Bawling Brat Filter FX

General Information

These programs are based on what is probably the most famous wah-wah pedal, if not the most famous guitar pedal of all time. 4 'specimens' were sampled to create 3 core effects/sample sets (3 unique vectors), which each have multiple programs using the samples in various ways to provide very different results, mostly with LFOs and envelope followers. Two of the standard models were sampled together to create a stereo effect. Then a 'classic' and a 'Q' model were used to create 'mono' approximations of each. This doesn't mean that they will make your stereo signals into a mono result, just that both channels are processed (separately) with the same samples. This set is definitely geared towards production/creative mixing. It can be used to try to get a more authentic wah effect for guitars via software (see the tip on this at the end of the manual), but the LFOs, envelope followers, and DAW automation options, open up a world of other uses. Everything was sampled with Lynx Aurora 8 conversion, and high-end cables.

Here's what's in this set:
◆ Three unique sample sets (vectors) made from 4 pedals. They are all very much like peak filters with a high boost of about 20-30dB. #1 is two standard models in a stereo setup. It can sweep between 600 to 2200Hz, and gets a fair amount wider as it goes up in frequency. #2 is from a classic model, and its frequency range is lower, going from about 375 to 1000Hz. It gets slightly wider as it moves up. #3 has an adjustable filter width control which can go from fairly wide to fairly sharp, and gives you an extra dimension of control over the end result. It sweeps from 235 to 1950Hz, and when moving up in freq it gets slightly wider with the sharpest width setting, but gets slightly narrower with the wider setting. So while all 3 sound similar, they also behave a lot differently in several ways.
◆ For each of the three 'root' effects, there are 3 types of programs. The first are the manual programs. These give you a 'wah' control that you can automate, to create the sweeping wah-wah effect directly. If you have a midi pedal, or otherwise want to try to recreate the sound of a wah as typically used, you should try using these.
◆ Each of the 3 wahs also has a set of programs that are set up to use Nebula's internal LFO. There are different programs for several different LFO shapes, because unfortunately there is no way to have a control to switch between them, but there are lots of controls that allow for many different types of creative effects here, from extreme to subtle. These use a custom LFO control system I developed myself and first used in my YouRei B filter set, which took quite a bit of work to design, and is developed even a bit further since the initial release of that set. It gives a great amount of control over the effect.
◆ Each wah also has a set of programs that use Nebula's internal envelope followers to modulate the filter. This means that the filter reacts to the sound's volume level coming in. There are different variations that provide different sounding filter motion

behaviors. 3 of these move upwards in freq when triggered by the input audio, and the other 3 go downwards. Try them all because they sound very different.

- Every program has an SHQ version which provides a much higher quality result. They they are so CPU intensive that they can only be used for rendering. The biggest difference is that they have sampled dynamics (which is VERY uncommon for any kind of Nebula effect even remotely like this), while the standard ones are without the dynamics (like all popular Nebula EQs out there).
- Controls like 'dry' which allows you to add some dry signal back in, 'feedback' which feeds some of the processed signal back into the effect, and 'smooth' which smooths out any motion of the filter.

Standard vs SHQ

SHQ versions are for rendering. The 'standard' versions have no dynamic samples and have a couple less kernels for harmonics than the SHQ programs (except for all wah#1 programs where standard and SHQ have the same amount). The SHQ programs also have a more accurate frequency response in the bass, and use 'timed' mode, which some people feel sounds better than 'freqd' (what the standard ones use). All these improvements in the SHQ programs increase the amount of CPU required to use them, so they are only intended for rendering. You don't even HAVE to use them at all, but they will give results that are a bit better (the dynamics being the biggest improvement) if you are willing to make the effort to use them.

The best way to use the SHQ programs that I've found, is to use the standard versions while setting up a mix or production, and after you've got the effect you know you want, switch to the SHQ program that mirrors the standard one you're using, just before rendering. The only problem is that when you switch, Nebula resets all of your controls. There are ways around this though. In Reaper, for example, I'll create automation lanes for each parameter in the wah program I'm using, so that the current position on those controls is fixed. Then I switch to the SHQ version and render.

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 'BB*', and the 96khz set in the 'BB' sub-category.

Program Types and Controls

Common controls:

Dry- This control allows you to mix in an amount of dry signal, up to +6dB over the level of audio coming into Nebula. If you want to make the effect of the peak filter a little more subtle, try adding in a little bit of this (around -30 to -20dB). You might need to lower the output gain to compensate for the increased loudness. In some cases if you add in higher levels of dry, you might actually end up with a notch filter instead of a peak, due to phase differences between the band and the dry signal. This can give you different results to explore. Be careful about mixing dry with usage of the feedback control. Because of the way Nebula internal routing is set up, it can't be avoided that the feedback control also affects the dry signal (it also feeds back). So, if you DAW has it's own wet/dry controls per plug-in, and you want to use feedback, you might be better off using those controls instead (assuming they work properly with plug-in delay compensation, like Reaper's do). This way only the filter effect is feeding back.

Feedback- Pretty self-explanatory. The main thing I have to say here is BE CAREFUL with this control. If you add some feedback, then change other controls, those other controls might quickly increase the amount of feedback you get, which could result in big jumps in output level. Safest thing would be to use a limiter after Nebula if you are going to use the feedback, at least until you have everything set up how you want it and are about to render.

Smooth- Smooths the motion of the filter, whether it's being automated or modulated by Neb's LFO/envelope followers. This can be useful with LFO types that jump to other positions instantly, like the square, ramps, steps, and random. You should try it out on occasion.

Width- This one only exists with wah#3, but it's found in all programs made from it. It's a control that was sampled from the pedal, which allows you to adjust the width of the filter.

