives a lighter and slower chorusing effect, button 2 is more intense and faster.

OCT / SEMI / FINE: you can tune the osc in octave/semitone/fine tune increments.

LEVEL: set the volume of the oscillator

VELO: sets the velocity control of the Amp Envelope (or GATE). Please note that this control is bipolar.

PAN: controls the stereo balance of the current oscillator

4. MODULATION panel

4.1 Mod matrix

The synth engine already contains some common pre-wired modulations (Amp Velocity, Filter Velocity, etc).
The Mod matrix panel extends these possibilities providing very flexible routings.
On the modulation panel you can make connections between various modulation sources and destination parameters.
Mod matrix has 2 pages, each with 9 modulation slots, and you can enable/disable these modulations for each oscillator by clicking on the colored LEDs on the right.

Tip : Click the number 1, 2, or 3 above the LEDs to enable/disable all LEDs in the column.

4.2 Control pad

The Control pad is an XY pad on which you can draw complex modulations with the mouse in two dimensions. These movements can be automated.

You can choose which controllers you want to use from the drop-down menus on the right.
In the lower part of the panel you can see what values are assigned to these controllers on the mod matrix.,

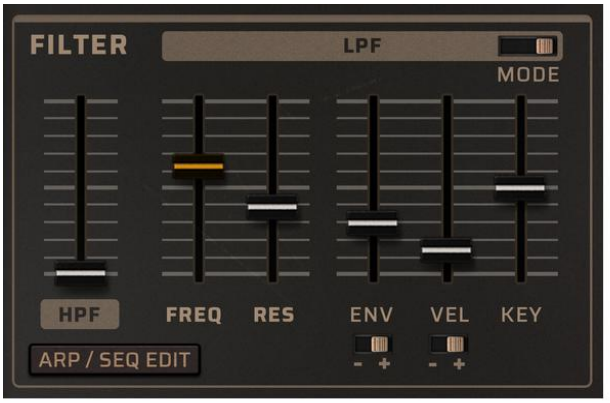
5. Filter panel / Seq editor

Use the switch in the lower left corner of the panel to select which panel should be visible:
"FILTER / M.ENV" or "ARP / SEQ EDIT".

Alternatively, you can use the other switch on the AMP ENV panel to access the Seq panel, in which case the Filter panel will also remain visible (but the LFO panels will hide).

5.1 Filter Panel

The filter panel contains the parameters of the iUNO filters.



HPF = High Pass Filter. It's a 6 dB/octave non resonant filter, which cuts the low frequencies. You can set the cutoff frequency between 20 Hz and 2.79 kHz. (Using the “constant” source in mod matrix you can set higher values.)

All other parameters refer to the low pass filter.

MODE: Juno has a resonant low-pass filter, the cutoff slope is fixed at 24 dB/octave. This is the default value. You can change it with the MODE switch, choosing a slope of 12 or 18 dB/octave.

FREQ = Filter frequency: sets the cutoff/center frequency. The cutoff parameter sets where in the frequency range you want the resonance and attenuation to appear.

RES = Resonance amount: the resonance parameter amplifies the frequencies at, and around the cutoff frequency.

ENV = Mod Env Amount: sets how much you want the Modulation Envelope to affect the cutoff frequency.

ENV polarity (+ / -): When the polarity is positive, the Mod Envelope works as usual. With a negative value, the filter moves in the opposite direction. In this case, it is worth setting a higher cutoff freq value on the FREQ slider.

