Phonec v2.3

VST/Audio Units for Windows & Mac 64 bit

Table of Contents

Introduction

Phonec2 is the successor to the original Phonec synthesizer, which was inspired by the mystique of video logos you hear at the beginning of worn out VHS tapes. This time around it's available for both Mac and PC as a 32/64 bit VST and Audio Units plugin. Phonec2 has all the great features of the original plus many new features and several improvements.

Phonec2 is capable of producing a wide range of sounds such as vintage analogue tones, lo-fi synthscapes, ethereal pads, minimal techno sequences, retro synthwave leads and hard hitting synth basses. Phonec2 has an intuitive GUI that attempts to strike a balance between form and function, making it a very usable tool that can be a real inspiration to work with. Apart from it's unique character and excellent work flow, Phonec2 has many exciting new features that make it better than ever. For starters, there's plenty of improvements in the overall signal flow. From the oscillators to the EchoShifter and everything that gets Melted in between, each section has been reworked to create the best Phonec experience yet.

To install Phonec2, simply double-click on the installer file and follow the on-screen prompts. If you just want to try out a demo version, download the correct installer from the **Phonec page**. The demo version is fully functional with the exception of occasional sound dropouts. (*The demo version is independent of the full version, so it will need to be uninstalled separately.)

System Requirements:

Windows: Windows XP or higher 32/64 bit

Mac: OSX 10.5 or higher 32/64 bit

After installing the plugin into your chosen plugin folder, the installer will copy two folders, one for banks, the other for presets, into the following locations based on your OS:

Windows: the folders are located in **C:/Users/Public/Public Documents/Phonec_2/**.

Mac: the folders are located in **Users/Shared/Phonec_2/**.

In order for the patchbank and sub-preset system to function properly, preset and bank files must be saved to the correct locations. Presets, Sub-Presets and MIDI configurations should be saved to the 'Presets' folder. Banks should be saved to the 'Banks' folder. This will allow you to access your presets directly from the plugin's interface via dropdown lists. For more info about the Patchbank system, **see this section.**

Phonec2 comes equipt with a bank of 128 presets. Go through these to familiarize yourself with the types of sounds that are possible. Also, experiment with loading different Sub-presets into each section that supports them. This allows you to mix and match in order to create totally new sounds.

Let's take a closer look at each section, their inner workings and methods of operation.

Oscillators
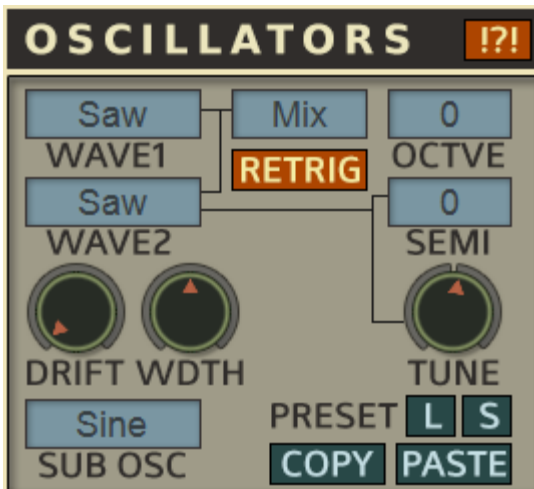
Phonec2 uses four oscillators total. A Dual Oscillator system (Osc1/Osc2), a Sub Oscillator and a Noise Oscillator (which can be controlled from the Mixer section). The Dual Oscillator section has separate waveforms for Osc1 & Osc2, using the **Wave** selectors to choose between nine different waveforms each. The **Octave** selector changes the pitch of both oscillators, ranging from -2 octaves to +3 octaves. The **Semitone** selector changes the pitch of Osc2 from -12 semitones to +12 semitones. Having this wide of a range of semitones for Osc2 can be very useful, for example if you want to lower Osc2 an octave, set it to -12. Try different semitone settings like 5 or 7 to get more of a jazzy sound. Osc2 also has it's own **Tune** control for de-tuning effects, which can produce a thicker sound when both oscillators are played together.

The Dual Oscillators can be combined in several different ways including ring modulation, oscillator sync and various logic functions. To choose a different combination mode, select the drop-down box next to Wave1. This is set to **Mix** by default. Experimenting with these routings can produce interesting and unexpected results. Below is a brief explanation of each mode.

Mix: Mixes the two waveforms traditionally, the levels can be controlled using the Osc1/Osc2 knobs in the Mixer section.

And/Or/Xor: The output is combined using simulated logic gates.

These are for experimental use and can produce strange, gritty sounds. The resulting sound depends on the level of each oscillator. When any of these modes are activated, a 'Logic' control will appear beneath. This will tune the logic switching point. More on this is elaborated below.

Ring: One input controls the level of the other by multiplying the two. No output is produced unless both signals are audible. This produces a metallic 'ring' type sound.

Sync: The pitch of Osc2 is synced to Osc1, so any changes to Osc1's pitch will affect Osc2, regardless of whether Osc1 is audible or not. This can produce really interesting sounds, especially when using an LFO or envelope to modulate the pitch of Osc2.

X-wave: Osc1 and Osc2 are mix-modulated at high speed, producing a combination of the two waveforms. Changes to Osc2 will result in altering the sound of Osc1.

The **Sub Oscillator** is one octave lower than the dual oscillators. This oscillator can be used to fatten up the signal with a Sine, Square or Triangle waveform.

The **Width** control adjusts the Pulse waveform's width. Set this to 50% for a solid pulse wave. Turning the knob left or right will thin out the waveform.

A **Logic** control will appear when in any of the And/Or/Xor modes. This knob ranges from precise logic, to the unpredictable. Basically, what's happening is, the two waveforms are combined to produce a result. So when set all the way left to 0, the resulting sound is only the peak of all combined waveforms, and you get what sounds like a square wave. But when the knob's level is increased, a gray area is introduced that allows lower points in the waveform to seep in. This will result in a very unpredictable sound that can be quite interesting. This function is not common in synthesizers and is meant to be explored with a sense of

experimentation.

