



The Orbitone Collection

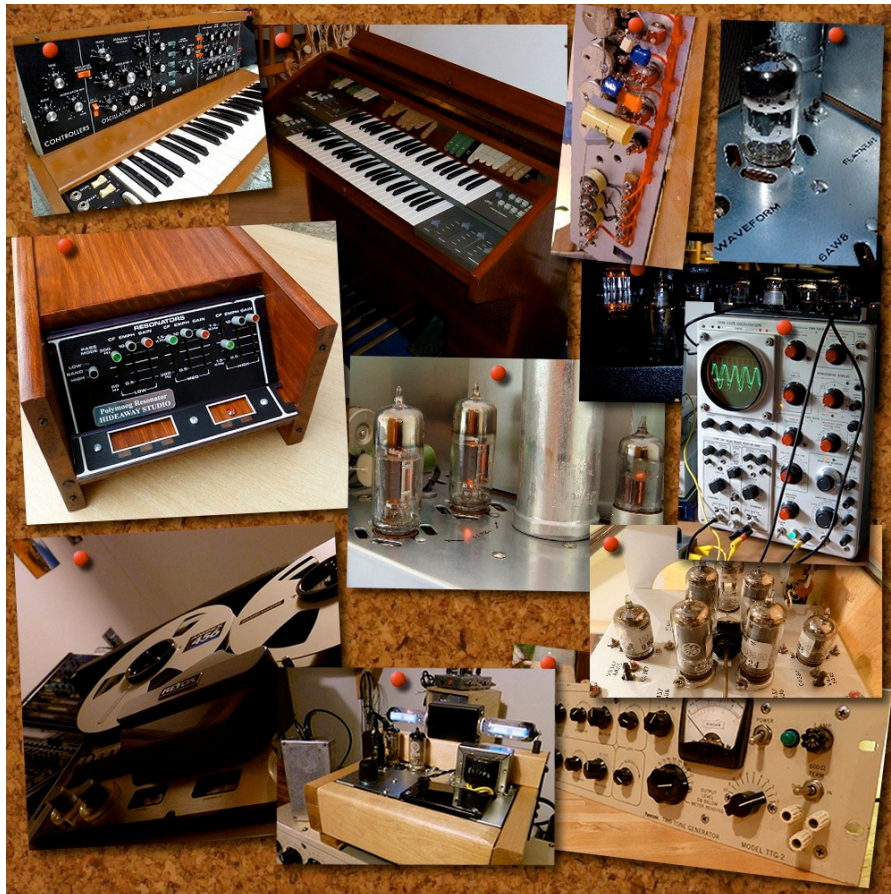
Installation Guide & User Manual

D.A.Wilson, Hideaway Studio, Dec 2012

HS-K4L-A002

Hideaway Studio Presents The Orbitone Collection....

A selection of complex warm electronic textures made with an unusual combination of 1972 Eminent 310U, 1976 Minimoog Model D and 1938 Novachord all processed with vintage classic analog and tube technology and brought together in the same proven 4-voice layering engine as the S-VX library....



Warm Textures In the Making....

Rather than simply making yet another virtual instrument, the arrival of a recently restored 310U was the perfect excuse to bring together a taster of a number of combined sound sources and techniques I've been working on to create rich, warm and complex textures. In particular I've fallen in love with the sheer musicality and magic of tube oscillators and wave shaping coupled with rediscovering classic analog synthesis and effects.

This has formed the basis of a new follow on to the recently released S-VX library and created very much with the idea of the two libraries being used in tandem to offer a very significant degree of opportunity for layering and blending new sounds.

The Orbitone Collection features the same proven 4-voice layering engine but operating on a brand new sample set constructed using a very different set of techniques to S-VX but with the similar timbres and textures in mind.

Like S-VX, Minimoog 7751 was both sampled directly and also washed through the Triple Tube Hybrid Phaser to form a number of looped textures with movement. Similarly, although the 310U was sampled in isolation, it was also passed through the rehoused variable resonator section of a 1978 Polymoog to magically turn brass formants into a choir and one variant recorded onto a 1967 Revox G36 all tube half-track tape machine!