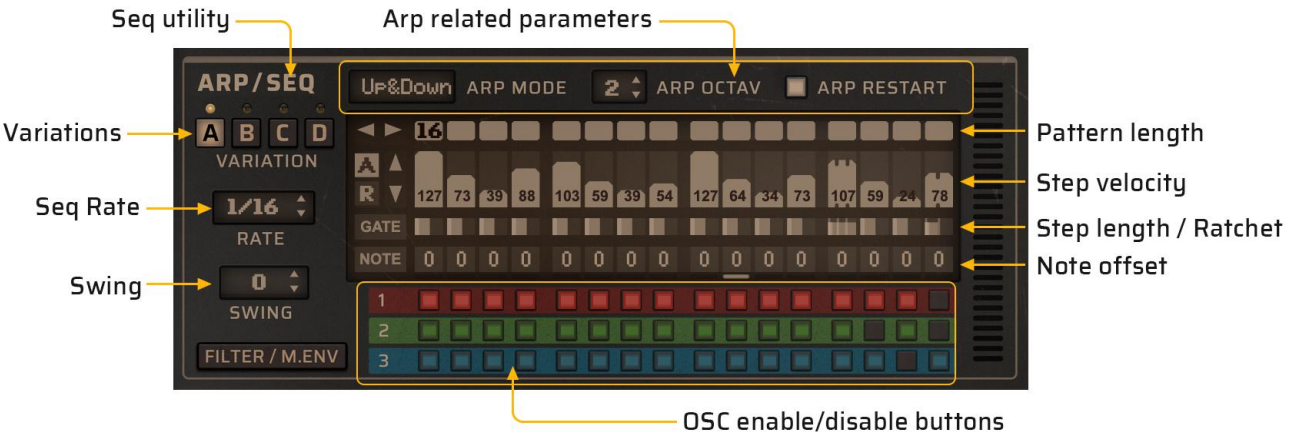
VEL = Velocity sensitivity: sets how much the cutoff/center frequency should be modulated by Keyboard Velocity.

VEL polarity (+ / -): Same as above, but for velocity. We probably rarely use it, but you can set a negative polarity value if you want. ;-)

KEY = Keyboard tracking: sets how much the cutoff/center frequency should track incoming MIDI Notes. Range: 0% (no tracking /constant frequency) to 100% (1 semitone per key).

5.2 Arp / Seq editor

It's a 16 steps pattern editor for the Step Sequencer / Arpeggiator.



Seq utility: you can access the advanced editing options by clicking on the ARP/SEQ label.

Arp related parameters:

- Arp mode : up, down, up-down, down-up, random
- Arp octave: 1 – 4
- Arp restart: restarts the arp when it reaches the beginning of the loop.

Variation: the step sequencer has 4 variations of all its parameters, you can choose among them with these switches. The Variation can be automated.

Seq Rate: you can set the desired Sequencer Rate (in relation to the main sequencer tempo in Reason).
Tip: if you Ctrl-click on the up/down arrow, the rate will double / halve.

Swing: is a rhythmic feature, that gives the music a more or less pronounced swing feel.

Osc enable / disable buttons: you can set which oscillator sounds at each step, in this way you can create interesting rhythms within the pattern. These settings can be automated.
Tip: by clicking on the 1, 2, 3 labels, the entire row of buttons can be enabled/disabled.

Pattern Length: sets the length of the currently active Pattern. Just click to the desired length or draw it horizontally. [Ctrl]-click will set the length to the default value (16). [Alt]-click will rearrange the pattern, where you click will be the first step in the pattern. For example if you [Alt]-click on the 9th step, the whole pattern will be wrapped left and the ninth step will be the first: a very quick way to rearrange the active pattern with a single click.

Important: the parameters discussed so far in this section can all be automated.
The following parameters cannot be automated. If you want to change them on the fly, set them in advance and use the Variation switch.

Step Velocity: you can set the desired velocity of each step by clicking and drawing on the grid and/or drag it up/down. [Ctrl]-click will set the value to maximum (127), [Alt]-click will set it to 0.
If you press shift while the mouse button is pressed, the editor will switch to "precise" mode. In this mode you can make very precise modifications by dragging it up/down. If you release the mouse button, the editor returns to normal mode.
If you move the mouse horizontally (while holding shift), the other patterns will be filled with the same value as the current pattern. If you hold down the Ctrl key (Command key on Mac) while moving the mouse, the patterns will be filled with the maximum value, and if you hold Alt, they will be filled with 0.