The **Drift** control determines how much the oscillators drift in and out of the set pitch range. This can create an unstable sound similar to that of early analog synthesizers. Each oscillator will drift separately unless synced, so it may produce a detuning effect.

Activate the **Retrig** switch for re-triggering the oscillator phase on each note. This will produce a much more solid sound because the oscillators are triggered at the same point in the waveform on each note. This is excellent for outrun-style basslines and arpeggios.

The Oscillator's **!?!** switch will randomize all Waveforms, Combination mode, and Width.

The entire Oscillator section's control settings can be saved as a Sub Preset, which can be loaded back up at anytime. To save your oscillator settings as a Sub Preset, click the **S** switch. To load a Sub Preset, click the **L** switch. Keep in mind that the Mixer settings, which are the Oscillator volumes, are also saved with Sub Presets.

The **Copy/Paste** switches allow you to copy all of the settings of the controls in the Oscillator and Mixer panels and paste them from one preset to the next. This can be very beneficial for patch creation by combining elements of one sound with another. A nice trick is to use this in conjunction with the randomizer. If you get something you like, copy it, and you can keep randomizing. If you aren't happy with the results and want to go back to the settings you liked, it's there for you to paste back.

*There's a hidden feature on the 'About' panel for reducing Oscillator Harmonics. This can create some interesting Lo-Fi tones. Try it on a bright waveform while using a scope tool to see what it's doing. Harmonics can be reduced from 1024 to 1.

Filter

The Filter section is made up of a 12/24db switchable Lowpass Filter feeding into a 2-pole Highpass Filter. The **LPF** and **HPF** knobs control the cutoff frequencies of each. The LPF has 8 different Filter variations plus a special Acid Filter with it's own distict sound. The HPF is a post-filter high pass unit that can tame low end rumble and wild resonance. It can give Phonec a more pleasant sound if used to filter out ugly frequencies. Using both filters together can sound like a bandpass filter. The small Orange Button under the HPF control applies resonance to the Highpass Filter as well as allowing it to be tracked alongside the LPF.

The **Sep** switch activates a third stage to the LPF. When activated, the knob above this switch will adjust the separation between stages. When the Sep control is increased, the cutoff frequency from the third stage is separated from the two LPF stages. This produces an interesting effect that can almost sound vocal with higher resonance.

The **Env** control adjusts the level that the LPF is modulated by the envelope it is assigned to. The envelope can be selected under this control. If set to **LPF**, it will use the dedicated filter envelope below. If set to **Amp**, the filter will follow the Amp envelope.

Gain produces an increase in overall volume that can cause distortion when pushed to high values. It can be set to **Pre** or **Post**, for pre-filter or post-filter distortion. When either of these are selected, a limiter will be imposed to tame the signal. When set to **Off**, no gain or limiter will be imposed on the signal.

Filter Saturation can be applied to the Resonance with the **Sat**

and **Drive** controls. Turn the Sat knob up for full saturation, and all the way down for no saturation. There must be some resonance applied to the filter before any saturation kicks in. The higher the resonance, the more saturation takes place. The Drive control next to it will increase the Saturation Drive for further distortion of the tone. Drive will only function if saturation is above 0.

Use the **Track** control to map the LPF (and HPF if linked) cutoff frequency across the keyboard range. Adjust left for high to low, and right for low to high.

The Filter's output can be mixed with the Oscillators output at various increments using the drop-down menu at the top of the filter section. 100% is an all wet signal.

The Filter's dedicated Envelope is beneath the Filter section. Here's a detailed explanation of each control.

A - Attack: When a note is played, this control determines the time that the filter reaches it's maximum cutoff frequency as set by the cutoff knob.

D - Decay: Once the attack level is reached, the decay time kicks in and brings the filter cutoff down into the next stage.

S - Sustain: Once the sustain stage kicks in, the filter cutoff is held at this level until the note is released.

R - Release: When the note is released, this control determines the amount of time it takes the cutoff level to reach the original level from which it started.

T - Time: This control has a default center point. If raised above the center, the overall envelope will increase in time or length, for a much longer envelope. If moved below the center point, the overall envelope will become much shorter. Longer envelopes are good for pads and evolving sounds, and shorter envelopes are good for percussive or bass sounds.

V - Velocity: The higher this control is set, the more velocity will be applied to the LPF cutoff, meaning high velocity notes will have a higher filter cutoff, whereas low velocity notes will have a lower cutoff. If this control is set to 0, all notes will have the same filter cutoff as set by the cutoff knob.

The **Invert** switch will invert the envelope, while the selector beside it allows you to change the envelope contour to either Linear, Exponential or Inverted Exponential.

The Filter's **!?!** switch will randomize the LPF, Res, HPF, Filter Type and all Envelope parameters.

The **Copy/Paste** switches allow you to copy all of the settings of the controls in the filter and envelope panels and paste them from one patch to the next. This can be very beneficial for patch creation or combining elements of one patch with another. A nice trick is to use this in conjunction with the randomizer. If you get something you like, copy it, and you can keep randomizing. If you aren't happy with the results and want to go back to the settings you liked, it's there for you to paste back.

The entire Filter section's control settings can be saved as a Sub Preset, which can be loaded back up at anytime. This includes the Filter Envelope controls. To save your Filter settings, click the **S** switch, to load a Sub Preset, click the **L** switch. Keep in mind that the Filter Envelope settings are saved with the Filter's Sub Presets.

The EQ switch at the top right will open up a panel to display a 3-band fully parametric EQ. See more about this below.

