

# Alphatron Pro Manual



While playing around with my Avatar ST Synthesizer I was thinking a companion doing bass & high sequences could be very useful. First I started to investigate for the most suited VA oscillators (not the default ones) and did not look back to some way similar synths I did in the past like Laserblade, Fortune Cookie or Solar/Lunar Orbit. Thus I got a real fresh start with some new ideas in mind which developed pretty well then. Actually finding that catchy name for this one gave me a lot more headaches ;-)

Alphatron is not just a simple VA synthesizer instead in using a 3<sup>rd</sup> oscillator with digital waves it does offer a lot more sonic potential. Also this 3<sup>rd</sup> oscillator serves as sync master for oscillator 2 thus creating a lot more sonic flavours. Amplitude Modulation has got it's dedicated adjustable output and uses oscillator 2 as main source being modulated either by osc. 1 or 3. Oscillator 1 is a polywave oscillator with up to 5 additional waves, so you might have something like Super Saw(tm), Super Pulse, Super Ramp etc.

Another big highlight of Alphatron is the versatile step sequencer with 8 + 4 pattern slots which can be selected at realtime for instant pattern switching. .

- 1 VA Oscillator with up to 6 poly waves for Saw, Ramp, Sine, Tri, and Pulse
- 1 VA Oscillator with single waves as above plus white and pink noise, Sync slave
- 1 Sample Oscillator with fairly typical digital waves with different hamonic content, Sync master
- 1 Amplitude Modulation with dedicated output
- 1 24 dB resonant Low Pass filter with dedicated ADSR EG, 4 mixable mod sources
- 1 VCA EG
- Both EG have 3 modes: exponential, reverse exponential, and linear; and optional control for Attack and Decay by velocity
- 1 Booster or Enciter selectable
- 1 Mystify with three selctable types (Brite, Soft, Dark)
- 1 bpm synced Delay with adjustable Offset controlley manually or by modsource, Pan
- 1 Bass Boost
- 1 Pan for undelayed signal
- 1 small Reverb for adding some nice flavour

1 Saturator  
1 main Volume

3 x LFO, 1 x Duo LFO (with two waves and phase control for 2<sup>nd</sup> wave), 1 x S&H  
1 Pitch LFO with option to speed up or down the LFO speed

16 Step Sequencer with Shuffle for notes and velocity plus mute buttons for each step. Setting Note Seq to off it can serve as stepmodulator. The Gate length can be modulated by sources. Two playmodes: normal with adjustable number of steps or Step Variation which is in fact another 16 step sequencer to set different number of steps to be played in succession. Loops can be set to repeat up to 4 times, and two alternating semitone offsets can be set e.g. for each 2<sup>nd</sup>, 3<sup>rd</sup> or 4<sup>th</sup> loop. There are 8 pattern slots per patch and 4 global pattern slots which can be used to instantly change pattern. Current pattern can be copied and pasted to a selectable slot, with the global slots even among patches.

3 Wheels  
8 Lazy buttons  
8 GUI variants selectable

Major differences of Basic Free (less features):

**Basic Free:** only 64 patches, no Lazy buttons, only 4 Seq Pattern per patch & 2 global Seq Pattern, 2 voices, no selectable GUI (instead there is a choice of four different dll to download), no patch select on GUI, but a silly scroller reminder not to forget to support the developer.

### The Oscillator section



Osc. 1: VA Oscillator with up to 6 poly waves for Saw, Ramp, Sine, Tri, and Pulse. Pulse width modulation, octave & semitone setting, level knob, routing switch to filter otherwise bypassing filter

Osc. 2: VA Oscillator with single waves as above plus white and pink noise, Pulse width modulation, octave & semitone setting, level knob, routing switch to filter otherwise bypassing filter. Sync slave

1 Sample Oscillator with fairly typical digital waves with different in/harmonic content, Sync master

Detune knob

Sync setting for amount & pitch

Amplitude Modulation with level knob routing switch, and selectable 2<sup>nd</sup> source.

With Sync Amount you got a very simple form of resynthesis as one wave forces the slave wave to follow it's contour but sound is actually done by the wave of the slave oscillator.

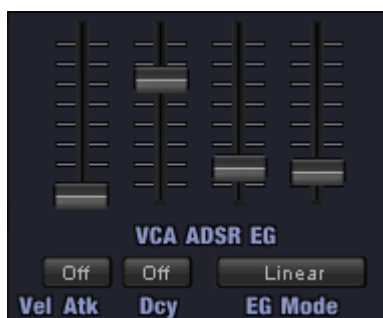
## The Filter section



24 dB resonant Lowpass Filter, ADSR EG with 3 modes: exponential, reverse exponential, and linear; and optional control for Attack and Decay by velocity. Use Rev Exponential EG mode for real snappy attacks required esp. e.g. for those short resonant blips ;-)

giving a simpler access than my prior system of balancing two sources against each other though that very basic technique is still at work in the back the user access is now far more simple.

