AlioNoctis Pro

'Sounds from the Other World'

What is important to be known first? Please read as this will help you to understand certain features which may not behave as you might expect at a first glance!

The three 'Joysticks' differ slightly in their behaviour from each other. Though this is also indicated by certain graphic lines and circles some explanations should be helpful.

Osc Mix:

This one has two modes: Manual and Mod by LFOs.
X axis set to manual fades between Osc 1 and Osc 2.
Y axis set to Manual fades to (down) and from (up) Osc 3.
If both axis set to LFO modulation **the amount** of modulation is controlled.
Thus you have positive (upper right corner) and negative/inverted (lower left) modulation.
If Mod mode is set to intrm = intermitting then only the upper half of the mod wave is used.
This gives a kind of fixed value for the time the lower part of the wave is in use.

Also if O3 WS is active <u>wavesequencing for Osc 3 is only possible when Y axis is fully up or down.</u> Switching of waveform happens when level of Osc 3 is near zero so nearly no sound at all from this one. Thus Saw and Rmp wave at LFOs should be avoided for this feature unless you definitively want it bouncing (me shrugging ... but some may think different).

Spooks:

Here X and Y axis have zero at lower left corner while max value is at upper right corner. Any Mod amount is an offset added to the current position within a certain range.

Also there are Mod modes: normal (norm) and intermitting (intrm) affecting as described above.

Super Modulation:

This one controls the amount of additional modulation to the respective destinations. X and Y are + and - around zero at center with the upper right corner + and lower left - More details on this below.

Also there are Mod modes: normal (norm) and intermitting (intrm) affecting as described above.

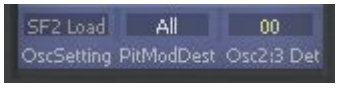
The features of the AlioNoctis Synthesizer in detail

The sound-sources

Three **digital oscillators** have a set of 128 selectable PCM-waves as soundsources. Each oscillator has a **[Level]** Attentuator selector (from +0 to Mute) and can be set to -2/-1/0/+1/+2 octaves and shifted up by 11 semitones. The output of the oscillators can be mixed by the oscillator mix control pad also offering modulation by LFOs. Details of Osc Mix as mentioned above.

For Oscillator 3 one can set up a wave sequence of 8 waves to be changed by the Y axis of Osc Mix control as mentioined above already. The mod sources have been restricted to both Slow LFO as fast settings do not really make sense as diferent waves can hardly be discerned then.

If Osc 3 wave sequencing is Off then you have access to the SF2 Load button, selector for Pitch Mod destination and Osc 2 and 3 detune which lets you slightly shift pitch osc 2 with a positive and osc 3 with a negative amout from Osc 1.



Note: Easy way to set up a wave sequence is switching O3WS to On and have the Joy ball in the middle so no switching will happen. Play a note or a chord and change waveforms until you hit a suited one and transfer this number to the resp. slot. You must not necessarily have all slots with different numbers as sometimes a more often recurring waveform e.g. in every 2nd slot may be just fine too.

Filter section

There are two filters: 24dB Lowpass and 12 dB Highpass in parallel both with resonance (Q)..
Cutoff frequency **[Cut]** and Resonance **[Q]** are adjustable for each filter separately with the respective knobs.
Both **[A] [D] [S] [R]** envelope generators let you adjust the way the filter works on the incoming signal with **A**ttack, **D**ecay, **S**ustain and **R**elease providing the shape on filtering. With the **[LFO:EG]** – knob you can mix between the mod amount of the EG and selectable LFO source.

Each selectable mod source can be inverted by a button switch (pos / invrt).

Inferno and Spooks

Inferno adds some upper harmonics generated from the incoming signal of Dir:Fil Mix in a way slightly similar to my Swamp synth's Timbre modulation. This one here is more straight and a lot more CPU efficient. Using Spook Mode Bypass only the Inferno is at the Inf/Mix output knob.
The Spooks add some kind of spooky to metallic flavour. Spook 1 and Spook 2 modifiers can be used as single, in parallel 1|2 or in series 1-2 (see image in Appendix). The spook amount is determined by the two spook knobs while the XY-Pad ads more or less density i.e. a fairly metallic sound in lower left corner or less density at upper right corner.
Moving the joystick ball via Mouse one can modulate density while selectable LFOs can add further modulations. Modulations at the Spooks even give the choice to invert the modulation and to have intermitting modulation that is only the upper part of the LFO wave is modulating while in between the signal stays at a constant level.