EQ
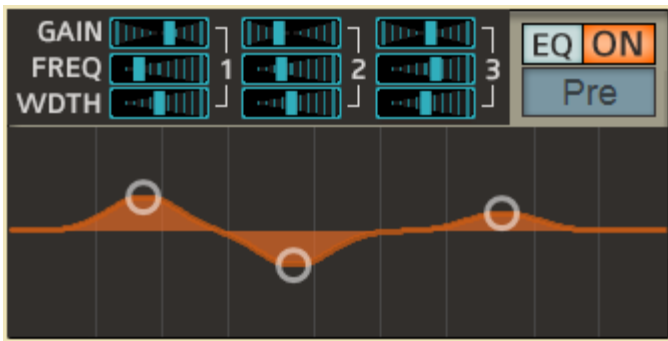
Click on the blue EQ switch at the top right of the Filter section to reveal a 3-band fully parametric EQ with adjustable controls. The orange **On/Off** switch will activate the EQ. The selector box below these switches will route the EQ **Pre** or **Post** EchoShifter. All of the EQ's controls can be assigned to MIDI, so it's possible to get some cool effects by sweeping across the frequency spectrum. Routing Pre-delay is useful for getting delayed frequency sweeps.

Each band has it's own set of controls which are discussed below.

> **Gain:** Will increase or decrease the level of the frequency band by adjusting the control left or right. (-18/+18 db)
>
> **Freq:** Sets the frequency band in Hz. (20/20480)
>
> **Wdth:** Controls the frequency band's width or Q by narrowing or widening.

*The EQ can be used as an effect on external audio by utilizing Phonec's audio inputs.

Mixer

The Mixer section controls the overall volume output of each individual oscillator. This is also where you will find the External Audio function.

Osc1: Controls the volume of Oscillator 1

Osc2: Controls the volume of Oscillator 2

Sub: Controls the volume of the Sub Oscillator. This oscillator is tuned one octave down from the Octave set by Dual Oscillators (Osc1/Osc2). Use this control to give your patches more low end.

Noise: Controls the volume of the Noise Oscillator. This is a basic white noise generator that can be used to dirty up the signal. The Noise Oscillator uses it's own 2-pole **LP** (Lowpass) and **HP** (Highpass) filters to color the sound. Move the HP control to the right to open the highpass and brighten the sound. Move the LP control to the left to close the lowpass filter, for darker sounds.

EXT: Phonec can be used as an audio effect unit, allowing an external audio source to pass through it and utilize the Melt effect as well as the EQ, Chorus and EchoShifter effects. Switch on the 'EXT' button to hear the external audio signal. If this is switched off the external sound will not pass through. Keep in mind that Melt must be switched to Tape mode in order for External Audio to pass through.

For a more in depth explanation of how to use external audio processing in Ableton Live, **have a look at this tutorial.**

Amp
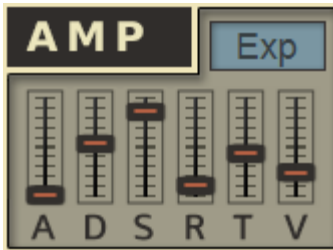
The Amplitude Envelope controls the overall volume when a key is triggered. This envelope can control the filter as well if assigned to it.

A - Attack: When a note is played, this control determines the time that the amplitude reaches it's maximum level.

D - Decay: Once the attack level is reached, the decay time kicks in and brings the volume down into the next stage.

S - Sustain: Once the sustain stage kicks in, the volume is held at this level until the note is released.

R - Release: When the note is released, this control determines the amount of time it takes the volume to fade out.

T - Time: This control has a default center point. If raised above the center, the overall envelope will increase in time or length, for a much slower envelope. Bringing the slider below the center will decrease the length for much shorter envelopes. Longer envelopes are good for pads and evolving sounds, and shorter envelopes are good for percussive or bass sounds.

V - Velocity: If set above 0, high velocity notes will have a louder volume, whereas low velocity notes will have a lower volume. If set to 0, all notes will have the same volume.

Melt

Melt is an unusual feature that takes the idea of 'Analog Character' much further by producing instability, drifting and warbling in both pitch and amplitude. Melt makes it easy to achieve the "VHS" sound, giving your audio the ghostly quality of forgotten formats and machineries of the past.

Melt can be modulated by the Mono LFOs 1 & 2, as well as the Mod Envelopes. (**Please note: The envelopes will only modulate Melt in Circuit mode.) The nature of this effect is unpredictable, and is meant for adding subtle character, but can be pushed to extremes at high values if desired. If the knob is turned all the way to the left, the effect is bypassed.

Melt uses two different Systems, A and B. System A modulates Pitch and Amplitude using a slow drift, gliding modulation with added jumps. System B uses a more complex dual-speed modulation and has the added capability of affecting the HFO pitch as well. The System controls are hidden, but can be accessed by clicking the 'Hidden Panel' switch beneath the Melt knob. More info about these controls below.

The drop-down menu allows you to choose the Melt Routing Mode. If set to 'Circuit', the Melt modulation is internally hardwired to the pitch of the oscillators, so the effect occurs before the Filter and EchoShifter. If set to 'Tape', then Melt becomes an outboard effect, where the modulation is pitch-shifted and takes place after the EchoShifter. This setting can be interesting because it will affect everything including the Filter, the Noise Oscillator and even the delayed signal from the EchoShifter. However, using Tape mode may cause noticeable delays on patches with fast attack times such as arpeggios and sequences. To control this, adjust

the 'Buffer' control on the hidden panel. This is discussed in more detail below. In most cases you may find it more practical to use the 'Circuit' setting for most patches. Tape mode is provided mainly to allow External Audio processing, but can be used in any patch if desired. It is suggested to use Tape mode on pads and atmospheric sounds rather than rhythmic. Tape mode is an external, pitch-shifter based effect, so external audio can pass through Phonec to take advantage of this feature. Keep in mind that to hear the Melt effect on external signals, Phonec must be set to Tape mode. Read more about the External Audio function [here](#). By default Melt is set to Circuit Mode.

For better control of the overall Melt sound, a hidden panel can be opened up to reveal a different set of internal controls for both Systems A and B. These controls can fine-tune the Melt effect to taste. To open the panel, click on the switch area beneath the Melt knob. Below is a description of the controls on each panel.

Melt System A uses a singular drifting modulation with added jump effects.