Step Length (GATE): you can select the desired note length for each step by clicking on the field and dragging it horizontally to adjust. The selectable values: 8, 16, 25, 33, 42, 50, 58, 66, 75, 83, 92, 100%.

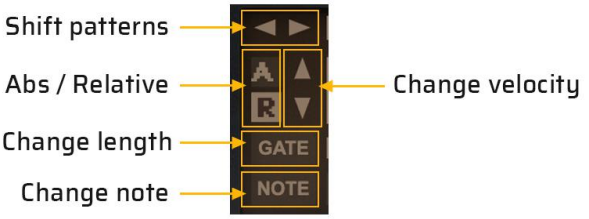
Ratchet: Ratchet is a Berlin school sequencing technique where a note in the sequence restarts multiple times, usually in a musical division of the tempo of the sequence.
Click and drag vertically on the gate field in the actual pattern to activate the ratchet feature. Moving up increases the number of ratchets, moving down decreases it. The function also works with Shift and Alt clicks.

Note offset: set a note offset to each step, can be used to create melodic sequences.
You can set the desired note offset by click-holding on the number and dragging up/down. The available range is +/- 24 semitones. [Ctrl]-click will set the default value (0).

Please keep in mind that in **Arp mode** the notes played will be a combination of the keys pressed and these offsets.

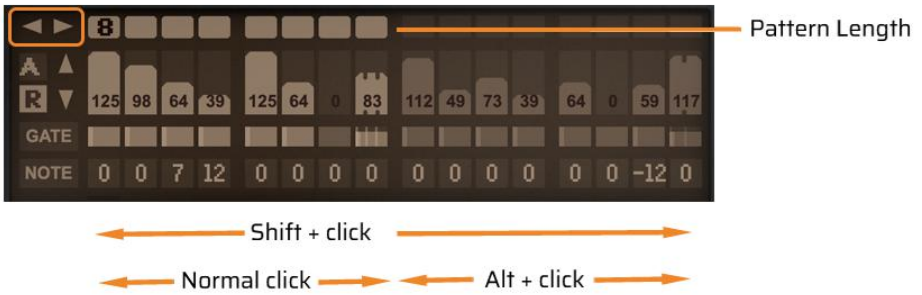
Pattern editing tools

You can find some useful editor tools on the LCD panel of the Step Sequencer.



Abs / Rel: sets the handling of the incoming velocity (absolute or relative). When the switch is set to ABS (**A**), the played velocities will be ignored and taken from the columns in the pattern grid.
When the switch is set to REL (**R**), the played velocities will be scaled by the columns of the grid.

Shift Patterns: It's a left-right momentary button, it shifts/rotates the elements inside the pattern length range left or right.
Special options: [Shift]-click moves the elements of the whole pattern, [Alt]-click moves only those elements that are outside of the pattern length range.



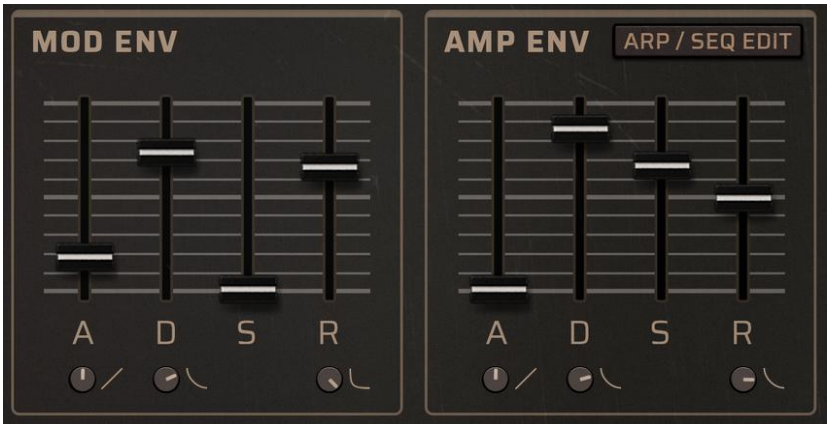
Change Velocity: you can increase or decrease the velocity of the steps in the pattern length range.
Normal click changes the values of velocities by five. For smooth changes press the [Shift] button.
[Alt]-click will change only those values that are not 0 (at increasing), or not 127 (at decreasing), it may help to keep the original sequence's structure.