Mod Sources

There are 7 LFO including a dedicated Pitch mod LFO and a Sample & Hold modulator. It should be noted that Pitch LFO, LFO 1, LFO 2, SLFO 1 and SLFO 2 and S&H have a **ks on/off** button. This is quite a powerful feature and should not be underestimated as this is a Key sync so any time a first key is pressed on the MIDI keyboard the resp. LFO will be reset to start at zero but not when playing Legato that is as long as a key is held no reset of the LFO will occur! In fact this can be used similar to the Transition feature of the STS for the oscillator mix. ***Please note*** as esp. the Spooks might be sensitive to **ks on** so if you experience clicks have a look whether the resp. LFOs are set to ks on in that case simply set to off.

PFLO, LFO 1, LFO 2 and SLFO 1 and SLFO 2 have a quite common set of waves like Sine, Triangle, Saw etc. while LFO 3 allows two more complex waves to be mixed and shaped, LFO 4 offers a set of nine rather complex waveforms.

Sample **& H**old provides a random modulation signal like pulses at varying levels in different types and the Variation knobs allows to vary the 'patterns' of S&H to a certain extend.

The Super Modulation X/Y Control pad

This is a VERY powerful modulation control which overrides the modulations already set at the destinations. For each of the 10 destinations you can select the source X positive or X inverted, Y positive or Y inverted or set to Off. In manual mode you can use the grey ball to fly around in the square. If you choose Auto Mode You have two selectable sources one for the X axis and one for the Y axis to have this modulation done by different mod sources, and the ball will move around. Even You can set the amount of this modulation by the respective knobs to positive or inverted amount. And modulation can be set to normal or intermitting mode too.

There are ten fixed destinations for Super Modulation:

Osc Mix X axis	HP LFO:EG Mix
Osc Mix Y axis	LP LFO:EG Mix
LP : HP Mix	Pan Direct
Dir : Fil Mix	Pan Delay
Spook Mix	Inferno Mix

This is really a powerful feature to modify a sound at an awesome extend with a single ball. As it is accessible via MIDI you might use a suitable joystick or touchpad (like on Korg Z1 synth or Novation MIDI controller keyboards) for external realtime control ;-)

As in most cases it is not always useful to use all possible destinations here! Less is often more! You got the option to use it but that does not necessrarily imply You have to use in any case!

The Output section (VCA incl. Mix, Pan, EG; Delay & Main)

There is one VCA ADSR EG for the output which can be made velocity sensitive in using the A. Vel On / Off button. Main Volume VU meter display can be switched on / off by clicking on the Main Vol label.

The Output of both filters can be balanced by LP:HP Mix and this output can be balanced to the direct (unfiltered) signals from the oscillators by Dir:Fil Mix knob.

The delay itself is synced to BPM in various fractions of note values even with three options Grv1 to Grv3 which are a bit out of note related values - this might provide a more groovy delay. Feedback sets the amount of repetitions while the amount of delay is adjusted by the DelayLvl knob. The blue Delay Lvl is a switch for setting instantly Delay On or Off.

Pan works in two modes: normal and put delay signal into opposite direction (Pan Dl inv) which provides a good spatial impression.

Bass Enhance adds a significant amount of bass to the signal and this output is always centered and not fed into the delay.

Last but not least the HG Fortune famous Lazy buttons and the realtime MIDI CC# and Value display:

There are 7 Lazy buttons offering a more detailed Lazy function on dedicated sections of this synth while the 1st one Lazy (All) affects all assigned parameters. Note: once somebody mentioned 'ah, this is where you switch to next program' ;-)

If you want to hide the CC# and Value display simply click on CC# or the whole area as depicted to pop it up again. This is a global setting valid for all patches.