Pitch: Adjusts how much the overall pitch is modulated when the Melt level is turned up. Move the slider to the right for more pitch modulation and to the left for less.

Jump: This will cause additional random jumps to the pitch modulation. This is a more occasional modulation that acts as a counterpart to the pitch modulation. Move to the right for more sporadic pitch jumps, and left for less.

Amp: Adjusts how much the Melt control will affect the amplitude. Move the slider to the right for more amp modulation. This effect can

be turned completely off by moving the slider all the way left.

Blend: Controls how smooth the overall modulation will be. Move the slider left for choppy modulation, move right to smooth it out.

Speed: Determines how fast the overall modulation will be. Left for slower, right for faster.

Buffr: (Buffer) Strictly for use while in 'Tape' mode. Use this control to make adjustments if you notice any audible delays produced by Tape mode's pitch-shifting effect. If moved to the left the delays become less noticeable, but the pitch-shifting will produce more noise, move to the right for a cleaner sound. However the further right, the delays might become more noticeable. *Note: This control functions for both System A and B.

Melt System B uses a dual-speed modulation, where two speeds (wow and flutter) can be mixed between. So essentially Melt can be both fast and slow at the same time. A special feature of this system is the ability to modulate HFO along with the Pitch and Amplitude. This can produce a very interesting effect, creating strange movements to the sound that are not normally heard in synthesis.

Pitch: Adjusts how much the overall pitch is modulated when the Melt level is turned up. Move the slider to the right for more pitch modulation and to the left for less.

Amp: Adjusts how much the Melt control will affect the amplitude. Move the slider to the right for more amp modulation. This effect can be turned completely off by moving the slider all the way left.

HFO: Adjusts how much the HFO pitch is modulated when the Melt level is turned up. This is more of a subtle modulation, but in this case, subtly is key. Move the slider to the right for more HFO modulation. This effect can be turned completely off by moving the slider all the way left.

Speed 1 (Wow): This determines the slow modulation speed. Left for slower, right for faster.

Speed 2 (Flutter): This determines the fast modulation speed. Left for slower, right for faster.

Speed Mix: This control, located between the two speeds, can mix them together. If the slider is centered, both modulations can be heard, producing a slow drift with fast fluttering. Move the slider left for more of the slow modulation, move right for more of the fast modulation.

To return to the main panel, simply click the area above the controls to close it.

These controls can be randomized using the **!?!** switch. This will not randomize the main Melt level, only it's internal controls. This is great for getting unpredictable results while maintaining your Melt depth setting.

EchoShifter

The EchoShifter is a hybrid pitch-shifting dub delay unit. It is capable of some very interesting effects, from detuned space echoes to otherworldly atmospheres. The feedback, when cranked up, can become an infinitely evolving sound source. Here is an overview of what each control does.

On/Off: Activates the EchoShifter effect. Switch this off to bypass the effect entirely.

Rate: The selector box chooses the BPM-synced delay time.

Lngth: This control works in conjunction with the delay rate, increasing the length of the delay time indicated above. If the Step switch is disabled, then this control will act as a manual delay modulation control.

Step: If activated, the Lngth control will snap to tempo. If deactivated, the Lngth control will freely control the delay modulation.

Dot: Converts the selected delay time into dotted notes.

Pong: Activates Ping-Pong mode. The delays are bounced from left to right.

Shift: This will pitch-shift the delays up or down. Turn left for down shifting, right for up. Slight adjustments will produce a detuned delay effect, while hard left/right adjustments will produce extreme pitch-

shifting delay effects. Pitch-shifting will be more pronounced with more feedback.

Phase: Adjusts the dry/wet mix of the delay and pitch-shifted delay. This will produce a strange phasing effect best heard with long feedback signals. Be careful when turning the phase up while the Shift control is centered. This can cause the feedback to spike. To avoid this, turn the Shift either left or right.

LP: A 2-pole lowpass filter that acts as a delay damper. When turned to the left, the delays will slowly sweep to the cutoff point.

HP: A 2-pole highpass filter that acts in the same way as the lowpass. When turned left, the delay will slowly sweep to the highpass cutoff point.

FDBK: Controls the delay feedback. When all the way up, it will produce never ending echoes.

Level: Controls the overall delay level.

The entire EchoShifter panel's control settings can be saved as a Sub Preset, which can be loaded back up at anytime. To save your settings, click the **S** switch, to load a Sub Preset, click the **L** switch.

Chorus
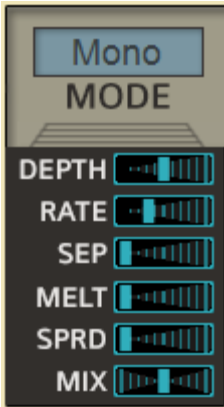
At the bottom of the Master control panel is a 2-voice Chorus effect. At first glance it appears to be a single switch effect, and can certainly be used that way, but clicking beneath the switch reveals a hidden panel for adjusting a full set of parameters. These are explained below.

Depth: Adjusts the overall depth of the chorus. Move the slider to the right for a much more pronounced effect.

Rate: Adjusts the rate of modulation. Left is slower, right is faster.

Sep: Adjusts the separation of the modulation rates of the two voices. If set at 0, then both voices will modulate at the speed set by the Rate control. The higher Separation is turned up, the slower the 2nd voice will modulate.

Melt: Modulates the Rate of the Chorus with a built-in Melt effect.

Sprd: offsets the right channel to create a wider sound. Move the slider to the right for a more delayed signal on the right channel.

Mix: The Dry/Wet Mix of the Chorus. Fully left is dry, for no effect. Fully right is 100% wet.

*The Chorus can be used as an effect for external audio by utilizing Phonec's audio inputs.

Modulation

The Modulation section is consolidated into a multi-page panel with a switchboard at the top for selecting which panel to edit. The **blue switches** select the modulation editing panel, and the orange **on/off** switches turn each modulator on or off. This can serve as a quick reference to show which modulators are currently active. The modulators consist of 3 LFOs, an HFO, an envelope panel with 2 mod envelopes and an aftertouch panel. Below are descriptions of each modulator.

