Casspressors

cassette tape compression/distortion effects
made from an A.D.S. C3 cassette deck

General Information

The cassette effects from my *Cassette Deck 1* and *2* Nebula libraries were sampled at normal record and playback levels, but these effects were sampled at much higher levels. In fact, the lowest level sampled for these effects is probably right around the highest levels that were sampled for those 'standard' effects. So where the standard effects end, these begin. Driving tape with louder signals results in compression and distortion. Tape saturation has commonly been used in studios with the reel to reel format, as an effect. That's the idea behind this set, but this is cassette tape, so the results are different.

Experimentation led to the idea of providing variable attack/release times in the Nebula programs, like you'd find in compressors. I took the attack/release behavior from some of my Nebula compressor releases. Those behaviors were combined with the over-driven cassette tape samples to create a new hybrid effect. Only the attack/release behavior was taken from the compressors. All of the tone and actual compression is from the cassette deck/tape.

The addition of the attack/release times from the compressors gives these effects versatility. You get tape compression/distortion with the ability to fine tune the behavior as with a compressor. The programs all filter the frequency response in different ways, which is also a major component of the effect. #6 has the closest to flat frequency response, and usually seems to have lower distortion levels than the others. Some of the effects were made with other hardware to alter the end result in various ways. Some were sampled in stereo, some in mono. You have a wide range of different sounds with this set.

The C3 deck can record and play at double the normal cassette speed, providing higher quality than you get with a most typical decks, and this mode was used for all of these effects. **Also included are skins for N3 and N4!!**

Installation
Just copy the .n2p files to your Nebula 'Programs' folder, and the .n2v files to the 'Vectors' folder. Read the skin install manual to install the skins.

Organization
Programs are in the 'TPE' category, then the 'TC9' and 'TC4' sub-categories (Tape Compression) for the 96khz and 44.1khz versions respectively. The pass through programs are in the 'PRE' then 'CW4' and 'CW9' sub-categories. Any time I release a set that includes 'pass-through' type programs, I always put them there, so there will be a growing collection of preamp style programs all found in that same spot if you buy more of my libraries that include those.

# Program Specific Descriptions

1- Smooth Customer:
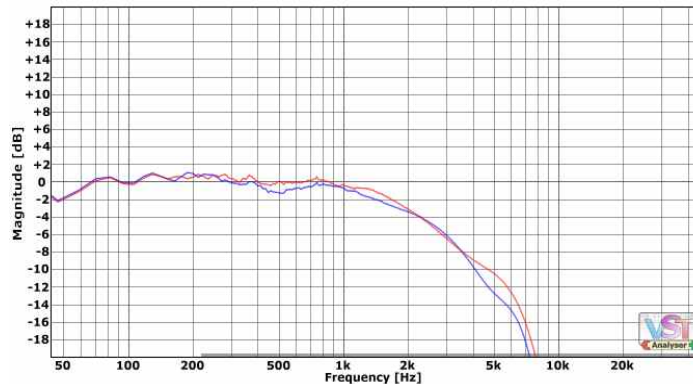
You can see from the frequency response that there's a smooth high-frequency roll-off that starts at about 1khz.

   Sampled setup- Lynx D/A to A.D.S. C3, with type III Sony FeCr 90 tape and Dolby B noise reduction. Sampled in stereo.

   Smooth Customer A- Uses the attack/release behavior from my Flucti-Mew compressor, peak detector, and 50/50 mix of feedforward/feedback signal to the detector.

   Smooth Customer B- Uses attk/rels behavior from my Rayphlex compressor, RMS and full feedforward detection.

2- Dirty Smasher
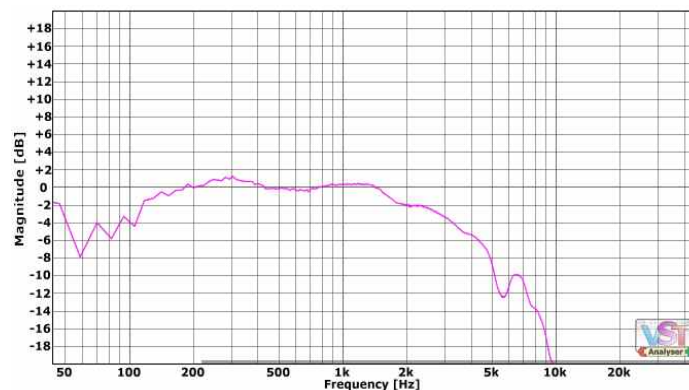
The name describes a type of sound that this one can produce (with faster attack times), but it doesn't always sound so dirty or smashy.

   Sampled setup- D/A, to an old solid state Bogen PA amplifier to add some gain (also used Bogen's EQ for some adjustments). From there to C3, with

Memorex dBS type I tape, and Dolby C. Sampled as a mono effect.

Dirty Smasher A- Uses attack/release behavior from my SmackVU compressor release. Uses RMS mode with 100% feedforward detection.

Dirty Smasher B- Attk/rels behavior from Flucti-Mew, peak mode, 80% feedback.