Several tube wave shaping circuits, a triple L/C resonator based on the 1938 Novachord and vintage signal generators were utilised to produce deep vocal formant drones. The Tube Strings were a blend of Novachord, ARP Omni and Discrete Tube Synthesis. The Tube e-Piano was created by blending piano like timbres from the Novachord, the 310U and three tube oscillators mixed and tube wave shaped.

Equipment Used:

1972 Eminent 310U, 1976 Minimoog, 1938 Novachord, rehoused 1978 Polymoog Formant Resonator Section, 1967 Revox G36 tube half track tape machine, Panoramic tube Dual Tone Generator, 1967 Heathkit AUW-27 tube signal generator, ARP Omni Chorus section, Hideaway Studio Triple Tube Hybrid Phaser, Dual Tube Hybrid Filter, Tube Ring Modulator, Discrete Dual Exponential Sawtooth Generator, Tube Overdrive and Passive Triple L/C Resonator buffered with Y-amplifiers from a 1968 Tektronix tube scope!

The Arrival of 91-0071750...

Over the past few months a talented and very dedicated chap from Holland called Albert Steenbergen has been doing a wonderful restoration job for me painstakingly cleaning and recapping a monster. Albert is best known for keeping Jean-Michel Jarre's infamous fleet of Eminent 310's alive and well for use on tour and simply must win the title of *World's Best and Most Patient 310U Guru!*...

The beast recently safely arrived in the UK in a large crate in the pouring rain which resulted in a manic struggle with a friend to drag her inside through a hastily unhinged doorway - disaster narrowly averted when the 240lb crate very nearly toppled over backwards off the door ledge!

Some Background on the Eminent 310U

The Eminent 310 “Unique” is largely considered to feature the world’s first commercial string synthesizer section (although that title really ought to go to Laurens Hammond’s incredible 1938 Novachord!).

The 310U was designed and manufactured in Holland by Eminent and released in 1972. This boldly unusual combination of electronic organ and polyphonic synthesizer probably would have slipped into historical oblivion if it wasn’t for Jean Michel Jarre discovering its potential and using it to great effect in 1976 on his hugely successful and pioneering album, *Oxygene*. Although this is common knowledge, what is less understood is that far more than simply the infamous string section was put to use in the making of this landmark release.

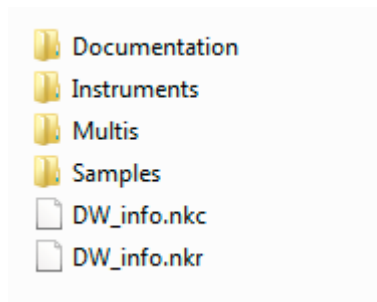
Although the instrument itself didn’t become hugely popular outside of Holland, Eminent licensed out their string synth technology to ARP to become the successful Solina and Omni range. The 310U boasts really quite an unusual architecture permitting a mixture of sustained and percussive envelopes to be applied to combinations of all of the timbres which can be layered together. There is also a gorgeous swirly six-stage analog stereo chorus “**ORBITONE**” section and built in spring reverb. The instrument was significantly more complex than most combo organs of the era due to in the main to the polyphonic percussive and sustain controls using discrete analog technology throughout.

In fact, having studied the workings of both instruments in detail, I’d have to say the 310U is in many ways the closest successor in ethos, character and architecture to the 1938 Novachord and marks an historically important crossover between electronic organ and polyphonic synthesizer technologies.

Installation

Installation is straightforward. The Orbitone Collection requires Kontakt version 4.2.2 or higher. Once the .zip file has been downloaded unzip the archive making sure the original directory structure is retained.

