

Cupwise Real Spaces-

“Echo Chamber” Reverbs I: Chambers of Myth

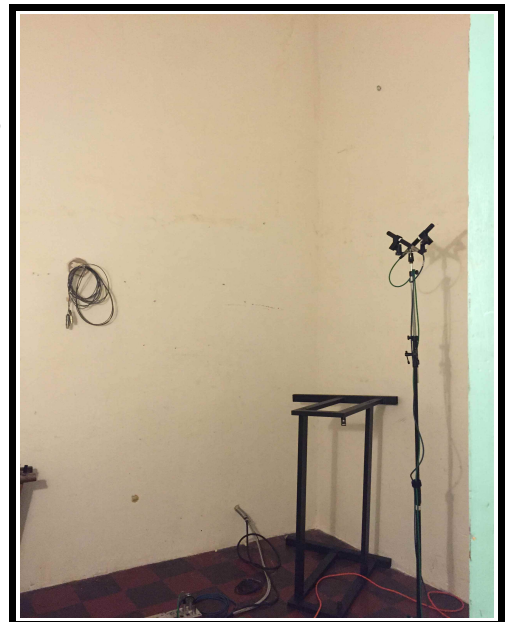


General Info

This is the first entry in what will be a series of releases sampled in **real spaces**. This one has a focus on echo chambers. What is an echo chamber? An echo chamber is a reverberant real space, which is used to add reverb (rather than distinct echoes- the name "echo chamber" is a bit of a misnomer) to any audio signal. This is done by playing the signal into the space from at least one speaker, and picking up the audio from that space with at least one microphone. The speaker/mic are usually arranged such that very little signal can travel directly between them, with the sound waves having to bounce off of the walls (becoming diffuse) at least once before reaching the mic(s). In other words, mostly just the reverberation of the space itself is captured. This new, reverb heavy aka "wet" signal can then be mixed back in with the original dry audio to taste.

This method was actually used to get reverb effects into recordings before any of the more artificial methods (plates, springs, digital units) became common. Famous examples include the fabled chambers at Capitol Records which are still in use today, Phil Spector's chamber(s) at Gold Star Studios, and 3 chambers at Abbey Road Studios. It's not too common for a studio to have a dedicated, purpose-built echo chamber these days, but some still do. Some will utilize a kitchen, lounge, bathroom, hallway, or other space as a make-shift echo chamber on occasion. This means echo chambers can have a wide variety of sizes, shapes, and types of material making the walls/floor/ceiling, and ultimately, a wide variety of sound in the reverbs they can produce.

Two different echo chambers at two separate studios were sampled for use with Nebula in this library. I'm giving them nicknames to help you differentiate between them when you become familiar with them. I thought about just using descriptive names, but names like 'concrete and dry wall' just didn't have a nice ring to them, so the first one is called "Cyclops' Cave" and it has a pretty spacious sound to it. It's about 10 x 11 feet with a 14 foot high ceiling, with plaster walls and no parallel surfaces. It was sampled with the door into the room both closed and open (open providing quicker decay), and with the speaker in two different positions. This one was captured in stereo (AKG 460 mics in ORTF configuration).



Chamber 2 is called "Lancelot's Tomb". The chamber is shaped like an 'L', with each 'leg' of the L being about 6 x 10 feet and 10 feet high. Some of the walls are concrete blocks, some are plaster on drywall, and some have bamboo over them for diffusion. It was sampled both with and without additional foam diffusers, providing two very different results. A mono mic was used.



Not only was "Cyclops' Cave" sampled 4 times to get every combination with both speaker positions and with the door open or closed, and "Lancelot's Tomb" wasn't only sampled with and without the foam diffusion, but for all of those setups there are 4 additional "Bionic" versions which use a process I came up with years ago that involves playing/recording the sampling tone sweeps faster or slower. The end result shifts the captured frequency response up or down, and lengthens or shortens the reverb. This gives you some very nice brighter or darker variations that usually sound just as good as the main/authentic ones.