LFOs
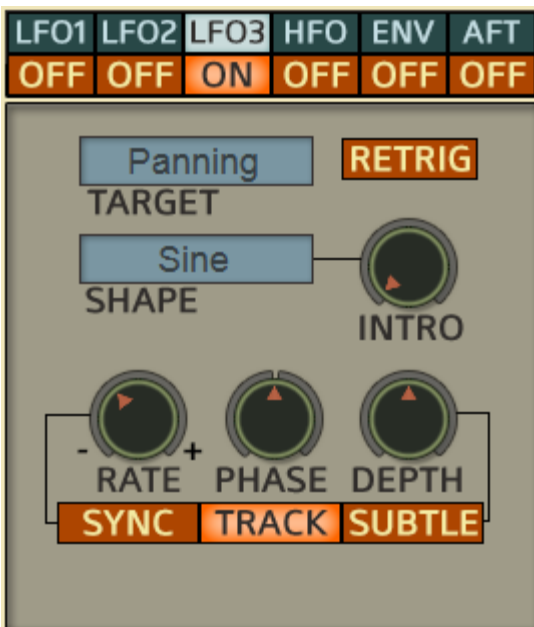
Phonec2 has three LFOs (Low Frequency Oscillators) that can modulate various parameters such as pitch, filter cutoff, panning, etc.

LFOs 1 & 2 are **monophonic**, meaning that the modulation will flow the same path regardless of when a note is hit.

LFO 3 is **polyphonic**, which means that each note will trigger a

new modulation path. This LFO can also be tracked across the keyboard range. This will allow for fast modulation on the higher notes and slower modulation on the lower notes, creating variations in LFO rhythm. This is an uncommon feature and is suitable for creating rhythmic modulations for pads and ambient soundscapes.

Aside from these differences, all three LFOs share similar features that are detailed below.

Target: Chooses which parameter the LFO will modulate.

Shape: Chooses the waveform that the LFO will travel during modulation.

Retrig: Activate this switch to re-trigger the waveform at the same position on each note. This can be useful for replicating a particular sound for each note on. Use this in conjunction with the Phase control for setting the exact starting point the waveform will start on each triggered note.

Intro: This is like an attack control for the LFO. Turn this up to slowly fade-in the modulation.

Rate: If **Sync** is activated, you can define the LFO rate from a drop-down list of time measures and the LFO will be BPM-synced. If deactivated, the rate will be in **Manual** mode and display a knob that allows the rate to be adjusted freely by turning the control from left to right (slow to fast).

Phase: This knob is centered and will offset the modulation path if turned to the left or right.

**Depth:** Controls the amount of modulation produced by the LFO.

Subtle: When activated, this will make the modulation Depth much more subtle, producing a low-level modulation. This is handy for times when you need just a small amount of modulation for subtle

effects.

Track: When active, this switch will track the speed of the LFO across the keyboard range from slow to fast. This function is only available on LFO 3, and only works in manual mode. The switch won't appear until Sync is de-activated.

The LFO's **!?!** switch will randomize the Target, Shape, Phase and Rate parameters.

HFO
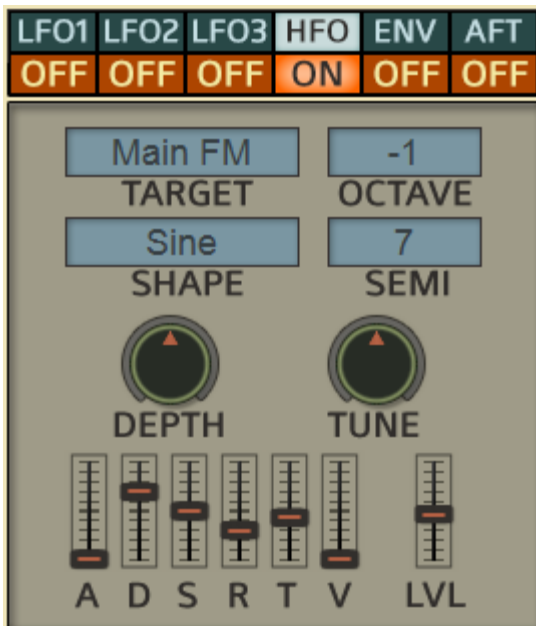
The HFO is a unique modulator best described as a cross between a standard LFO and an FM Oscillator. HFO stands for **High Frequency Oscillator**, so basically it's a really fast LFO. The pitch is set to note, so that it's more musical than a fast LFO would be, this makes it similar to a stand alone FM oscillator. But the HFO can do much more than just typical FM. It can do Filter FM as well, which produces some really strange sounds with higher resonance. Aside from FM, the HFO does AM (Amplitude Modulation), PM (Pitch Modulation) and even Pulse Width FM. Interesting effects can be crafted with the HFO. Think bell tones, metallic noises and strange telephone sounds. The HFO's pitch can be Melted when using Melt System:B. This adds a subtle driftyness to the HFO that when Melted in conjunction with the Main Pitch can produce abnormal movements to the sound that are truly uncommon in synthesizers.

Target: Chooses which parameter will be modulated. This can also be thought of as choosing the type of modulation (FM, AM, PM etc.)

Shape: Chooses the waveform that the HFO will use for modulation.

Octave: Selects the Octave of the modulation oscillator.

Semi: Selects the Semitone of the modulation oscillator.

Tune: For fine tune adjustments of the pitch between semitones. This knob is centered, so turn it to the left or right to detune.

Depth: Controls the overall level of modulation.

The HFO also has it's own envelope section with the usual controls.

A (Attack): When a note is played, this control determines the time that the HFO reaches it's maximum level.

D (Decay): Once the attack level is reached, the decay time kicks in and brings the level down into the next stage.

S (Sustain): Once the sustain stage kicks in, it is held at this level until the note is released.

R (Release): When the note is released, this control determines the amount of time it takes the HFO level to fade out.