## The VCA section



To control the output volume contour there is an ADSR EG with 3 modes: exponential, reverse exponential, and linear; and optional control for Attack and Decay by velocity.

Note: Using that Exponential or rev Exponential mode with Attack = 0 or very close 0 you might experience some kind of Attack clicks because this mode is that fast responsive. Remedy: raise Attack a little until those clicks disappear.

Note: Using Velocity on Attack or Decay is possible in two ways – (minus) subtracts from the current slider position while unsigned adds up to current slider position.

## The Mystifier section



The Booster is some kind of Overdrive effect with quite a nice distortion which can be quite heavy though while the Enciter is more like a presence contour enhancer.

The Mystifier is featuring three different types: Brite, Soft and Dark. Though the Mystifiers can give some good flangerlike sounds their major task is to change the sound characteristic from metal like to shining blips and even dark scapes depending on the modulations being used from manual to fairly slow settings or fairly fast settings for resonant blips. The Offset can be modulated too.

Select a type (Brite, Soft, Dark) or Bypass a Mystifier. Next is Myst Offset with the amount of selected mod source controlled by the knob. The Myst Amount can be controlled by another Mod Source. Next is the Resonance knob with a Range selector below with Fine having the full knob range for the most relevant resonant part. High Cut simply serves to eliminate some unwanted harsh or too high ringing. Finally there is the Mix knob for mixing between direct and mystified FX signal plus optional modulation.

## Delay section



Delay can be set to a bpm related setting while the Offset knob gives either manual control for setting off bpm or if using a mod source modulates time. So you can manually offset the Delay to half of the given bpm related setting. The selector below allows to choose among Normal, dotted or triplet delay and

further more there a some more modulations available. Feedback and Delay Level are obvious with the button next to Delay Pan providing a Bypass switch.

### Final Output incl. Bass Boost, Pan, Reverb & Saturator



The Saturator provides more punch and presence to the signal. The Volume knob determines the main output level.

There is a small reverb with adjustable Width and Room/Size plus a Reverb Mix knob. Though this is not a high end reverb it does add a nice flavour to the sound..

Bass Boost can enhance the Bass amount quite substantially. Thus use this with care.

Direct Pan is panning for the undelayed signal.

### System Section



Here you can change patches, (re)name and manage patches by copying or saving / loading single fxp instruments or complete fxb banks.

MIDI CC shows controller number and value

Setup for Voice allocation: Poly, Poly Soft, Poly Hard, Mono and Mono Retrigger with the last one enabling Glide with adjustable Time or Rate

controlled by Wheel #3. Key Priority can be set to Off, Low, High or Last key pressed.

Transport Run can enable Start of the Step sequencer by Space bar of computer keyboard (at least in most hosts)

GUI selector allows to select 1 from 8 different GUIs.

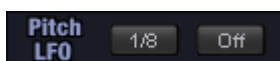
### Mod Sources

There are 3 LFO, 1 Sample & Hold and 1 Duo LFO with two waves output and phase control for 2<sup>nd</sup> wave which can be useful to shift modulation out of phase and back again..



LFO 1, LFO 2, LFO3 and DLFO have common set of waves like Sine, Triangle, Saw and Ramp. Sample & Hold provides a random modulation signal like pulses at varying levels in different types like Up, Down, Up&Down.

### Pitch LFO



This LFO modulates pitch of the three oscillators also with selectable modes to speed up or down the LFO.

## The Step Sequencer



16 Step Sequencer with Shuffle for notes and velocity plus mute buttons for each step. Setting Note Seq to off it can serve as stepmodulator as well. On the other hand Note Seq must be ON to play the notes.

Let's begin with the left area: Shuffle makes the sequences more groovy but one has to set the appropriate amount for that of course.

The greyed selector for Sync S / Sync H will be described later.

Seq Tempo determines a divisor of the current host tempo for the speed = tempo of the sequencer.

Gate Len(gth) knob allows to adjust the length of the gate of each step. The Gate length can be modulated by various sources mainly derived from velocity (processed in different ways which does make a huge difference at times) and note values or both shown as N + V..