Change Length: this button (**GATE**) has two positions: you can increase (right side) or decrease (left side) the steps's length in the pattern length range. Control/Command-click resets all values.

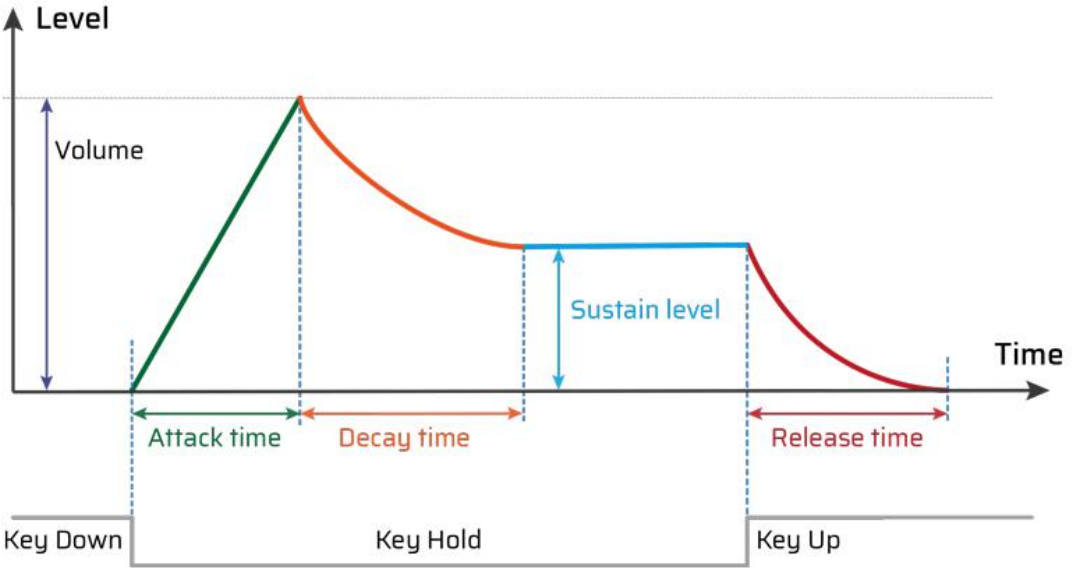
Change Note: same as the previous one, but it changes the notes in the -24 - +24 semitone range.
Control/Command-click resets all values.

6. ENV panels

By default, AMP ENV controls the volume change over time, and MOD ENV determines the time course of the filter's cutoff frequency. However, both can also be used as modulation sources in the mod matrix.
The two envelope generators are formally identical, so we discuss them together.



The Amp Envelope is a standard ADSR envelope which controls the amplitude of the corresponding Sound Engine over time. By default the Amp Envelope controls the Volume, but it also can be used as a modulation source in the Mod matrix. The picture below shows the various stages of the ADSR envelope:



A = Attack time: when you play a note on your keyboard, the envelope is triggered. This means that it starts rising from zero to the value set with the Volume knob. The length depends on the Attack time setting. If the Attack is set to “0”, the Volume value is reached instantly. If the Attack value is raised, it will take a longer time before the Master Volume value is reached.

D = Decay time: after the Volume value has been reached, the level starts to drop.
Its period is governed by the Decay time parameter. If you want to emulate the volume envelope of a note played on a Bass Guitar for example, the Attack should be set to "0", the Decay parameter should be set to a medium value and the Sustain level should be set to "0", so that the volume gradually decreases down to silence, even if you keep holding the key down. Should you want the decay to drop to some other value than zero, you raise the Sustain parameter.