T (Time): This control has a default center point. If raised above the center, the overall envelope will increase in time or length, for a much slower envelope. Bringing the slider below the center will decrease the length for much shorter envelopes.

V (Velocity): If set above 0, high velocity notes will have a higher value, whereas low velocity notes will have a lower value. If set to 0, all notes will have the same value.

LVL (Envelope Level): Sets the level of the HFO envelope.

The HFO's **!?!** switch will randomize every parameter except the Depth control.

Envelopes
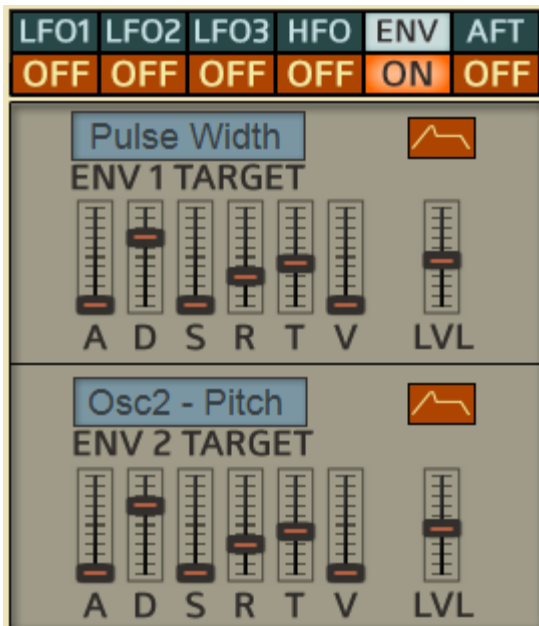
The Envelope panel consists of two modulation envelopes, both of which are powered by the on/off switch. Each envelope has several targets to choose from. Aside from modulating the usual suspects like pitch, pulse width and filter, they can be assigned to some uncommon parameters such as the LFO Depth, HFO Pitch and Melt Depth. Using envelopes and velocity on these parameters opens up many sound design possibilities and can add a lot more character by modulating things that might otherwise get overlooked.

Below is a brief rundown of each of the envelopes' controls:

A (Attack): When a note is played, this control determines the time that the target value reaches it's maximum level.

D (Decay): Once the attack level is reached, the decay time kicks in and brings the target value down into the next stage.

S (Sustain): Once the sustain stage kicks in, the target is held at this level until the note is released.

R (Release): When the note is released, this control determines the amount of time it takes the level to return to it's starting point.

T (Time): This control has a default center point. If raised above the center, the overall envelope will increase in time or length, for a much slower envelope. Bringing the slider below the center will decrease the length for much shorter envelopes.

V (Velocity): If set above 0, high velocity notes will have a higher value, whereas low velocity notes will have a lower value. If set to 0, all notes will have the same value.

LVL (Envelope Level): Sets the level of the modulation envelope.

INV (Invert): Activate this switch to flip the envelope shape.

*Tip- Try inverting the envelope while modulating the pitch so that it sweeps from a low range to the current note.

Aftertouch

If your MIDI Controller allows it, Aftertouch will send MIDI data when pressure is applied to it's keyboard while notes are being held. This means that if aftertouch is routed to filter cutoff, applying pressure to the keys will open up or close the filter, depending on how this is set up.

Phonec's Aftertouch section allows for setting up nine different parameters to respond to aftertouch simply by raising the corresponding control's level. Using the randomization **(!?!)** switch makes this really fun, often giving surprising results.

Each of the controls allow the specified parameter to respond to aftertouch, and are pretty self explanatory. Turn the control to the right to increase the level of aftertouch, turn all the way left to bypass aftertouch.

These parameter modulations can also be routed to the modwheel. This can make Phonec2 a very expressive instrument by allowing multiple parameters to be controlled with a single sweep of the Modwheel. Read more about this in the **[Master Controls](#)** section.

*Note: If your keyboard is not sending aftertouch information, you might need to set it up so that it responds to Channel Pressure.

Arpeggiator
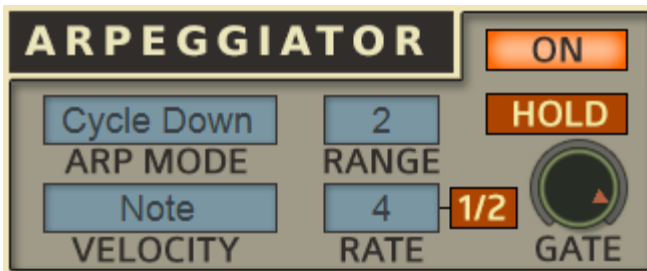
Phonec's arpeggiator is quite simple by itself, but can be complemented when using it in combination with the sequencer. The functions of the arpeggiator are outlined below.

Arp Mode: Selects the mode in which the notes will cycle through the octaves when a key is held.

Range: Determines how many octaves the arp will cycle through.

**Rate:** Selects the rate of the arpeggiator in beats.

1/2: Activates in-between beats based on the Rate setting. 2+ (1/2)=3, 4+(1/2)=6, 8+(1/2)=12, etc.

Velocity: Chooses how the arpeggiated notes respond to velocity. Choosing **Note** will apply velocity to each note individually. Choosing **Constant** will apply velocity over the whole range of notes overlapped, remaining constant until all notes are off.

Hold: When activated, will hold any notes that are played. This will also act as a Note Hold switch when the Arpeggiator is off.

Gate: Determines the length of the arpeggiated notes. Turning this control to the left can produce choppy, gated arps, while turning to the right allows for maximum note length. When Phonec is in Legato Mode, this control is bypassed.