Manual programs:

These are the ones you want to use if you are trying to get a wah-wah type of effect that you can control directly, whether you are using a midi pedal, or just drawing/recording curves into your DAW's automation tracks.

Wah- This is it. You adjust this control, and you're moving the sweepable filter around in the frequency spectrum.

All LFO programs:

Unfortunately it's not possible to have a control in Nebula to allow the user to change the LFO shape, so I have to provide a handful of different programs to give you those options. The same LFO shape options exist for all 3 wahs.

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 500Hz, 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. The LFO shape itself never gets distorted, clips or 'sticks'. For example, a sine LFO will always smoothly move back and forth even as you increase the base frequency. It automatically scales to prevent cutting off (clipping) part of the LFO shape.

LFO width- This determines how far the filter can go from the 'base frequency', towards the maximum frequency. There is never dead space on this control. For example, if you set BaseF to 500Hz, and the max freq is 1000Hz, having width at 100% allows the filter to sweep between 500 and 1000Hz. If you set width to 50%, it will sweep from 500Hz to somewhere around 750Hz.

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

FX EnvFollower Forward/Reverse A/B/C:

These programs are like the LFO ones, except that the filter frequency is modulated by an envelope follower instead of LFOs. The control scheme is very similar. Instead of 'LFO width' you have an 'ENV width' control, which behaves in the same way- it dictates the distance that the filter can travel away from the base frequency. The way it works is that when there is sound sent into the program, the envelope follower detects its level and moves the filter around. The 'forward' programs have the filter moving upward in frequency when it detects input. The 'reverse' do the opposite, going downward in frequency (which is why they load with the BaseF set to the highest position, because the filter moves <u>down</u> from there). The louder the level, the further the filter goes. The A, B, and C programs are variations using different combinations of some of the behind-the-scenes parameters involved, which results in each of them sounding and acting differently. The A, B, and C programs are set up the same between the forward and reverse versions, with only the direction being different. Try them all out.

Attack/Release- These modify the motion of the filter when there is input. They work just like with a compressor. Slower attack time causes the reaction of the filter to input audio to be slower.

General Usage Tips/Ideas:

- You could try using the LFO/mod sources of your DAW to modulate the BaseF parameter of an LFO or envelope follower program, to get even more complex effects.
- Make sure to try adding in enough dry that you get a notch filter instead of a peak.
- If you think you want to use use one of these programs on a sound, try loading the sine LFO program from each of the 3 wahs, and quickly play around with each of them a bit, to get a general idea of how all 3 wahs sound with your input. Pick the one of the 3 that you like best, then start looking at the other program options you have for that wah. Maybe you'd rather use a square LFO, or random, or an envelope follower, or modulate it yourself.
- Following from the previous tip, get familiar with the basic sound qualities of all 3 wahs. Then, being able to figure out which program to use in any situation will be much easier, because all 3 wahs have the same program sets.
- The SHQ versions might be a bit of a hassle to use, but you should take the time to try to find a quick way to switch to them in your DAW without losing your settings on the controls. In Reaper it's fairly quick and easy to do. It's definitely worth rendering with them, because of the added dynamic samples, which I feel give a more fluid sound.
- If you can't be bothered to take the time to use SHQ programs and like how the standard ones sound, that's totally OK too! There's really nothing wrong with rendering with them. In fact, they are designed similarly to all the popular EQ programs out there. SHQ programs take a lot more CPU so renders will be slow, so it's really up to you if you want to use them, but they are there...
- For guitarists- if you want to have the type of expressive control that you'd get with an actual wah pedal, you should probably try the the manual programs, and automating the 'wah' control as you would play the pedal. The only problem, is that by default, the sweeps won't be as smooth as they are with the LFOs. You can get them to be just as smooth by editing the Nebula setup XML. You have to find the <DSPBUFFER> entry, and lower it. You should set it to at least 1024 to get smooth sweeps, but you might try going a little lower. You have to divide by even numbers as you go down, so the next lowest setting you could try would be 512, which should be pretty good (to me it sounds very close in smoothness to Neb's internal LFO).
- If your DAW has the ability, you could try using the manual programs, and triggering them with your DAW's own envelope generator (if it has them as a mod source), and trigger it at for each note of a vsti synth which is being processed by the filter. Using an ADSR envelope with these programs could allow you to get some very organic sounds with vstis.
- Try combining different levels of modulation to get more exciting, evolving, and interesting results. For example, use your DAW's modulation abilities, either LFOs or envelope followers/generators, to modulate the BaseF, LFO width, or LFO rate controls of one of the LFO programs. If an LFO has the same steady rate, and the range it's sweeping around in never changes, it can be too obvious. If you modulate some of these controls, you might be able to 'hide' the fact that there is even an LFO, or produce more complex, musical patterns.

Thanks:

Rich, for providing some audio clip material to demo this stuff at my site with! If you ever need any kind of specific audio produced for you, you should check out his service. He goes out of his way to make sure that the results fit your needs and everyone is happy. From his site: "We are internet based global audio specialists and are here to satisfy ALL of your audio needs with class and within your budgetary abilities. Whether you are a singer-songwriter, film-maker, band of any genre, orchestral player or conductor, we are here to deliver everything that you need. We do sound-tracks, sound-scapes, individual tracks of any instrumentation that you can imagine, entire song creations, jingles, orchestral-brass-woodwinds arrangement….. Whatever it is you need for any purpose and wherever you are on the globe, we will customize a project that satisfies your needs within your budget, and never sacrifice quality and integrity."
http://soundyaudio.com/

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

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.