S = Sustain level: The Sustain level parameter determines the level the envelope should rest at, after the Decay stage. If you set Sustain to full level, the Decay setting is of no importance since the volume of the sound is never lowered. Often a combination of Decay and Sustain is used to generate envelopes that rise up to the Volume value, then gradually decreases to finally land to rest on a level somewhere in-between zero and the Master Volume value. Note that Sustain represents a level, whereas the other envelope parameters represent times.

R = Release time: the Release time parameter works just like the Decay parameter, except it determines the time it takes for the volume to drop back to zero after you release the key.

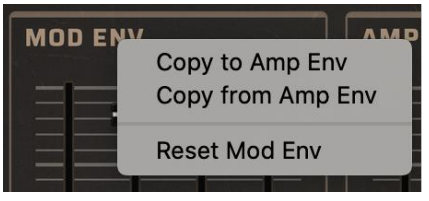
Curves knobs: you can set the curve shapes of the Attack, Decay and Release.
The small animation next to the curve knobs illustrates the current value and helps you set the desired curve type.

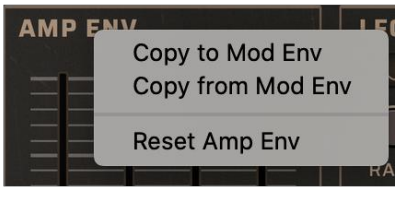
Attack curve: determines the curve shape of the Attack. The default setting is 0, which means linear curve. Positive value will result in a convex shape, the Attack curve is "rounded", the volume starts rising fast and reaches the final value slow. Negative value results concave shape, the Attack curve starts slow and reaches the final value fast (good for sudden rising sounds).

Decay curve: sets the curve shape of the Decay. The default setting is 50, which results in natural sounding logarithmic curves. Negative values give a convex shape, which means that the decay phase starts to fall slowly and reaches the final values quickly. At setting 0 the curve is linear. Positive value will result in concave shape, so the curve will start to fall fast and then reach the final sustain level slowly. Setting between +50 and +90 gives a logarithmic fade.

Release curve: determines the curve shape of the Release. The default setting is 85, which results in a natural sounding logarithmic fade.

ENV utility menu
If you click on the AMP ENV or MOD ENV label, a drop-down menu will appear: you can copy the envelope values back and forth between the panels, you can reset the envelope.





7. LFO panels

An LFO (Low Frequency Oscillator) is used for generating cyclic modulation. iUNO has three low frequency oscillators to use as modulator source in the mod matrix.

Waveform: click and drag up and down on the waveform display to scroll through the available shapes.
There are 8 waveforms available: Sine, Triangle, Square, Saw, Random (random steps), Drift (smooth random), Saw Up and Saw Exp (exponential decay).

RATE: controls the LFO frequency (Hz) in absolute mode. In tempo synced mode the Rate parameter controls the time divisions.

DELAY: turn the DELAY knob to introduce a delay before the LFO modulation kicks in after a note is played.

S = Beat sync or tempo sync: The LFOs have two modes: the frequency rates can be set in Hz (cycles per seconds) or in beats (quarter-notes per cycle). Selectable values: 16/4, 12/4, 8/4, 7/4, 6/4, 5/4, 4/4, 3/4, 2/4, 3/8, 1/4, 3/16, 1/8, 1/8T, 1/16, 1/32.

K = Key sync or Retrig: when enabled, the LFO restarts each time you press a new note, otherwise it runs free.
Please note that when Key sync is enabled, the LFO runs in polyphonic mode, each note has its own LFO modulation. It can be useful for tempo synced modulations. When Key sync is OFF, the LFO runs in monophonic mode. This latter can be useful for slow filter sweeps, panning effects, vibrato, etc.

U = Unipolar: LFOs are bipolar modulators by default. You can set them to unipolar as well.

8. Performance panel

The performance panel contains all parameters related to play mode and performance style.

PITCH: The Pitch bend wheel can be used for bending note pitches up and down. iUNO offers 3 modes: the traditional continuous glissando pitch bend in 0-12 semitones range, discrete legato and discrete retrigger mode. You can set the desired pitch bend range and/or mode with the "PB" range control. The default setting is 2 semitones (continuous).