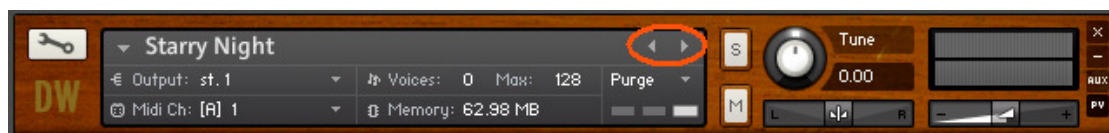
This should result in a folder called The Orbitone Collection containing the following folders:



To run the library simply load up one of the .nki files in the Instruments folder. You will also find a basic template in this directory to use as a starting point for new instruments.

Instant Gratification

You can easily run through each of the 40 or so example instruments (.nki) in the instruments folder by clicking on the small arrows to the right of the instrument name.



Please note that any user created multi instruments (.nkm) in the Multis folder can also be cycled through by clicking on the arrows to the right of the multi rack window.

Hopefully by loading up the examples you will be able to see how they have been constructed in the layering engine and can be used as starting points for new sounds which can be saved under new file names.

Using the Layering Engine



Naturally the example instruments packed with the library can be used as is but where the fun starts is having a go dialling in your own sounds using the intuitive layering engine. This permits up to four sounds to be blended together with a number of basic synthesis parameters at hand such as pitch and envelope control.

The layering engine consists of four identical programming panels and an effects section.

Voice Selection

Above each of the four voice panels there is a green LCD display showing the selected voice. By clicking on each of the displays a pull down menu appears allowing one of 28 voices/partials to be selected.



The selected sounds can be used in any combination including multiple instances of the same sound.

The Programming Panels

Each of the four voice programming panels features 10 basic controls to shape each sound in the layered instrument. Each control is altered by moving the mouse whilst clicking on it.

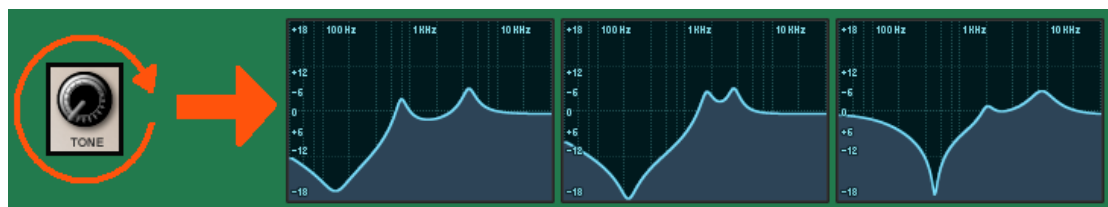


The **LEVEL** control sets the level of the voice in the layer

The **PAN** control sets the position of the voice in the stereo mix

The **SEMI** control sets a fixed pitch offset above or below the key played

The **FINE** control sets the fine pitch of the voice



The **TONE** control is a deceptively powerful feature. In the fully counter clockwise the signal is unaffected. As the control is rotated a continuously evolving complex EQ curve is applied. With some experimentation this

feature can be used for embellishing formants within each voice and helping to sit each of the layered voices together in the mix.

The **LAYER ON/OFF** enables each of the four voices in the instrument. By clicking on the button the layer toggles on and off. It is often useful to use this feature whilst creating new sounds to determine how each voice is contributing to the overall sound.

The Envelope Controls

The **ATTACK** and **RELEASE** controls offer basic envelope control. The further the attack control is rotated clock wise the more gradually the sound builds up. The more the release control is rotated clockwise the longer it takes for the sound to decay after the note is released.

Please note that several of the programs in this library make use of velocity controlled attack modulation. This means that the attack parameter is lowered the harder the note is played. This is a means of improving the playability and expression of a sound especially in a live performance. It can be used to good effect by setting the attack a little more clockwise than first expected.

It is also important to note that, in the interest of preserving some of the magic of the source instruments, their original attack transients have sometimes been preserved. In such cases it may not be possible to apply very fast attack curves to the selected sound. Furthermore, on some occasions, clicks may be heard when the attack parameter is set to minimum. If this occurs then wind the attack control slightly clockwise.