3- Bionic Pickle
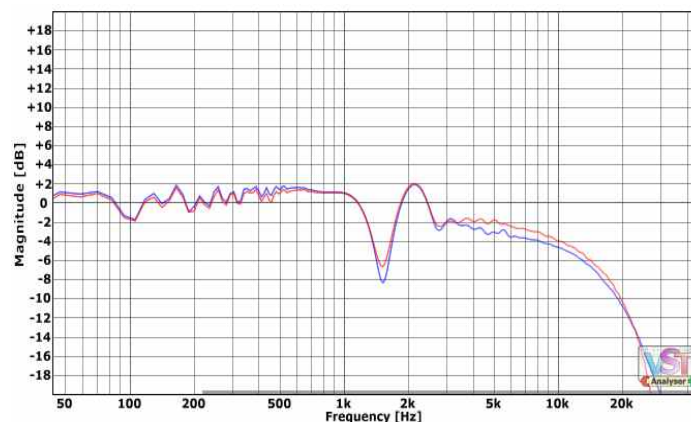
There is a notch at about 1.6khz and a peak at 2khz, which contributes to the weird sound of this one.

Sampled setup- First a vst was used to produce the notch and peak in the frequency response. Then signal went out Lynx D/A, to A.D.S. C3 with a Fuji DR-II type II tape, and Dolby B. From there the signal went back to Lynx A/D, but some was sent back out in a feedback loop. Also, the sampling tones were played back at half speed during the sampling process which shifts any effect on the frequency response up an octave (it's a process I've described in more detail in other Cupwise manuals, and I usually call an effect that uses it 'bionic'). This one was sampled in stereo.

Bionic Pickle A- Uses the attack/release behavior from my Lunchpail Compressor. Uses peak mode with 20% feedback for the detector.

Bionic Pickle B- Attk/res behavior from Rayphlex, peak mode, 90% feedback.

4- Overblown:
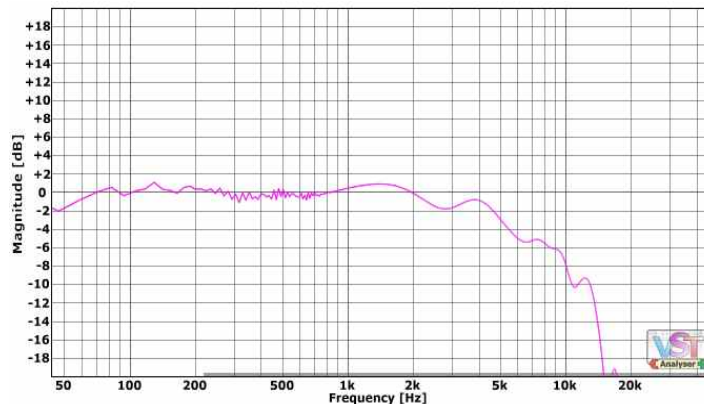
This one can sound really weird depending on where you place the threshold control. At lower amounts of compression, it can sound like a strange modulation effect. The signal was pretty mangled by the setup that was sampled for this effect which is why this happens.

Sampled setup- D/A to an old tube radio tuner (the Bell used in my Tube FM stuff) with a hot signal, direct in (using a method I've described in the Tube FM 1 manual), direct out to the C3 using a Maxell XL II tape with no Dolby NR. Sampled in mono.

Overblown A- Uses the attack/release behavior from my Flucti-Mew compressor, RMS detector, and 100% feedback signal to the detector.

Overblown B- Attk/rels from Rayphlex, peak mode, 50% feedback detector.

5- Neon Mohawk:
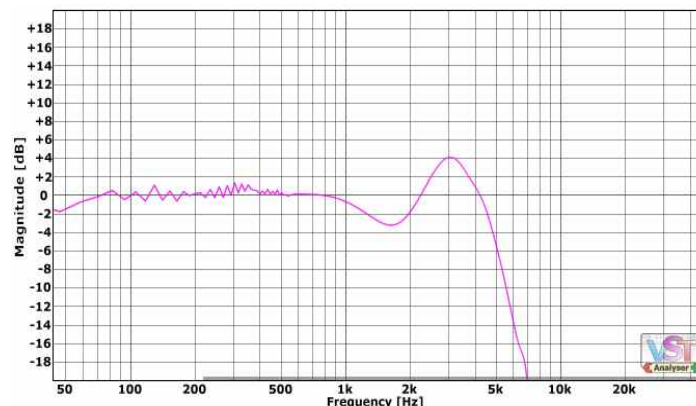
Before the signal hit the tape it went through a resonant low-pass filter.
Sampled setup- Lynx D/A, then signal went into a Novation A-Station

synthesizer. The A-Station's low-pass filter was used with a fair amount of resonance. Also, distortion and filter over-drive effects were used in the synth. Signal went from there to the C3, using a TDK MA type IV metal tape, and Dolby C. Sampled in mono.

Neon Mohawk A- This one used the attack/release from my SmackVU comp, 100% feedforward, and peak mode.

