

ALEXB PROGRAMS MANUAL

Orbital eQualizer



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ABOUT ME

AlexB is a one-man company, so:

Hi ! I'm Alex :)

I have been a member of the Acustica Audio community since the 2007, and started Beta-Testing in 2009. I released my first commercial program libraries for Nebula Pro in 2009 because I wasn't satisfied by the sound of the plugins.

What I looked for was a good emulation of the console to improve my music - I have composed a lot of songs for Café del Mar in that years. My first Café del Mar recording was done with a Korg CR-4 only, then the following years I have moved to PC world and Nebula has been found as the plugin of my dreams.

Sincerely at the first test I wasn't satisfied at all by the sound. The libraries was very poorly sampled and the plugin was a little cloudy and flat.

After being in touch with Giancarlo (the genius behind Acustica Audio) and to have said him about my thoughts about what to improve in Nebula, he has promptly given me a new improved release of the plugin. We have continued for the whole afternoon and after some exchanges of test and new releases, finally Nebula became dynamic, open, deep and with life. Thank you Giancarlo !

So, pushed by this experience I've made some of the most highly sought after and rare hardware devices available for use in the digital world while maintaining virtually all of the analog character that makes recording a true art-form. Every sampled hardware piece has been refurbished and modified to improve the sonic characteristics, thanks to my 30+ years of experience in electronics and audio engineering. With hyper-realistic samplings of pristine mastering equalizers, top class consoles, the most sought after compressors, and the rarest vintage devices, I'm proving to the audio community that Acustica Audio sets the standard for the finest sound quality in the digital realm by facilitating a true analog experience with programs that make full use of the VVKT technology.

Please visit the website for more information: <http://www.alex.eu>

Thank you !

AlexB... Audio Renaissance.

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Please do not illegally share the program libraries, your financial support allow me to continue in developing. **Be aware: there isn't any authorized reseller of my programs.**

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Thank you

Documentation, Installation and Support

Introduction

Thank you for purchasing the AlexB library programs for Nebula.

Now you have one of the best professional high quality audio software. I have spent countless hours to develop these no-compromise programs to give you only the best sound and the most realistic “feel” as possible to the real hardware. I'm confident that this plugin will help you make better and more professional mixes (while enjoying yourself even more)... Because: Sound First !

If you have any trouble with the software please do not hesitate to contact me at:

support@alexb.eu

Overview

Despite the digital revolution in the pro audio industry, many of today's top albums are still mixed on analog consoles and with analog outboard gear. Mixing into an analog desk just sounds better. Everything sits better in the mix, there is more weight to the bottom, and the overall sound is more three dimensional.

Analog devices produce electrical artifacts that affect frequency response, add harmonics, cause signal clipping and increase noise. These artifacts, which audio engineers often consider the character of a particular device, result from a combination of factors such as component grade, technology type (i.e. vacuum tubes, ICs, transistors), power supply specifications, equipment casing and other variables.

Depending on the circuit characteristics, input signal frequency response varies. Some circuits cut frequencies, others boost them. This behaviour is part of the overall device character and should not be confused with user adjustable EQ.

Total harmonic distortion (THD) is based on the levels of the odd and even harmonics of an input signal, usually at a level much lower than the fundamental level. THD balance and decay are circuit dependent, and thus differ from device to device.

Cross-Talk and Noise are two elements which every designer tends to avoid to not affect the audio quality. Since in the analog world they can't be avoided, fortunately in digital domain with Volterra Technology I have reduced the noise at less of -120dBfs and completely avoided Cross-Talk during the sampling.

The result is an optimum full quality sound from a like-new working condition hardware.

I have recreated these non linearity characteristics into these programs by sampling the units in excellent condition. Your tracks will become more alive with the classic vibe of a real hardware and you may notice that your mixes may take on an almost magical quality with punch, glue, and dimension that you didn't hear with your other algorithmically based plugins.

Sampling Process

I believe that "Vectorial Volterra Kernels Technology" is the path of the future and will enable analog sound to be implanted into digital DAW environments with real harmonic content and analog vibe. In my creation of these Nebula Programs, I use only top notch modern and vintage gear, precisely sampled by using my own proprietary technique with custom converters I have built specifically for NAT3 which outperforms top notch commercial converters. Ultra filtered and stable AC supply, high end cables, with particular care to the connections, levels and impedance matching were used to translate the sonic qualities of this priceless devices into the Nebula software technology. Every captured sample is analyzed and carefully listened. Every volume change, gain change, frequency change is tested and accurately programmed without destructive digital processing for optimized sound and then compared to the original device. The result is a virtually indistinguishable digital replication of this landmark device.

The hardware is sampled without introduction of noise or aliasing. The thinking behind this process is to provide the full quality of the analog behavior, which means placing all emphasis on quality over cpu resources. The process is extremely efficient and optimized to be used on current computer technology with a forward thinking to the future of more powerful systems, but this will be a more cpu-intensive device than your typical software. Consider the value in having even one instance of the original unit in your hardware rack and choose to see the true value in having the best sound that technology has to offer.