Clock Select:

Though it seems not needed it has turned out some patches sound better at a different bpm tempo than default 120bpm. In order to give an idea of the recommended bpm this switch has been added so you can switch or adjust tempo in the host. Internal default is 60 thus host 120 is valid.
The switch Host / Intern is a global setting valid for all patches while the bpm for internal is stored within each patch. Also one might use this to do an offset to the host setting for bpm tempo related LFOs and Delay.

Some more general hints:
Using long release settings will increase CPU-usage - remedy: lower release at filter ADSR, lower release at ADSR in master section and raise delay Lvl instead. So in most cases a release just below half way up of the slider will be sufficient to get a fading on the sound. Also fast LFO settings at many destinations consume a lot more CPU than one efficiently set at the most significant target which is in fact in most cases sonically even more efficient for a more pronounced sound.

Switching between patches might lead to some sound artefacts by Delay when done while sound is still playing. In order to have a clean switching the sound of current patch should have faded to zero level before switching to next patch. Or, have delays set at the same Delay parameter value.

Credits and further info
AlioNoctis Synthesizer has been created by H. G. Fortune with Synthedit by Jeff McClintock.

Patches were kindly contributed by
Dimitri Schkoda (DS or no sign), Dr. Heinrich Horstmann (HH), Lloyd McKay (lk), Marko Hautamäki (MH), Bob O'Donnell (BM), Shabdahbriah (SDB)

This VSTi uses further modules by David Haupt, Kelly D. Lynch, Peter Schoffhauzer and Lance Putnam

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More VSTI by H. G. Fortune:
The Dreammachine
Atonoise (Synth and FX)
STS-33 Transition Synthesizer
Anvilia Synthesizer
X-Wheel of Fortune 4 (X-WoF 4)

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Thanks to all who have helped and do support my work!

Note:
The five voice free version is fully functional but does not prevail all features of the 10 voice registered Pro version.

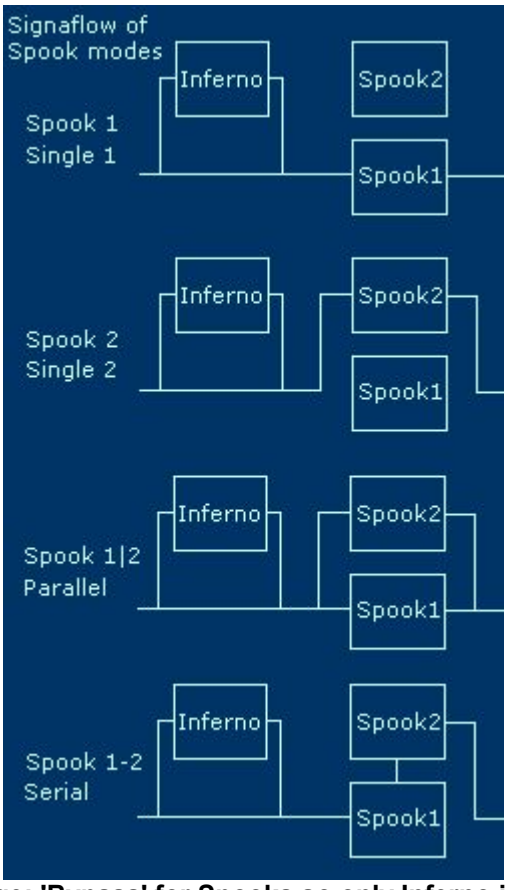
There is an easter egg hidden on the GUI - finding it You'll can switch patches at random. I implemented this as I got a bit bored listening always to the same patch when testing new dlls in hosts.