Normal mode
(2 semi continuous)

Discrete Legato Mode
(+-5 steps Penta Minor)

Retrigger mode
(+-7 steps A minor)

Note: when Discrete Glissando is active, steps become visible next to the Pitch bend wheel.

PB SET
The PB SET button opens the PITCH BEND GLISSANDO setup panel, which offers various options, like scales, velocity settings of the retriggered voices, etc. See the **Pitch Bend glissando setup** section for more details.

MOD: The Mod wheel can be used as a modulation source in the Mod matrix. The synth also responds to MIDI CC#1 data from a connected MIDI master keyboard.

Performance Control: clicking on the small triangle you can select which one you want to edit / see from a drop-down menu. Available options: Aftertouch (default), Breath Control (CC# 2), Expression (CC# 11), Macro 1 and Macro 2.

TRANSP: transposes the synth in a range of -24 / +24 semitones.

LEGATO: if enabled, and you play a new note without having released the previous one, the envelopes won't start over. If disabled, iUNO will always re-trigger the envelopes as soon as a new note is played. Legato works slightly differently depending on the play modes.

- Poly mode: the newly played notes inherit / take over the modulations and envelopes of the previous notes.
- Mono and Chord mode: the previous note is muted, and the modulation continues on the newly played note.

– Arp and Seq mode: it works like a monophonic sequencer: if you set the gate length to maximum for the given step, it ties the note with the next one. If the next step is empty (0 velocity), its value is added to the length of the previous note.

Xfade time: you can define the fade in / fade out time between the old/new notes. It's not interpretable in poly mode.

GLIDE: (or portamento) allows the synth to regularly slide in pitch with each new note.
Glide modes: off (no glide), on (always glide), auto (only glide if a key is already held).
Glide time: specifies in how much time the sound slides to the next key.

HOLD: also known as "Latch": if the Hold is active (lit button), the sounds (notes, sequences, arpeggios) will continue to run even if you release all keys. It will continue to hold the last notes played until a new note-on is received. In Arp mode, if you continue to hold down at least one key when Hold is on, any new notes will be added to the existing arpeggio as opposed to starting a new arpeggio.
The Hold function is great for keeping the synth playing notes while programming, or if you want to play another instrument, the Hold will have your hands free. You only need to get back to iUNO when you want to change notes.

The effect of the Hold is different from the sustain pedal: the sustain pedal suspends all releases. In the case of the Hold, if you release all the keys and press a new one, the notes held until then will be released and only the new ones will sound.

PLAY MODES

POLY: this is the default polyphonic mode. You can set the oscillator's polyphony using the VOICES parameter.

MONO: switches iUNO to a classic monophonic mode.

CHRD: Chord mode similar to mono mode, but you can define up to 3 additional notes to play chords.

ARP: the Arpeggiator generates rhythmic note patterns (arpeggios) from notes or chords. See the Arp / Seq Editor for the advanced options.

SEQ: Step sequencer. The Sequencer is polyphonic, which means each sequence runs independently from each other, and you can play and trig entire chords or polyrhythmic runs. See the Arp / Seq Editor for the advanced options.

9. FX section

iUNO has three effects, connected in series: Compressor, Delay and Reverb.
The parameters of the effects can be automated and modulated with Macro or external controllers.
Each FX has 3 modulation slots. Click the **FX MOD** button to set the modulations .

Adjustment of modulations

9.1 COMPRESSOR

Punchy compressor effect for controlling dynamic range and shaping transients.

ON/OFF switch: you can enable or bypass the effect

P F S switch: sets detector mode.
Punch: follow envelope below threshold, which increases attack punch as the envelope has further to come back up.
Fast: normal envelope detection with fast attack and release.
Smooth: Release slows down as signal falls below threshold.

Threshold: audio level above which compression is applied.

Attack: time it takes for gain reduction to increase when the signal level rises

Release: time it takes for gain reduction to increase when the signal level falls

Gain: adjust the output volume to compensate for any loss in level due to compression.