Neon Mohawk B- Attk/rels from Lunchpail comp, peak mode, 55% feedback.

6- Casspressor:
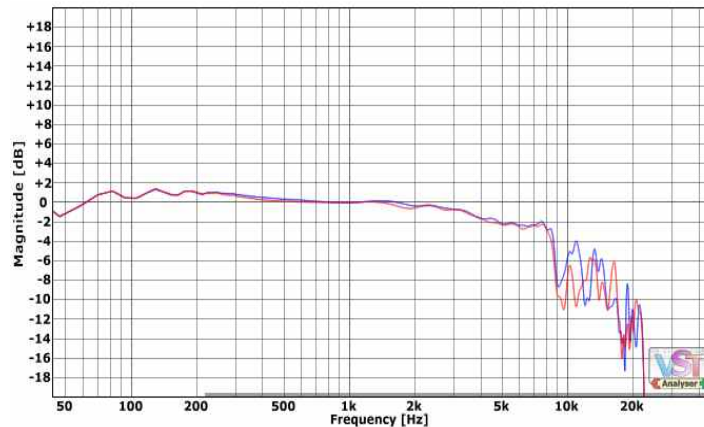
The frequency response in actual use is a bit flatter compared to the others, and the deck/tape were sampled alone with no other added effects or distortion sources.

Sampled setup- Signal went out D/A, straight to deck and back. A nice metal tape was used- a limited edition Phoenix Audio tape. No noise reduction was used this time. This one was sampled in stereo.

Casspressor A- Used the Lunchpail comp for attack/release, peak mode, 50/50 feedforward/feedback.

Casspressor B- Attk/rels from SmackVU, RMS mode, fully feedforward detector.

Bonus! - ADS C3 Pass Through:

This is just a little bonus thrown in. The frequency response is pretty much flat. The deck was sampled without tape being used, so only the electronics (amplifiers, etc) in the deck affected the end result. It was sampled in stereo. This is a preamp style program. The noise floor of this deck is incredibly low, as is the distortion, so this program is very transparent.

SHQ Programs

The SHQ programs are there as kind of a bonus really, because they may be too much of a pain for you to work into your workflow. They do provide more accurate frequency responses than the main programs though. The problem is that they use so much CPU, that you can only expect to use them for rendering, but if you switch from a main program to the matching SHQ program, Nebula resets all of the controls to their default loading position. So you'll need to either readjust them back to where you had them, then render, or find a way to lock them in place using the automation functionality in your DAW. For example, in Reaper I'll send every control to an automation lane just before rendering, then switch to the SHQ version and render. Doing that locks the controls in place. Another issue with SHQ is that the frequency response may be different enough that the results you get may be a little too different from what you heard while mixing with the main program, in some cases. That's just how it is, but they are more accurate so I put them in. You can use them for rendering, or just ignore them, the choice is yours.

Controls

Attack- Each program used the attack behavior of one of 4 compressors that I've sampled/released. I've even updated this library to include behaviors from comps that were released long after this library originally was. The info above tells you which comp was used for each program. The time range will be different depending on which comp the behavior is taken from.

Release- Same as with attack. You can use these controls similar to how you would with a compressor, but the results aren't going to always be quite as predictable, because we're dealing with squashed cassette tape here.

Thresh- Lower this to get a more intense effect, as you would with a compressor. You may need to then use the Makeup control to bring the level back up.

Ahead- You can increase this to add look-ahead which you can use with fast attack settings to try to get instant compression/squashing behavior.

Hipass- A hipass filter on the detector side-chain. Use it just like you would with a compressor, to make the dynamic behavior not respond to bassfrequencies.

Makeup- Just a simple gain control to bring the level back up. Some programs are using feed-back detection so this control will actually cause more compression/squishing in those cases.

Wet- A dry/wet mixer control. 0% is fully dry, 100% fully wet. About half of the programs work almost 'perfectly' with this control, meaning there doesn't seem to be any noticeable phase cancellation issues across the frequency spectrum. The other half can and will filter some frequencies out, due to phase cancellation, but it depends on how much you're crushing the signal with the thresh control in some cases, what kind of result you'll get by blending wet and dry signals together. In either case, it can still sound cool as an effect even when there are cancellations. In some cases even more interesting. Try it!

Notes

- Sometimes you can get messy distorted results with really fast attack and release settings, with lots of compression. That can actually happen with compressors too, mainly when processing bass. Here you're abusing a slammed cassette tape effect though, so it can get really gnarly. That's just how it is, so don't expect the results to always be smooth even when you're using extreme settings. Or even if you aren't. These effects are supposed to be trashy, anyway!

- You should pretty much ignore the gain reduction meters, as they're usually way off, even by up to 10dB (or more). These programs can do lots of filtering and that can be perceived by the gain reduction meter as compression when it really isn't. Also these things were never meant to be precise compression tools, but rather messy, half-broken effects to give you trashy results (most of the time). So the meters are there, but they are far from precise.

V4 – use this version number to keep track of updates. If the manual posted at my site has a higher version number than the one you have, your set probably isn't up to date.