List of 128 waveforms in Pro version as external SF2 file while stored internally in the free version)

000 [Cpl]AngelVoice	032 [Cpl]SkyHigh	064 [SFX]Ghostly	096 [Syn]FitintheMix
001 [Cpl]AsianSpirit	033 [Cpl]SoftVocPad	065 [SFX]Ghostsphere	097 [Syn]GoodLow
002 [Cpl]AtckLitePad	034 [Cpl]SparkleVox	066 [SFX]GlassyZone	098 [Syn]GrowlSpit
003 [Cpl]Ayesha	035 [Cpl]Spheroidia	067 [SFX]Gliding	099 [Syn]HvyBrite
004 [Cpl]Belphegor	036 [Cpl]SteelTank	068 [SFX]Inharm-V	100 [Syn]KS-FatBras
005 [Cpl]BriteMorph	037 [Cpl]SunRising	069 [SFX]Inharm-VI	101 [Syn]LiteAtck
006 [Cpl]BriteVSparkle	038 [Cpl]SuperPad	070 [SFX]InHrmDrill 3	102 [Syn]LiteBrite
007 [Cpl]Darkness	039 [Cpl]Tension	071 [SFX]InsideTube	103 [Syn]LowSyn
008 [Cpl]DeepSpaceX	040 [Cpl]UltraFloat	072 [SFX]LongRange	104 [Syn]Morphed
009 [Cpl]Delphi	041 [Cpl]Unspecific	073 [SFX]Mystery	105 [Syn]MovinJaws
010 [Cpl]DeuSixty	042 [Cpl]Uplifting	074 [SFX]NoiseChoir	106 [Syn]NonStatic
011 [Cpl]Dramatique	043 [Cpl]Whispering	075 [SFX]NoiseChord	107 [Syn]PolySimple
012 [Cpl]FarAsianic	044 [Cpl]WidenPad	076 [SFX]OuterPad	108 [Syn]PSynHit
013 [Cpl]Fountain	045 [Orc]AaaOhhhs	077 [SFX]PolyShift	109 [Syn]RhodesIsle
014 [Cpl]Hermaphrod	046 [Orc]AngelChoir	078 [SFX]StyxFloat	110 [Syn]Rodikhan
015 [Cpl]HiGrinder	047 [Orc]Aspiration	079 [SFX]SubStorm	111 [Syn]SawCutting
016 [Cpl]HvyWidePad	048 [Orc]Blasomatrix	080 [SFX]Surreal4	112 [Syn]SawsOff
017 [Cpl]Illusion	049 [Orc]BroadBras	081 [SFX]Surreal5	113 [Syn]Syn3Osc
018 [Cpl]Layer-X	050 [Orc]Chord2	082 [SFX]Synthorn	114 [Syn]VoiceOfSyn
019 [Cpl]LigaPad	051 [Orc]DrawbarOrg	083 [SFX]TimeLag	115 [Syn]WideSaws
020 [Cpl]Majestic	052 [Orc]ElvishChoir	084 [SFX]TubeNse	116 [Syn]XPulsed
021 [Cpl]MariTuc	053 [Orc]FogQuyer	085 [SFX]Tubularity	117 [xFX]Bitdisorder
022 [Cpl]MetalAtk	054 [Orc]HeavyOrgI	086 [SFX]TunnelBel	118 [xFX]ChipTalk
023 [Cpl]Moonlight	055 [Orc]KindManPad	087 [SFX]Underworld	119 [xFX]FX-Rattler
024 [Cpl]MorningSun	056 [Orc]LoArtVox	088 [SFX]WhatBirds	120 [xFX]GhostClck-r
025 [Cpl]Mourning	057 [Orc]NoVocal	089 [Syn]AtckMedPad	121 [xFX]Gliss-rev
026 [Cpl]MoveOn	058 [Orc]StringTanga	090 [Syn]BassBrite	122 [xFX]MachinaX
027 [Cpl]NiceOrgan	059 [Orc]Superstr	091 [Syn]Bassical	123 [xFX]ManyClocks
028 [Cpl]SadAngel	060 [Orc]Symphonic	092 [Syn]BriteFat	124 [xFX]SamUnhold
029 [Cpl]Shena-org	061 [SFX]Apparition	093 [Syn]BriteFatSyn	125 [xFX]Sitar-rev
030 [Cpl]SimpleSoft	062 [SFX]AtckFlow	094 [Syn]Chordal	126 [xFX]StrumLoop
031 [Cpl]SitArc	063 [SFX]ElvishForest	095 [Syn]ColdPolyLB	127 [xFX]UnNatural

Cpl = more complex waves;
Orc = more orchestra related waves;
SFX = Special FX waves;
Syn = fairly typical synth waves, less complex;
xFX = xtra FX waves & FX loops

Signal Flow options of Inferno and Spooks



Not shown in image: 'Bypass' for Spooks so only Inferno is affecting sound.

