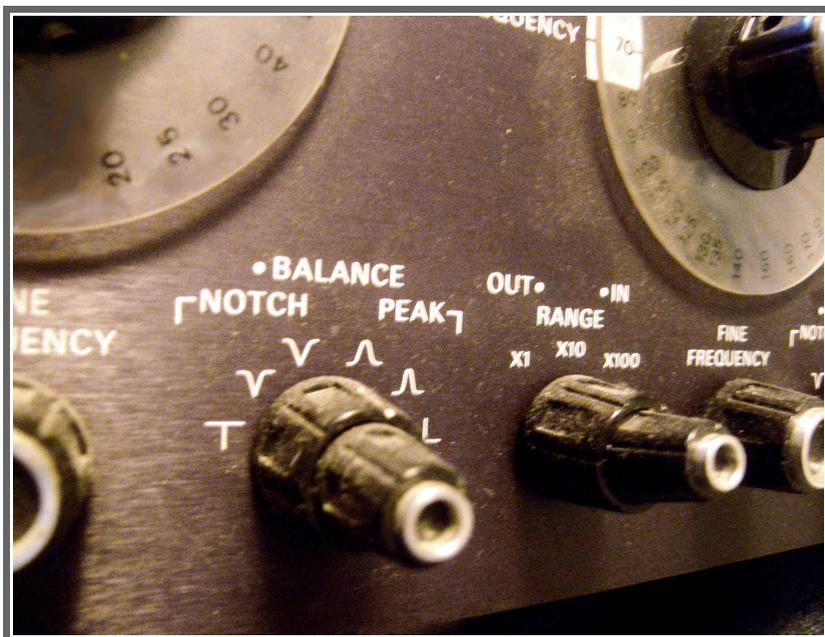


# YouRei Band-pass & Notch Filters + FX



## General Information

This is the 2nd of a two part set. Here we have a set of band-pass and notch filters that were 'based on' a unique, vintage filter unit that was heavily used in forensic audio work, due to its extremely sharp notch filters which can precisely remove unwanted frequency specific noises, without adversely affecting the kept audio. Some users found more creative uses for the super-sharp notches and peaks, which could make unique phaser/flanger-like effects when swept around, and that ability has been improved here, using Nebula's built in LFO to modulate the effect. There is also a pass-through program that samples the unit's character with all filters disabled. Everything was sampled with a Lynx Aurora 8 using high-end Mogami cables.

This 2<sup>nd</sup> part of the set includes:

- ◆ One program with only the band-pass filters. Another program with only the notch filters. These are 1k programs because of the huge amount of samples in them (particularly the notch program). The bp and notch programs are fully variable from around 26hz up to somewhere around 26khz. You surely have no other program in your collection with this much precision in the adjustable band. That precision comes at the cost of thousands of samples, just for a single kernel though, making harmonic kernels impossible. The pass-through programs provide the harmonics and dynamics of the unit, so having harmonics here would be redundant anyway. The band-pass program can be used as a peak filter too. These programs are optimized for EQ/filtering purposes. The notches are incredibly sharp and can be used for some serious forensic work.
- ◆ A set of programs that have the bp/notch filters combined in one program, and set up to be modulated by Nebula's internal LFO. There are different programs for several different LFO shapes. Lots of controls allow for many different types of creative effects here, from extreme to subtle. These use a custom LFO control system I developed myself which took quite a bit of work to get it just right. It gives a great amount of control over the effect.
- ◆ A program with the bp/notch filters combined, but still optimized for FX use, and intended for automation/modulation within a host program that allows it.
- ◆ A pass-through program with all the filters disabled. The unit that was sampled was the 565T which is more sought after by some (than the standard 565) due to it having a transformer on the output which adds extra coloration.

## Installation

Copy the .n2p files to your Nebula 'Programs' folder, and the .n2v files to the 'Vectors' folder.

## Organization

The programs will all be found in the 'FLT' category in Nebula. From there, the 44.1khz set will be found in 'YR\*', and the 96khz set in the 'YR' sub-category. There are also duplicates of both pass-through programs found in the 'PRE' and then 'CW' or 'CW\*' categories. Inside the main YR category, there is an 'HQ' sub-category with high quality versions of some of the programs. Not all are included in here because it's more about having better sounding sweeping/modulation abilities.

One main thing to keep in mind- if you want to use one of these programs for any kind of equalizing or forensic artifact removal, use the 'bp/peak' or 'notch' programs. If you want sweeping/modulation effects, use one of the 'FX' programs.

## Program Specific Details and Controls

### **Band-pass/Peak:**

This program functions as both a band-pass filter, or a peak filter, which is switchable. So you can use it just as you would an equalizer, to boost a freq area by a few dbs (up to around 12). In either bp or peak mode, the width is variable from fairly sharp to wide. The filter can be placed anywhere from around 26hz to 26khz, making this surely one of the more precise peak/bp filter programs for Nebula. Following are descriptions of the controls and their functions.

**Freq-** Places the bp/peak filter wherever you want it between 26hz and 26khz.

**Width-** Adjusts the width of the filter, from narrow to wide.

**Gain-** If in peak mode, setting this at 0% will give you a flat response (no boost anywhere). At 100% you will get a boost at your chosen frequency of about 11 to 12 db. In bp mode, setting it to 0% results in silence, and at 100% the spot the freq dial is set at will be about 10db over it's level on input. So this really just adjusts the gain of the selected band.

**BP/PK-** Selects between band-pass or peak filter mode. In band-pass mode, only the band you select with the freq and width controls remains- everything else is filtered out. In peak mode, it works just as a peak band in an EQ does, allowing you to boost areas by several dbs.