I also added a couple of extra versions of the main (not bionic) "Cyclops' Cave" with a subtle fade applied to the samples so they decay even faster than the open door versions, which gives you 3 very distinct levels of decay time. Every sampled setup of "Lancelot's Tomb" also comes in differently equalized standard and bright versions. This brings the total number of "Cyclops' Cave" variations to 22, and "Lancelot's Tomb" to 20.

Here's the best part- all these variations are contained in just a few programs. You get a "select" control to switch between them. There's one "Cyclops' Cave" program for the main reverbs, and 2 for the bionic ones. Then there's one bright and one standard "Lancelot's Tomb" program, both containing all of the main and bionic versions of each. That's 5 total programs, with 42 total reverbs.

Besides the "select" control giving you instant access to up to 10 variations of a chamber within one program, you also have an "early" control that allows you to adjust the level of the captured early reflections. It goes from 0 to 100%, with 100% giving you the exact result that was sampled, and 0% fully taking away the early reflections. As always I've also added a feedback control which can be very useful as well. Altogether you have a huge amount of possibility with this library, while always retaining the distinctive core sound of the two captured chambers.

Installation

Just 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 'REV' category in Nebula, then in the 'EC9' and/or 'EC4' sub-categories. 'EC9' = 96kHz set, 'EC4' = 44kHz.

The programs

01a Cyclops' Cave (main) – Only includes the non-bionic reverbs sampled in this chamber. Here's what you get with the 'select' control:

- 1- speaker position 1, door closed
- 2- speaker position 2, door closed
- 3- speaker position 1, door open
- 4- speaker position 2, door open
- 5- speaker position 1, door open, added fade
- 6- speaker position 2, door open, added fade

The select control alternates between the two slightly different sounding speaker positions, while progressing towards faster decay/less reverb.

01b Cyclops' Cave (bionic dark) – Only includes the bionic versions of this chamber which are darker than the 'authentic' version. Select control settings:

- 1- bionic1, speaker position 1, door closed
- 2- bionic1, speaker position 2, door closed
- 3- bionic1, speaker position 1, door open
- 4- bionic1, speaker position 2, door open
- 5- bionic2, speaker position 1, door closed
- 6- bionic2, speaker position 2, door closed
- 7- bionic2, speaker position 1, door open
- 8- bionic2, speaker position 2, door open

Bionic 1 is the 'darkest' (more lower frequency energy), and bionic 2 is a little less dark but still darker than the main reverbs.

01c Cyclops' Cave (bionic bright) – Only includes the brighter (than authentic) bionic versions of this chamber. Select control settings:

- 1- bionic3, speaker position 1, door closed
- 2- bionic3, speaker position 2, door closed
- 3- bionic3, speaker position 1, door open
- 4- bionic3, speaker position 2, door open
- 5- bionic4, speaker position 1, door closed
- 6- bionic4, speaker position 2, door closed
- 7- bionic4, speaker position 1, door open
- 8- bionic4, speaker position 2, door open

Same as last time but bionic 3 is a little brighter than the main reverbs, and bionic 4 is brighter still.

02a Lancelot's Tomb (standard) – This one includes all of the main and bionic reverbs sampled in this chamber, with an overall balanced equalization/frequency response. Here's what 'select' does:

- 1- main chamber, no additional damping foam
- 2- main chamber, additional damping foam (much quicker decay)
- 3- bionic1, no foam
- 4- bionic1, foam
- 5- bionic2, no foam
- 6- bionic2, foam
- 7- bionic3, no foam
- 8- bionic3, foam
- 9- bionic4, no foam
- 10- bionic4, foam

The first 2 positions of the select setting are the main chamber reverbs, and then the ones that follow are the various bionic ones (going from darkest to brightest).

02a Lancelot's Tomb (bright) – Everything about this is the same as the standard Lancelot's Tomb program, except every reverb contained in this one is much brighter. The select control has the same exact progression.

Use

All of these programs are set up to use as 'sends'. There are a few reasons I've done it this way, and I encourage you to use them as sends. If you really want to use them as inserts, I strongly suggest using your DAW's built-in wet/dry mixer control (if your daw has it, and it should) for the Nebula plugin, instead of using the 'dry' control in the reverb programs to add the dry signal

back in. If you insist on using the 'dry' control in the programs to add the dry signal back in, you definitely want to avoid using the 'feedback' control also. The reason is explained in the tips section at the end of this manual.