LFO: normal & intermitting mode (norm / intrm)

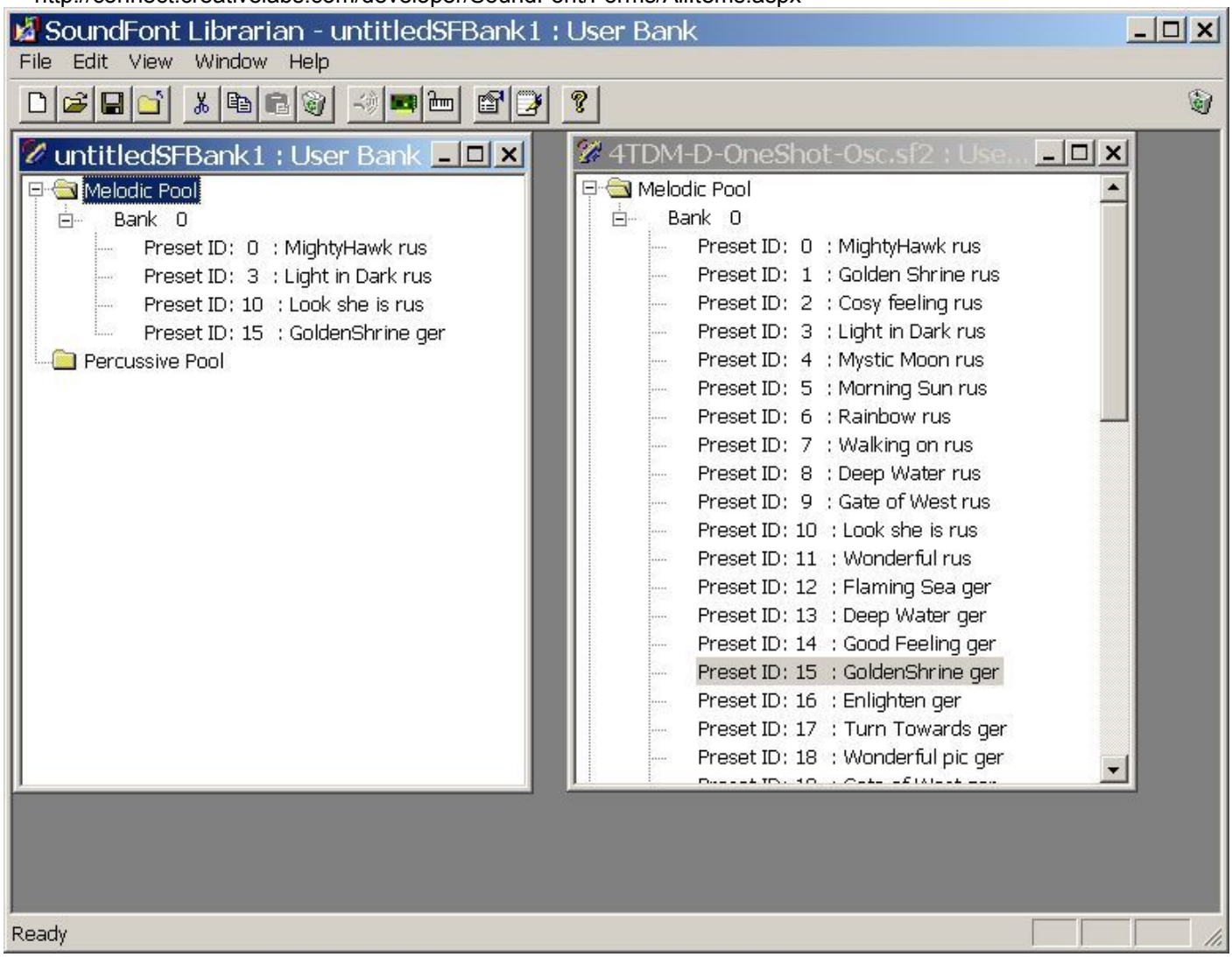
This is **normal mode** where then modulation is affecting on both sides of the X axis.