Ratio: amount of gain reduction to apply

Dry mix: mixes compressor output with input signal.

9.2 DELAY

Stereo delay effect with adjustable feedback routing.

ON/OFF switch: you can enable or disable (bypass) the effect

TIME: sets the delay time

FEEDBACK: feedback form delay output to input to create multiple repeats

DAMP: lowpass filter for progressive damping of each delay repeat

SYNC: sets the TIME parameter to seconds or quarter-note beats

RATIO: Negative values reduce the left channel delay, positive values reduce the right channel delay.

FEEDBACK MODES:

- Stereo: normal stereo mode, the feedback is taken from both channel.
- Cross: the input L/R channels are swapped for feedback, if the original sound is coming from the right, the delay is from the left and vice versa
- Ping-Pong: the delay repeats alternating from the left and right channels.

9.3 REVERB

Algorithmic reverb with a range of preset room/space models.

ON/OFF switch: you can enable or disable (bypass) the effect

TIME: Length of reverb tail.

PRE: Pre delay. Initial delay before reverb.

SIZE: Scale the size of the room.

H.DAMP: Progressive loss of high frequencies in reverb tail.

P. MOD: Pitch modulation within the reverb for a richer sound.

MODE: a drop-down menu that allows you to choose from a variety of room shapes and reverb types.

There are two more hidden parameters: **DIFFUSION** and **WIDTH**.
These parameters can only be changed via modulation. To change their default value, click on the **FX MOD** switch, select constant source and select them as destination.

10. Pitch Bend glissando setup

In music, glissando is a glide from one pitch to another. The traditional pitch bend was developed to create continuous glissando in a specific range. Although it's suitable for many instruments, like guitar, fretless stringed instruments or many synthesizer sounds, some instruments can't bend the pitch in this way (eg. piano, organs, saxophone).
iUNO has a special playing mode that you may have already seen in our Maia synth: you can create discrete glissando using the pitch bend. It's a new performance mode, you can use it for a melodic run, as a guitar strummer or even as a harmonizer for chords.

To open the setup panel, click on the **PB SET** knob (located in the lower left corner).

When you open the panel and the Pitch bend is in continuous mode (0-12), all options are grey. This is normal, since these options can only be interpreted in discrete mode. Click on one of the discrete modes: this can be legato or retrigger mode.

Discrete Legato mode

This mode is very similar to the continuous mode, except the pitch doesn't bend, it changes in discrete steps. Legato mode can be useful for sustained solo or bass sounds.
As you can see, in this mode only the SCALE and the STEPS can be changed (in the range of +/- 12 semitones and 1-8 steps).

Discrete Retrigger mode

If you turn the pitch bend in retrigger mode, it generates new notes according to the specified scale. Retrigger mode reveals all options, let's see them in more detail.

SCALE

You can choose a preset or you can select custom if you want to create your own scale in +/- 2 octaves range.
Note that the range of traditional scales is one octave.

ROOT

The root select bar is only active in retrigger mode. The default mode is "Key": in this case the scale's root note is the note you played – similar to Legato mode. If you select a root (eg. "A"), this root and the scale (eg. minor) will determine the possible notes and forces the pitch bend to trigger only this scale's notes, so each generated note will stay in A minor.

NOTE / VELOCITY switch

This switch only active in "custom scale" mode, since the scale of the preset values cannot be modified.
You can select which values you want to edit on the Glissando steps buttons: the custom scale or the velocity values of the steps.

Copy switches

If the VELOCITY switch is active, or you have chosen a scale preset, these small switches copy the velocity values between the upper and lower step buttons.

If you edit a custom scale and the NOTE switch is active, they will be red if the scale is invalid.

What does this mean? A scale is valid only if the step values change in one direction, starting from the root note, and the pitch range does not exceed 1 octave. In this case, the algorithm tries to calculate the correct values in the other direction. If the switch is red, it will simply mirror the values.

Special keys: alt-click will mirror the values, shift-click duplicates them to the other direction's steps.