## **Notch:**

This program is huge, because it contains almost 3 thousand sampled notches! The reason it takes so many is because the notch filters in this unit are so incredibly sharp, so it takes many many samples to recreate a smooth transition across the frequency range of the filter. This program may become your first choice if you have any troublesome artifacts or other unwanted frequency-specific noises in your audio that you want to get rid of. You can also use it as you would a typical EQ to some extent, to lower a freq area by a few db's only.

**Freq-** Selects where you want the notch at.

**Width-** Width of the notch filter. 0% is VERY sharp. 100% is wider, but not as wide as with the bp filter.

**Depth-** How far down do you want the notch to cut? 100% gives deepest cut, which can go down lower than -60db. The depth of the notch depends on the width, and on the freq, just like with the hardware. 0% takes away the notch so you have a flat response.

## **FX LFO (various shapes/types):**

All programs labeled 'FX' are optimized for use as an effects, or more specifically, having the filter sweep around in some way or another. The previous programs (the standard bp and notch ones) are not meant to be used this way. For one thing, they are 'stepped' which means you can never position them 'between' samples, which makes them better for EQ purposes. The FX programs have their program rates and smoothing types set up to allow smooth sweeping without artifacts. These FX programs use Nebula's internal LFO to modulate the filter frequency.

**BaseF-** Stands for Base Frequency. This is the lowest frequency that the LFO will allow the filter to go down to. So if you set it to 100hz, it can reach that point, but will never go below it. The higher you set this, the more you are reducing the distance the LFO can travel. If you set it all the way to the max frequency, the LFO will not move at all.

**LFO width-** This is not for the width of the filter! This determines how far the filter can go from the 'base frequency'. So, if you set this to 0%, again, you will have no motion from the LFO. This control is measuring width relative to the entire frequency spectrum, so 100% means it can travel from a base freq at 26hz up to 26khz. At 50% it would only go about halfway across, according to a log scale (so from 26hz to about 1khz). If you set this to a wider distance than what is left between your base freq and the opposite end of the spectrum, the LFO won't stop when it hits the max freq, instead it automatically re-adjusts its width.

**LFO Rate-** In Hz, the rate of the LFO.

**Filter Width-** This adjusts the width of the filter, whether you are using a notch or bp/peak.

**Filter N/P-** This smoothly transitions between a notch filter (fully counterclockwise) and a bp filter (clockwise). At mid point you have no filtering, just a flat response (and no effect). From midpoint as you move towards the notch side, you get a notch that gets deeper and deeper. Going from midpoint towards the bp side, everything outside of the bp filter starts lowering in level, resulting in a peak filter, until you go far enough where the bp band is all that's left. If you want a modulating peak effect, you will probably want to boost the output a bit to compensate for the loss in gain to everything outside of the bp/peak band.

**Feedback-** Adds some feedback to the effect. I shouldn't have to tell you to be careful with this control. It can go up to 100% at which point you will probably have a very loud, shrill sound. If you want to go overboard with this for some reason, you should have a limiter following Nebula. Lower values should be ok though.

**Smooth-** This may be useful in some cases. It smooths the movement of the LFO. It can produce interesting results with any of the lfo types that have instant value changes (square, random, the ramps, or any of the steps) if used at high levels.

### **FX Manual:**

This is like the LFO programs, but without the LFO. This allows you to modulate it or automate the freq yourself, however your host program will allow you to. There are 2 versions of this program. One is for use with any kind of modulation/automation you might throw at it that will include instant jumps from one value to another with some distance between the two values. Examples of this are things like square wave and random LFOs. So if you are going to be doing something like that, use that program. If your modulation/automation is going to be smooth fluid motions that flow into each other (more like a sine wave), without abrupt changes, use the other. This program's controls have already been covered in the other program detail sections, and are pretty self-explanatory.

### **Pass-through:**

A dynamic effect sampled from the unit with all filters disabled. It's a 'stereo' program, but this was achieved by sampling the unit two separate times and combining those to make the stereo effect. This isn't as good as actually having two units, but it can create a subtle stereo effect.

**Dist-** Known as drive in most other Nebula programs, but I always rename it to

dist. Level control for the harmonics. Look elsewhere for more info on this if you really need it.

**Trim-** Adjusts input level, and automatically compensates the output level, so you can quickly find the 'sweet spot'.

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### **Thanks:**

Giancarlo, Enrique, the rest of Acustica, and everyone (other 'devs', and even the end users sharing knowledge in the forums) who has helped the advancement of Nebula.

[www.acustica-audio.com](http://www.acustica-audio.com)

All of my supporters! Especially those who help me out a little further by telling others about my stuff (which helps me to be able to continue putting out new things). Cupwise FX is a small operation and I need all the help I can get, in terms of financial support, in order to continue doing this. I think my prices are set relatively low. So if you like my stuff and get some good use out of it, consider giving it an honest review somewhere, or just let your friends know about it. I don't want to ever include any form of copy protection with my stuff either, so please, before you share these programs with others, consider how you would feel if the fruits of your labor were shared freely rather than you being compensated for them. Contrary to what some people seem to think, making Nebula programs is NOT just a simple matter of 'running some tones through some hardware', especially not for things that are more complex, such as this filter set. With thousands of samples in the main program, it was an insane task to sample, with several false starts and plenty of frustration. Also, the LFO control system (not the actual LFO) is something I developed myself and that alone took around a week. Altogether, countless hours went into this set.