The LFO Controls

Each voice features it's own pitch LFO. This permits everything from a gentle vibrato to a dramatic plunging effect.

Both the **RATE** and the **DEPTH** of the LFO can be altered. To disable the LFO simply set the depth control to the centre position. The depth control is bi-polar which is not something you can hear in isolation but can become a very powerful effect when LFOs of opposite polarity are used on adjacent voices. A typical gentle vibrato is created by setting the depth control just slightly to one side of the centre position with the rate control somewhere around half way.

Mixing it all up

Although the layering engine is basic, it can be used to great effect. With experimentation a multitude of sounds can be created.

As well as the more obvious layers consisting of four different voices all tuned to the same pitch it is also possible to create other effects:

Making it Fat

Try selecting four instances of the same voice and then slightly detuning them using the **FINE** pitch controls and even setting different **LFO** parameters.

Expression

Setting a different **ATTACK** level for each voice can often help to make an instrument more responsive to changes in velocity and through sustain.

Please note that most voice/partial sounds in this library are designed to react in a number of ways to velocity (volume, VCA and VCF attack phase, filter cutoff and pitch). With this in mind it is highly recommended that a velocity sensitive keyboard is used and that many featured sounds often benefit from a very gentle and sustained playing style thus adding to the dynamic effect when more strident notes are subsequently played.

Making it Wide

Try setting the **PAN** controls for each voice to wildly different settings for each voice for a more spatial effect.

Intervals

Some interesting and sometimes quite beautiful effects can be created by setting one or more of the **SEMI** controls to something other than a simple octave. This can be used to create partials on organ voices in conjunction with careful adjustment of the level controls.

Phasey

When using two or more of the same voices setting the **FINE** tune controls to very similar but not identical settings can result in some interesting phasing effects.

Wobbly

Using relatively deep **LFOs** of slightly different speeds across all four voices, especially in conjunction with a suitably timed delay can be quite effective.

The Effects Section

To the right of the layering engine is the effects section.



The effects section comprises of four basic effects. Each of the four effects are chained in series and can be disabled by turning their respective **AMOUNT** control fully anti-clockwise.

Reverb

The reverb utilises the latest convolution technology to digitally simulate the reverberation of a physical or simulated acoustic space.

Click on the blue LCD display to select the type of room simulation required and then use the **SIZE** control to set the size of the space and the **AMOUNT** control to set the amount of the effect to be mixed with the dry signal.

Echo

The echo section is a delay with feedback and damping. The **TIME** control sets the delay whereby turning the control clockwise increases the delay time. The **FEEDBACK** control sets the amount of the signal from the delay that is fed back to the input. The further this control is turned clockwise the more the input signal is recycled thus creating dramatic repeating and sustain effects. The **DAMPING** control determines how the delay decays with time. The **AMOUNT** control determines how much of the effect is mixed in with the dry signal.

Phaser

The phaser is a digital simulation of a classic analog phaser. The **RATE** control determines how rapidly the phaser is modulated and the **AMOUNT** control sets the amount of the effect to be mixed with the dry signal.

Chorus

The phaser is a digital simulation of a classic stereo analog chorus (minus the noise!). The **RATE** control determines how rapidly the phaser is modulated and the **AMOUNT** control sets the amount of the effect to be mixed with the dry signal.

Saving Your Own Sounds

All of your creations can be saved as .nki instruments simply by using the **save as** function by clicking on the **files** icon in the main Kontakt control pane.

Remember that if you edit an existing sound you must save it under a new name otherwise you will overwrite it!

Credits

Dani Wilson (Hideaway Studio)

Equipment Design, Sound Design, Sample Set & Example Instruments

Stephen Howell (Hollow Sun)

Layering Engine Concept, GUI Design & Graphics

Mario Krušelj

Layering Engine Script

A big thank you also goes to Petri Alanko and Claude Samard-Polikar for kindly offering to beta test The Orbitone Collection.

For more information and many more releases for Kontakt by Hideaway Studio please visit:
www.hideawaystudio.net

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