This is **intermitting mode** where modulation is affecting only on the + side of the X axis.
Thus there is a part (in the middle of the image) with a fixed value for modulation.

Appendix on creating one's own sounfonts also from existing ones:

There is a free Soundfont Librarian from Creative Labs / EMU which can be used (even without having a Creative Soundblaster / Audigy card installed) to manage, reorganize existing soundfonts - thus even the fairly unexperienced can create his own collection of sf2 files even allowing to modify some basic setting like rootkey.

You can download it here (3rd item from bottom)
http://connect.creativelabs.com/developer/SoundFont/Forms/AllItems.aspx



This program is very easy to use as it does support drag and drop to copy presets from one soundfont to another one. The only minor drawback is that you'll probably have to renumber the presets manually. With a Creative Soundblaster / Audigy card installed you might even listen to a selected preset.

I strongly recommend to have a look at this tool as it will enable you to create your individual combinations of sounds (= presets in sf2 files) esp. for the OneShot / vocal phrase part so your musical creations will sound different in the end. One rule to be remembered: **Always work on a copy of a file!** ;-)

There is a zipfile available for download containing a pdf and tools for creating sf2 files:
http://www.hgfortune-vsti.web44.net/public/SF2-Tips&Tools.zip

In order to make SF2-files from Your wavefiles You can use the freeware/donationware tool ***Viena*** by Kenneth Rundt - http://www.saunalahti.fi/kru99/index.htm As a major advantage **Viena** does not require the presence of a Creative Soundblaster Live or Audigy card to assemble SF2-files and please note there is only one 'n' in Viena (unlike ***Vienna*** from Creative Labs).

MIDI-Implementation of MIDI CC for sliders & knobs (recognized data valid from 0-127)

Main Vol	= 7	LP:			
	= 8	Cut	= 70		
Pan	= 10	Q	= 71	Amp	
	= 11	A	= 72	A	= 92
	= 12	D	= 73	D	= 93
	= 13	S	= 74	S	= 94
	= 14	R	= 75	R	= 95
	= 15	Mix A:B LP	= 76		
SuperMod		EG:LFOAmt	= 77		= 105
X-Axis	= 16		= 78		
Y-Axis	= 17		= 79	Spook Mode	= 106
X-Mod	= 18			Spook 1 X	= 107
Y-Mod	= 19	HP:		Spook 2 Y	= 108
		Cut	= 80	ModAmnt X	= 109
Oscill. Mix		Q	= 81	ModAmnt Y	= 110
ModModeX	= 20	A	= 82	Spook 1	= 111
ModModeY	= 21	D	= 83	Spook 2	= 112
XModSrc	= 22	S	= 84	Spook Mix	= 113
YModSrc	= 23	R	= 85	Inferno	= 114
X Mod	= 24	Mix A:B:HP	= 86	Inferno Mix	= 115
Y Mod	= 25	EG:LFOAmt	= 87	Inf ModSrc	= 116
			= 88	Inf MixModSrc	= 117
Wav Sel 1	= 26		= 89	Spk1ModSrc	= 118
Wav Sel 2	= 27			Spk2ModSrc	= 119
Wav Sel 3	= 28	Mix LP:HP	= 90		
Osc2:3 Detune	= 2	Mix Dir:Filter	= 91		
LFO3 Shape	= 29	Dly Level	= 102		
LFO4 Rate	= 30	DlyFdbck	= 103		
S&H Var	= 31	BassEnh	= 104		

Please note: The given assignment of MIDI CC #s is essential for the inbuilt Lazy system.

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