The preset doesn't sound processed, harsh or digital as many plugins do, but instead it sounds like a natural extension of the original audio, gluing your tracks in the mix with an analog vibe.

Some plugins make your recordings sound like digital.

Some plugins are supposed to make your recordings sound like analog.

THIS plugin helps make recordings sound like MUSIC !

System Requirements

- Intel or AMD CPU based PC or MAC computer
- Free space on Hard Disk or better SSD (library size depending)
- Nebula3 v1.3.903 or Nebula4 with installed commercial license

Installation and file BACKUP

After downloading, unpack the files and **make a safe backup** of the library. I recommend to use a Toshiba Canvio 2.5" HD as well to do a regular backup of your system with Acronis True Image.

Copy the files manually, *.N2P into \programs folder and *.N2V into \vectors folder.
Clean the \temp folder in the main root nebulateprepository.

The Skin

Skins for Nebula3 and Nebula4 have a cost but they are included in the libraries as **gift**.

To install the skin into Nebula3:

- 1 - copy the *.N2S file into the root skin folder
- 2 - run your DAW and open Nebula
- 3 - go into MAST Page
- 4 - set the Skin to ALEXB_N3
- 5 - click on save and reload Nebula

To install the skin into Nebula4:

- 1 - copy the *.N2S file into the root skin folder
- 2 - copy the Properties files into Properties root folder
- 3 - run your DAW and open Nebula
- 4 - load a preset

After installation it's recommended to clean the \nebulateprepository\temp folder.
Now you are ready to go at the next step to read how to use your new Nebula library!

Remember:

Scientific studies have proven that the brain is influenced more by the visual stimuli than acoustics.
What you see is not what you hear. In mixing and mastering nobody can hear your screen.

General Use

Parameter Settings

Some parameters must to be set into Nebula to work correctly with AlexB Programs.

Nebula3

The best way is to make copy-and-paste of Nebula3.dll and Nebula3.xml (or whatever is the name of your installed Nebula plugin has) then rename both copies as AlexB-N3.dll and AlexB-N3.xml.

Now set the following parameters by editing the AlexB-N3.xml file:

```
<AHEADLENGTH> 6000 </AHEADLENGTH>
<RATECONVERSION> 4500000 </RATECONVERSION>
<OFREQD> 11 </OFREQD>
<SKINNAME> ALEXB_N3.N2S </SKINNAME>
<DSPBUFFER> 8192 </DSPBUFFER> (optional for better audio quality)
```

click on save and load the AlexB-N3 in your DAW.

Nebula4

The best way is to make copy-and-paste of N4.dll and N4.xml then rename both copies as AlexB-N4.dll and AlexB-N4.xml.

Now set the following parameters by editing the AlexB-N4.xml file:

```
<AHEADLENGTH> 5000 </AHEADLENGTH>
<OFREQD> 11 </OFREQD>
<OTIMED> 5 </OTIMED>
<LEDSPEED> 3 </LEDSPEED>
<DSPBUFFER> 8192 </DSPBUFFER> (optional for better audio quality)
```

click on save and load the AlexB-N4 in your DAW.

NOTE: MAC users find more info on the “MAC Nebula4 Setup Addendum” on the website:
www.alexeb.eu/nebula/AlexB_MAC_Nebula4_Setup_Addendum.pdf

Off Line Process

If your DAW isn't powerful or you want/need to freeze or export processed audio tracks I strongly recommend the Free NEBULASETUP2 by Zabukowski: <http://zabukowski.com/software/>

Gain Staging

GUI's meters show the value in dBfs.

Take care with gain staging since the programs are close to the hardware, as reference 0dBVU on the hardware corresponds to -18dBFS on your DAW digital meter.

Normally the best sound is achieved with occasional maximum digital peaks to -10dBfs, i.e. kick or snare transients, pluck synth and other hits. On the mixbus the whole mix can hit an occasional maximum digital peaks between -8dBfs and -6dBfs. (imperative!)

When the signal is too high the sound will be congested and saturated/distorted in a bad way, too high peaks (and inter-sample peaks) overload Nebula which plays a BLIP as alert.

I recommend to mix with a good and precise VU Meter like this by Waves:

<https://www.waves.com/plugins/vu-meter>



It mimics the way our ears react to sound by giving you a more realistic representation of the way audio level changes are actually perceived.

In this way you can easily check the levels on every single track and for the whole mix by inserting the VUMeter as last instance on the mixbus and by setting the 0dBVU = -18dBfs on it (Headroom).

I suggest to deactivate or remove the VU Plugin when you export the mix to avoid any coloration. Yes, some plugins color the sound even if they are analyzers and/or bypassed.

NOTE: a console, limiter, equalizer, tape machine or compressor is not a guitar amp! If you drop the level back to where it would be using the real hardware, libraries can sound huge.