Sequencer
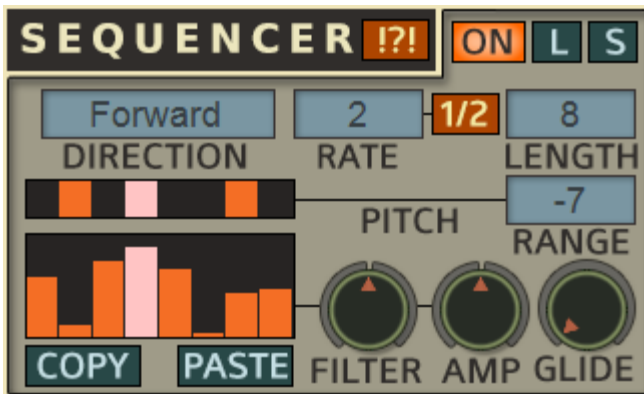
Phonec's Sequencer works like a modulator. Rather than triggering MIDI notes, it will modulate the pitch, filter cutoff and amplitude in steps. This allows the Sequencer to work alongside the Arpeggiator. The arp controls the MIDI notes, while the sequencer accents the pitch and velocity. The sequencer can be used by itself if desired for things like rhythmically modulated pads.

There are two 8-step grids, each with separate functions.

The top grid sequences the **pitch** in notes. To create a sequence, just click any of the steps in the pattern grid. Activated steps will be higher or lower in pitch according to the Range selector to the right.

The bottom grid acts as a velocity sequencer. Move any of the level sliders up and it will change the cutoff or volume of that step based on the **Filter** and **Amp** controls to the right. These controls are centered to 0, so moving them right will make the pattern levels increase, moving the knobs left will make the levels decrease. For example, if the Filter control is turned all the way right, any level sliders that are raised will increase the filter cutoff level. The same goes for the Amp. It's possible to get gated sequences by turning the Amp all the way down and raising level sliders all the way up to cut the volume rhythmically.

Here's a brief explanation of each of the Sequencer's controls:

Direction: Determines if the sequence will play forward, backward,

alternating or randomly.

Rate: Selects the speed of the sequencer in beats.

1/2: Activates in-between beats based on the Rate setting. 2+ (1/2)=3, 4+(1/2)=6, 8+(1/2)=12, etc.

Lngth: Determines the length of the overall sequence, from 1 to 8 steps.

Range: Sets the note range of the sequence. For example if the range is set to +7, the activated steps will be 7 notes higher in pitch.

Filter: Adjusts the amount that the Filter cutoff is affected by the sequencer. Center is 0, left is decreasing, right is increasing the cutoff level.

Amp: Adjusts the amount that the Amplitude is affected by the sequencer. Center is 0, left is decreasing, right is increasing the Amplitude level.

Glide: Acts as a portamento for the sequencer, gliding the transition between steps. This works for Pitch, Filter and Amp simultaneously.

!?!: Randomizes the patterns of both the Pitch and Mod Level steps of the sequence.

The entire Sequencer panel's control settings can be saved as a Sub Preset, which can be loaded back up at anytime. To save your Sequencer settings, click the **S** switch, to load a Sub Preset, click the **L** switch.

The **Copy/Paste** switches will copy only the Sequencer Pattern and paste it from one patch to the next. In other words, only the Pitch and Mod Level steps of the pattern are copied and pasted.

Copy/Paste can be very beneficial for patch creation or combining elements of one patch with another. A nice trick is to use this in conjunction with the randomizer. If you get something you like, copy it, and you can keep randomizing. If you aren't happy with the results and want to go back to the settings you liked, it's there for you to paste back.

Master Controls

The following controls are for universal functions.

Porta: Controls the Portamento Time, which is the time it takes for the pitch to glide from one note to the next. This function will work in all modes including Poly mode.

Pan: Controls the overall panning, from left to right.

Track (Pan): Tracks the panning from left to right across the keyboard. This is great for widening arpeggios and pads across the note spectrum.

Vol: Controls the main volume of the overall signal.

Mode: Sets the playing mode to the following:

Mono: (Monophonic) Will only play one note at a time. The envelopes will re-trigger every time a new note is played. (Note Priority can be set in the 'About' panel. See below.)

Legato: Also monophonic, but the envelopes re-trigger only if each key is released before playing a new key.

Poly: (Polyphonic) Multiple notes can be played at the same time and will overlap.

Pitchbend: Sets the range of the pitchbender from 1-12.

Modwheel: Sets the function of the modwheel. If set to **MIDI**, it will

operate normally and will be assignable to MIDI cc. If set to

Aftertouch, it will follow the aftertouch. In other words, all the

modulations set in the Aftertouch panel will be controlled using the

modwheel as well.

*The Chorus effect is located at the bottom of the Master controls
panel. Although it's not discussed here, but rather in it's own
section above.

Additional options are located in the About panel, located at the
bottom center of the interface. Click on the **About** switch to open
it.

Here you will find the following options:

Harmonics: Reduces the Oscillators' harmonic content from 1024-1.

Note Priority: Sets the priority of notes played in Mono/Legato

Mode. When two notes overlap, this will determine which note

sounds.

MIDI Channel: Sets the MIDI channel of the instrument.

Patch Management
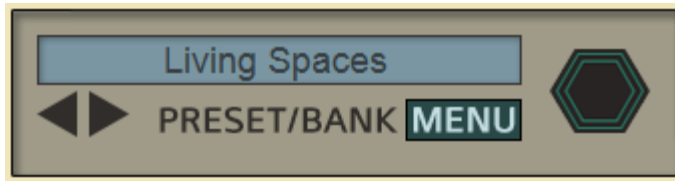
Phonec has a versatile patch management system that is very easy to use. Users can load/save their own banks and presets, and even modify the default patchbank that loads at startup. Individual presets have copy/paste functions for quickly creating and modifying prototype patches. Bank creators can even use their own images such as logos, etc. that display upon loading their patchbanks. All of the preset options can be accessed via the **Menu** switch, which when clicked, will display a dropdown list of options. These are explained in detail below.

Load Preset: Loads an individual preset into the current slot. If you have any presets files saved to the 'Preset' folder, they will show up in a list when this option is clicked.

Save Preset: Saves an individual preset in it's current state. When this option is clicked, a list will pop up with any presets that are in the 'Preset' folder. To overwrite a preset, simply click on it's name. Otherwise, click "Save As" to save it as a new file. Be sure to save to the 'Presets' folder.