The top button row gives access to the control features:

Reset is obvious of course, PlayMode sets a direction to play forward, backward or random.

StepSeqs starts / stops all sequencers involved and can be driven by Transport Run of the host (mainly via Space bar of the PC keyboard) provided these support this feature..

NoteSeq sets the Note Sequencer on / off so in Off mode the velocity data serve as stepmodulator values for modulation.

Step Var give access to the sequencer for number of step variation which is in fact another 16 step sequencer to set different number of steps to be played in succession to be set up in the row below.

If this one is not active the number of steps will be played as set at the steps selector and the next three selectors will be greyed as disabled.

If Steps Var is active a loop of the set step number can be repeated up to 4 times by the selector at Repeat. Or even at settings like 1:3 where change happens after 1st and the following 3<sup>rd</sup> loop.

The next three selectors are related to each other: two alternating semitone offsets can be set for each 2<sup>nd</sup>, 3<sup>rd</sup> or 4<sup>th</sup> or 2<sup>nd</sup> and 4<sup>th</sup> loop.

Maybe you got already an idea how flexible and versatile this 'little' step sequencer is as it does offer a lot of play variations just for one pattern alone.

Transpose allows to shift the octave for the notes to be played or even to transpose at realtime via MIDI keyboard.

UnMute is a simple utility to unmute all Mute buttons in the bottom row.

There are rows with selectors to set velocity and notes

**Pattern: Notes & Vel.**

P 1-4 ☐ ☐ ☐ ☐

P 5-8 ☐ ☐ ☐ ☐

G 1-4 ☐ ☐ ☐ ☐

Copy  Paste

There are 8 pattern slots per patch (P1 - P8) and 4 global pattern slots (G1 - G4) which can be used to instantly change pattern. Please note the Global slots are valid for the whole bank not only the current patch. These are handy to store pattern temporarily in order to copy these to a different patch for example.

Current pattern can be copied and pasted to a selectable slot, with the global slots even among patches.

Simply press copy to store the pattern into the internal buffer, select a target pattern slot and press paste button – that's it plain and simple.

Another positive sideeffect is, that you'll actually see the data of the possible target slot displayed – so you might still decide for different slot to select.

Now to the selector for Sync S / Sync H: Basically Soft Sync S will work fine which uses the host tempo like e.g. 90 as value to drive the internal clock. However this or that host might give a certain offset after time so you might try Sync H which uses the host clock pulse to sync the internal clock. There is a drawback though as this can only be used on Seq Tempo settings on basis of a quarter note ( $\frac{1}{4}$ ) and down which should be the majority of cases at all. Thus for not matching settings Sync H is disabled. Also it is advisable to set shuffle to 0 i.e. turned fully to the left.

*Trick: To unmute all steps and remute to current settings simply copy current pattern into memory buffer, UnMute All steps, and later Paste old setting back to current pattern.*

### The famous HGF Lazy buttons



8 Lazy buttons: Oscillator & Filter, LFOs, Mystifier, Step Variator  
note data all steps, note data odd steps, data even steps, velocity,

As for Note data this is a quite intelligent Lazy as it will give in most cases matching notes thus a pattern may require only a little tweaking then ;-)

Credits and further info

The Synthesizer has been created by H. G. Fortune with Synthedit by Jeff McClintock.

Patches were kindly done by **Dimitri Schkoda (DS or no sign), Bob ODonnell (BM), and Heinrich of Sanguinea Project (SP)**

This VSTi uses further modules by David Haupt, Kelly D. Lynch, Peter Schoffhauzer, Daz Diamond, Lance Putnam, Etric van Mayer, Oli Larkin et al.

VSTi by H. G. Fortune:

More VSTi: <http://www.hgf-synthesizer.de>

H. G. Fortune

G. Hager

Almaweg 49

53347 Alfter

0228/5344207

Germany

email: [fortune@flomo-art.de](mailto:fortune@flomo-art.de)

official support forum on kvr: <http://www.kvraudio.com/forum/viewforum.php?f=149>

Open group for users, fans, friends and supporters: [on www.facebook.com](http://www.facebook.com)

This is not a technical support forum rather than for latest news, communication among members e.g. sharing ideas, videos and music.