One benefit to using these programs in an actual send slot in your DAW, is that you can also then apply a delay to the signal with whatever means at your disposal (again, see the tips section for a lot of ideas on this stuff), to get a pre-delay for the reverb effect. Nebula doesn't have this ability built in, so this is the only way to achieve a pre-delay.

Controls

Select- Selects one of several different sampled reverbs. See program details above.

Early- Allows you to lower the level of the early reflections.

Dry- Adjusts the dry signal's level. The programs load with this at the lowest level, which cuts the dry signal out. You definitely shouldn't use this to add dry signal in if you are going to also use feedback, and I recommend you never use it, and use your DAW's built-in wet/dry mixer control for Nebula instead, or even better- use the program in a send slot.

Verb- Adjusts the reverb level.

Feed- Adjusts feedback level. As long as you're careful with this, it can be really useful for getting more variety out of these reverbs. Turn it back down before you use 'select' to switch to another reverb, because the other reverb may be louder which may cause the feedback to get out of control upon switching. In other words, only start messing with this control after you're sure you've picked the reverb you want. It's always a good idea to follow Nebula with a limiter if you want to use some of this feedback.

Tips:

- **BE CAREFUL WITH THE FEEDBACK.** I highly recommend you put a limiter after nebula if you want to use the feedback control in these programs. Settings under 5-10% may be mostly 'safe' to use without a limiter, but over that you should make sure to have one on.
- You should avoid using the dry control if you are also using feedback, because the dry signal also feeds back which is typically not a good thing. This is just how the routing in Nebula is set up, and there's no way for me to change/fix it.
- These programs were sampled with dynamics, so they respond differently depending on the level- but not the input level. I've set them up so the dynamics react to the output level of Nebula, for reasons I don't want to go into, but in my opinion it makes more sense to get the most realistic results. Due to this, the best sounding results are had if your **output level shown in Nebula is usually reading at around -18 to -10dbfs.** You can adjust the 'verb' control to get the output level in that range, but always look

for the clipping indicator on nebula to light up, and if it does, lower Nebula's *input* control until it stops. **If using the programs on a send channel in your DAW's mixer, I strongly recommend using the channel's fader to adjust the reverb level where you want it in your mix, instead of using the 'verb' control or nebula's output control to do it, because using those controls to lower the output will alter the sound you get.**

- Again- focus on driving Nebula's *output* level so it's going over -18db but not clipping Nebula itself, then use your DAW's channel mixer controls to actually adjust the reverb to the level you want in your mix.
- About pre-delay- my favorite way of using these reverbs has become not using a send, but actually having a duplicate track in my DAW (Reaper for example) with the audio that I'm going to process with the reverb, and adding the reverb program on that duplicate track. This allows me to go into the main track layout and slide the audio items around to achieve the pre-delay I want. So if you're using a DAW that handles audio clips like that, I strongly recommend trying it that way. For me it's just a lot quicker and even more enjoyable to grab audio clips and slide them around to get the effect I want. You could even put the reverb track audio a little bit *before* the dry audio, to have the reverb happen first! Another thing you can do is slice the audio into segments in the reverb track, and slide each one around a little bit differently, so your pre-delay amount is changing every so often (or hey, you could even reverse the audio in short sections), and this is really quick to do in a capable DAW.
- There's another benefit to using these programs the way I described in the last point. That's the fact that you can then process the 'dry' audio completely separately from the reverb audio. This is something you couldn't do just by using a simple 'reverb send' setup (well, not without a little more elaborate mixer routing), where the send is going to have all the same effects applied to the main track, plus the reverb. For example- everyone knows about the trick of adding chorus to the reverb send, but what about adding chorus to the dry track and *not* the reverb? You just have a lot more freedom if you actually use an entire channel track for your reverb instead of a send. I'd say using a send would be the next best method, and using the programs as an insert would be the least good way of doing it.

V1.0 – 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.

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Special thanks to [Hyde Street Studios](#) (Cyclops' Cave) and [Dreamy Life Records/Cloudland Recording Studio](#) (Lancelot's Tomb) for letting me get samples of their chambers!!!!