Copy/Mark Current Preset: Copies the current preset for Pasting into another slot, or Marks it for Swapping with another preset.

Paste to this Preset: Pastes the Copied preset to the current slot.

Swap Current with Marked Preset: Swaps the current preset with the previously Marked preset.

Load Bank: Loads an entire bank of presets. If your banks are in the correct folder, they will show up in a list when this option is clicked.

Save Bank: Saves the entire bank of presets in it's current state.

When this option is clicked, a list will pop up with any banks that are in the 'Banks' folder. To overwrite a bank, simply click on it's name. Otherwise, click "Save As" to save it as a new file. Be sure to save to the 'Banks' folder.

Load Midi CC Map: Loads any saved MIDI mappings into the loaded bank.

Save Midi CC Map: Saves all MIDI mappings for the bank as a file (.mmp). Save these to the 'Presets' folder.

Exit: Exits the dialog box.

*More info about MIDI Maps **here.**

The central display shows the name of the preset that is currently loaded. Click on this to pull up a full menu showing all 128 presets which are categorized by type. Presets can also be browsed via the left/right arrows beneath the display.

The Hexagon image to the right represents the Factory bank logo. Click on it to pull up a list of all other available banks. If you save a user bank, you can have a different image associated with that bank, such as a logo, etc. it will appear in place of the hexagon. To save a bank image, create a 50x50 pixel png image and save it alongside your bank with the same name. Now when you pull up your bank, the image will load up as well.

Phonec2 includes two banks to start with: Factory and INIT. A Default (user) bank is not included, but can easily be created.

Upon startup, Phonec will attempt to load a Default (user) bank. If a Default bank has not been created, the internal patchbank will load. To create a user bank that will load at startup, simply save your bank as 'Default.bnk'. A Factory bank is provided as a backup copy of the internal bank. This should not be overwritten or modified, but kept as a backup if the original presets are needed. The INIT bank is a set of initialized presets that can be used for making user banks from scratch.

In order for the bank/preset system to function properly, banks and presets should be saved in their corresponding folders, which are located in following location:

Windows: the folders are located in **C:/Users/Public/ PublicDocuments/Phonec_2/**.
Mac: the folders are located in **Users/Shared/Phonec_2/**.

*NOTE- Bank files should always be saved to the '**Banks**' folder. Presets, Sub-Presets and Midi Maps should always be saved to the '**Presets**' folder. This will ensure that they can be pulled up in a list on the plugin's interface.

Saving a preset is simple. You can modify any of the existing presets and either overwrite or save them to a new location. The INITIALS presets are a good place to start when making your own patches. These are presets #115-128 on the Factory bank, which are a group of basic presets that are designed as starting points, depending on the type of sound you want to create. After making any modifications, and you're happy with your new preset, right-click on the preset name to rename it. If you would like to save your preset as a single file on your hard drive for later use, select **Save Preset**. Alternatively, you can save your presets along with the entire bank by selecting **Save Bank**.

The copy/paste options allow you to copy one preset to another location within the bank or between banks. For example, if you wanted to make several bass presets, you could create a prototype patch, copy it, then paste it as many times as needed and go on to modify each one as desired.

A useful feature that may come in handy is being able to double-click each control to reset it to it's original position for each preset. So lets say you were tweaking the envelope controls and then realized that you liked the settings as they were before, simply double-click the controls to bring them back to their original position.

Aside from saving presets and banks for the entire instrument, certain sections have the ability to save and load sub-presets. These are presets for small sections of controls. You can save Oscillator, Filter, Sequencer and EchoShifter settings, then call them up for later use at any time. Be sure to save your Sub-Presets into the 'Presets' folder so they can be pulled up in a list directly from the plugin's interface.

Useful Features

Here are some useful features that might get overlooked.
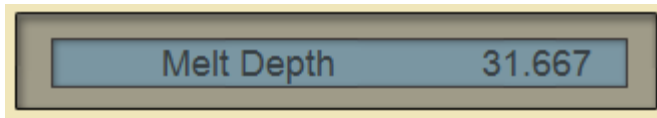
Numerical Readout

At the bottom left of the GUI is a small display screen that shows the numerical value of the currently selected parameter. These values can be edited by clicking on them. This can be very useful for inputing specific values that would otherwise be too difficult to get by fine tuning.

Speaking of fine-tuning, try holding Ctrl/Cmd while adjusting knobs and sliders to make control movements more precise. Holding Shift+Ctrl/Cmd will slow the control movement even further for ultra fine-tuning.

Also worth noting is the Double-click Reset feature. This can be very handy to reset a control to it's original position for each preset. So lets say you were tweaking the envelope controls and then realized that you liked the settings as they were before, simply double-click the controls to bring them back to their original position.

MIDI Learn

Each parameter can be assigned to midi control. This includes all knobs and sliders and most buttons and switches. Midi assignment can be done right from the GUI. Just right-click on a parameter and a pop-up screen will appear. Move the desired control on your Midi controller and it will appear in the Midi CC display. Alternatively, you can click on this display to bring up a list of Midi CCs for manual selection. Hit 'Ok' when finished.

MIDI mappings can be saved and recalled per bank. To load and save mappings, click on the Menu switch on the Preset panel to find the MIDI Load/Save options. When saving maps, be sure that they get saved to the 'Presets' folder so they can be pulled up in a list on the plugin's interface when clicking 'Load Midi CC Map'.

*NOTE- Mappings are saved with Banks as well as individual Presets. Loading a Bank will overwrite any current Midi Map. Loading a Preset will only overwrite the current Map if loading into slot #1. If you want to load individual presets into a bank and keep the current Midi Map, be sure to choose slots #2-#127.

*The Midi Learn section also supports NRPN (by moving the external controller).

Credits

Designed by **Psychic Modulation**

Programmed by **Chris Kerry**

GUI by Jack Resweber

VST Plugin Technology by Steinberg

Support Information

Email: **support@psychicmodulation.com**

Visit the official KVR support forum