Useful video about to use the VU Meter and Gain Staging:

https://www.youtube.com/watch?v=2DVz_T48M-Q

<https://www.youtube.com/watch?v=ECRx4WF3pcc>

Great book about audio recording engineering:

<https://bobbyowsinski.com/recording-engineers-handbook/>

Another great book about music production with my contribution about console:

<https://www.routledge.com/Producing-Music-1st-Edition/Hepworth-Sawyer-Hodgson-Marrington/p/book/9780415789226>

Common Controls

All programs have some common controls which are detailed below.

Input Gain

The Input Gain control sets the level at the input of the plugin.

The range is from $-\infty$ dB to +6 dB.

Output Gain

The Output Gain control sets the level at the output of the plugin.

The range is from $-\infty$ dB to +6 dB.

Bypass

This switch control sets the plugin operative or bypassed

Meters

Input and Output Meters display the levels at the input and output of the plugin in dBfs.

Compressors and Expander/Gate have a gain reduction meter also.

NOTE: clicking on the controls while pressing "ctrl" on computer keyboard, the control returns to zero.

Orbital eQualizer

About the original hardware

This is an American classic from the 1980's: a quasi-parametric equalizer of high professional quality. The flexibility offered by the OReQ makes it a particularly powerful tool in nearly all areas of audio: sound reinforcement, public address, recording studio, broadcasting, motion picture sound, disco, theatre. Equipped with the optional output transformer and totally refurbished as new, the unit sounds clean, slightly dense with a nice mojo. The OReQ easily meets the quality, performance, and reliability requirements of the demanding professionals, and is also well suited for use in semi pro applications.

With its broad bandwidth the Orbital eQualizer has been engineered to deliver recordings at the best conceivable quality onto any format at any sample rate, maintaining all the energy and atmosphere of the original performance as perfectly as possible.

Session Setup

Orbital eQualizer reproduces the characteristic sound of the classic American eQualizer, this kind of equalizers are used in countless records in the world. To faithfully reproduce this analog sound in the DAW, we recommend using the OReQ in all tracks where you need to shape the sound.

- On single track the Orbital eQualizer works great on all instruments and voices.
- On master track the Orbital eQualizer gives at the whole mix his classic clean, natural and musical sound.

To emulate the original unit sound you should use both presets LE and HQ by mixing them in this way:

- When a single equalization band only is required you should use the HQ preset.
- When you need more than one band of equalization you should use the LE presets and as last band the HQ. This interaction gives the right color and harmonic contents.

NOTE: use the band/s you need only. Stacking unnecessary bands is the wrong way to emulate the sampled hardware, the same by using more than one HQ preset.

Remember: every digital processing introduces quantization errors/noise which degrade the sound, a smart use of the digital processing keeps the sound alive.

NOTE2: on some frequencies when boosting or cutting, the whole volume can rise up or fall down a little, you can compensate this with the Output Gain Control.

TRICK: to emulate the non linearity between the tracks, you can set the DRIVE control slightly different on every instance into a range of +/-5dB.

Preset list:

The Orbital eQualizer library includes 10 different programs:

HQ presets with 3 kernels and LE presets with 1 kernel displayed into sub-menu "ORQ"

OReQ 20-63Hz : Bell variable from 20 to 63Hz +/- 16dB variable Q from 0 to 10

OReQ 63-180Hz : Bell variable from 63 to 180Hz +/- 16dB variable Q from 0 to 10

OReQ 180-440Hz : Bell variable from 180 to 440Hz +/- 16dB variable Q from 0 to 10

OReQ 440-1400Hz : Bell variable from 440 to 1400Hz +/- 16dB variable Q from 0 to 10

OReQ 1.4-4.2kHz : Bell variable from 1.4k to 4.2kHz +/- 16dB variable Q from 0 to 10

OReQ 4.2-8kHz : Bell variable from 4.2k to 8kHz +/- 16dB variable Q from 0 to 10

OReQ 8-20kHz : Bell variable from 8k to 20kHz +/- 16dB variable Q from 0 to 10

OReQ BAX : Low and High Baxandall combo +/- 16dB

OReQ HPF : High Pass Filter -12dB/oct from 20Hz to 2kHz

OReQ LPF : Low Pass Filter -12dB/oct from 2kHz to 20kHz

NOTE: *Q* is numerical as in the original sampled hardware.

Controls

The Orbital eQualizer has only a few but intuitive and effective controls which are detailed below.

- CUTOF** **Cut Off Control**
The "CUTOF" control affects the filter's frequency cut.
- FREQ** **Frequency Control**
The "FREQ" control sets the frequency to be boosted or attenuated.
- GAIN** **Gain Control**
The "GAIN" control sets the amount by which the frequency setting is boosted or attenuated. The available range is ± 16 dB.
- Q** **Q Control**
The "Q" control sets the amplitude of the filter selected by FREQ control.
- DRIVE** **Drive Control**
The "DRIVE" control affects the harmonic contents in an unnatural way, but suitable if you look for an effect.
The available range is ± 30 dB.

NOTE: clicking on the controls while pressing "ctrl" on computer keyboard, the control returns to zero.

END