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

## Appendix 1

List of waveforms in oscillator 3

000 A-Clavikhan	020 A-InHrmDrill 4	040 BN-FMishSaxy	060 CC-InHrmOrg2
001 A-Corasca	021 A-InHrmSync	041 BP-FMishSoft	061 CG-OvertoneOrg2
002 A-Cormons	022 A-Lorda	042 BQ-FMishShena	062 CK-JumpinOrg
003 A-Farrancolin	023 A-Lormarin	043 BR-FMishOboe	063 CG-InharmOrg3
004 A-Fedirun	024 A-Metallic	044 BT-FMishHollow	064 CK-InharmOrg4
005 A-FM-Brite	025 A-Quirib	045 BU-FMishOrg	065 CR-InharmLite
006 A-FM-Lite	026 A-Shadizar	046 B-FX-Rattler	066 CT-Overtones
007 A-FM-Dark	027 A-Suleyka	047 B-Rhythmic	067 CB-FM-BelPiano
008 A-Inharm-015	028 A-Tedalda	048 B-SnH-Blipps	068 CC-ClaviOrg
009 A-Inharm-032	029 A-Trianna	049 B-StepFlow	069 CG-RoundClavi
010 A-Inharm-045	030 A-Trimari	050 CU-RoundOrg	070 CR-SoftClavi
011 A-Inharm-213	031 A-XPulsed	051 CS-BellOrg	071 CL-MedClavi
012 A-Inharm-282	032 BC-FMSpectral	052 CP-FMishSoftOrg	072 CF-HollowClavi
013 A-Inharm-IX	033 BC-FMMedOrg	053 CPMishLiteOrg	073 CE-BriteClavi
014 A-Inharm-V	034 BF-FMishNarrow	054 CP-RoundInharm	074 CB-NarrowClavi
015 A-Inharm-VI	035 BS-SoftNarrow	055 CS-HighOrg	075 CS-HiClavinet
016 A-Inharm-XI	036 BF-FMRhodish	056 CQ-InharmOrg	076 CU-FakeEGuit
017 A-InHrmDrill 1	037 BK-SoftOrg	057 CA-HiBellOrg	077 CT-Inharm3
018 A-InHrmDrill 2	038 BK-FMishBrite	058 CD-HollowOrg	078 CR-Wahhh
019 A-InHrmDrill 3	039 BK-BriteOrg	059 CB-OvertoneOrg1	079 CR-FMHeavy

## Appendix 2

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

MIDI CC from 33 to 63 are not assigned so you might use these for your own assignments provided your MIDI Controller Hard/Software does support these as normal controllers.

ModWheel	= 1		= 33	Filter		Shuffle	= 90
Wheel 3	= 3		= 34	Cutoff	= 70	GateLen	= 91
Main Vol	= 7		= 35	Reso	= 71		= 92
	= 8		= 36	Mod 1	= 72		= 93
Bass Boost	= 9		= 37	Mod 2	= 73		= 94
Direct Pan	= 10		= 38	Mod 3	= 74	DLfo Phase	= 95
Rev Room	= 11		= 39	Mod 4	= 75		
Rev Width	= 12		= 40	EG - A	= 76	Pattern Slots	
Rev Mix	= 13		= 41	EG - D	= 77	P1	= 102
Rev Color	= 14		= 42	EG - S	= 78	P2	= 103
Saturate	= 15		= 43	EG - R	= 79	P3	= 104
Delay Offset	= 16		= 44			P4	= 105
Dly Fdbk	= 17		= 45	VCA EG		P5	= 106
Dly Lvl	= 18		= 46	EG - A	= 80	P6	= 107
Delay Pan	= 19		= 47	EG - D	= 81	P7	= 108
			= 48	EG - S	= 82	P8	= 109
Oscillators			= 49	EG - R	= 83	G1	= 110
Detune	= 20		= 50			G2	= 111
Wav Sel Osc 1	= 21		= 51	Mystify		G3	= 112
Osc 1 Lvl	= 22		= 52	Booster	= 84	G4	= 113
Wav Sel Osc 2	= 23		= 53	Offset	= 85		= 114
Osc 2 Lvl	= 24		= 54	Myst Amnt	= 86		= 115
Wav Sel Osc 3	= 25		= 55	Resonance	= 87		= 116
Osc 3 Lvl	= 26		= 56	Mix Dry : Wet	= 88		= 117
AM Level	= 27		= 57	High Cut	= 89		= 118
PWM Osc 1	= 28		= 58				= 119
PWM Osc 2	= 29		= 59				
Sync Amount	= 30		= 60			Start/Pause	= 64
Sync Pitch	= 31		= 61			NoteSeq	= 67
	= 32		= 62			StepVar	= 69
			= 63				

You might use MIDI Learn or Edit via right click with mouse on the resp. Item (knob, button, selector etc.) to change these assignments. Note: certain elements on the GUI do not support this.  
Save patchbank with your MIDI CC assignments.

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