Glissando steps

There are two rows for the steps, the upper row is for the upward values, and the lower row is for the downward values.

If the **NOTE** switch is active (custom scale), you can adjust these values by click-holding and moving the mouse up/down. Ctrl-click set it to 0. Shift- or alt-click adds or subtracts one octave, depending on its current value.

If the **VELOCITY** switch is active, you can adjust each step's velocity in 12 steps. The default setting (ctrl-click on it) is 8, it results neutral value (same as incoming velocity). You can expand the played velocity up in 4 steps or scale down in 7 steps. Please note that velocity switch is always active for preset scales. You can copy the preset values to a custom scale, and then modify the notes.

STEPS

You can specify the number of steps between 1-8. Most of the scales are pentatonic or heptatonic, the only exception is the Diminished preset, which is octatonic. The default settings (ctrl-click) depend on the current scale.

11. Master Out

EQ: it's a Baxandall-style Master EQ, with bass and treble amount control. You can modify the frequencies on the back panel (EQ TWEAKS), the default values are 160 Hz and 5 kHz.

LIMITER: this is a safety limiter to keep levels in check, with a fixed 0 dBFS threshold.

WIDTH: controls the stereo width of the instrument.
At 0%, the output will be completely monoaural. For normal full stereo field, set it to 100%.

Volume sets the main instrument's volume.

12. Back Panel

Important: please keep in mind that CV connections are not stored in the patches! If you want to store CV connections between devices, put them in a Combinator device and save the Combi patch.

The back panel contains three sections: CV inputs, CV outputs and Audio out.

12.1 CV inputs

Seq Control Input: the Sequencer Control CV and Gate inputs allow you to play iUNO from an another CV/Gate device (eg. Maia, another iUNO, Matrix or RPG-8). The signal to the CV input controls the note pitch, while the signal to the Gate input delivers note on/off along with velocity (0 velocity = note off).

Modulation in: these inputs can receive external CV messages from other Reason devices. The values of these CVs are merged with the incoming MIDI CC values that the synth receives. CV 1 - 4 and the external midi controllers can be used in the Mod matrix as a modulation source.

Small **control LED**s next to the labels show the CV input/output values. Positive values are green, negative values are blue, and the brightness changes proportionally to the absolute value.

Trim knobs: all external controller inputs have an associated Trim knob. This is used to set the CV "sensitivity" for the associated parameter.

Brightness: sets the opacity of the CC value bars in the mod source panel.

12.2 CV outputs

Output 1 / 2 / 3: Each oscillator has its own separate CV output. Please note that if you disable an oscillator on the Osc panel, the corresponding CV output will also be disabled.

GATE transmits a gate/velocity value that corresponds to the Velocity parameter.
NOTE transmits the note CVs generated by the sequencer or the notes you input to the synth.

These outputs send processed values, not simply copied from the midi input: if you set the play mode to mono, the sounds will be played in mono behavior. When you play a note in chord mode, the same chords will be sent as you hear from the synth.

Controller outputs: Mod Wheel, Pitch Bend, Aftertouch values, combined/merged with the corresponding control input values. Macro outputs 1 and 2 are also available here if you want to use the Control Pad with other devices (or for example you want to tweak EQ parameters with Macros).
If you want to connect these outputs to more than one inputs, use the “Spider CV Merger & Splitter” utility.

12.3 Audio out

Stereo output of the synth. When you create a new iUNO device, these outputs are auto-routed to the first available Mix Channel in the Reason main mixer. If there is no Mix Channel available, a new one will be automatically created.

Credits

Andras Haasz: concept and UX design, programming, sound recording & editing, sound & patch design

PinkNoise Studio: GUI design

Special thanks to:

- Bes
- Loque
- Mihaly Botyanszki
- MrFigg
- Patrick Maerker

iUNO webpage:

https://www.reasonbanks.com/re_iuno.html

Trademark disclaimer: all product names used are trademarks of their respective owners, and in no way constitutes an association or affiliation with PinkNoise Studio or Reason Studios.