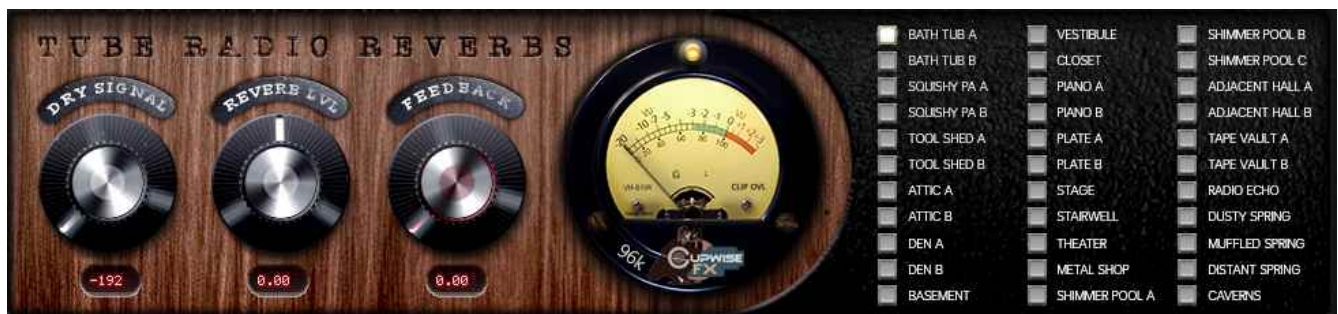


Tube Radio Reverbs



General Information

This reverb release for Nebula was created by running reverbs from various sources through old tube radios. Sources ranged from plug-ins, an old reverb rack unit, a real spring reverb tank, and the effects sections of a rompler and a VA synthesizer. Creative signal paths were used, sometimes employing feedback. In some cases the radios were mic'ed in real rooms and spaces to produce the reverb or to further modify another reverb source. The radios lent their filtering, distortion, and non-linear tube qualities to the reverbs. The result is a set of warm, dusty, vintage sounding reverbs. Most were sampled in mono but a few are stereo.

Because of the non-linear nature of the radios, many of these reverbs respond very differently to different drive levels. The drive affects both the reverb itself and the harmonic distortion. There are 22 unique reverbs altogether, and an additional 11 alternate versions. Many of the alternates were created by utilizing the sampled dynamic steps in different ways. For example- focusing on certain areas of the full sampled range, or 'flipping' the dynamics so the louder sampled steps are used for the lower levels. A few alternate versions were created by processing the impulses with pitch shifting, stretching, and/or a harmonizer effect, all done with a plug-in that uses FFT image resynthesis.

There's a lot of variety in this reverb collection, so just go through them, try them out and find your favorites! The programs are very simple so you just load them and maybe adjust drive levels and that's it!

The hardware I used to make these:

- Four old (1950's) table-top tube radios: Admiral model YG529, an unknown model Arvin, Philco B569 (AM only), Zenith C724G
- Two tube tuners: Bell 2255, Heathkit AJ-63
- Three FM transmitters of various quality: a cheap battery powered Belkin, a HLLY TX-01S, and the (very nice!) EDM TX LCD
- Three mics: an AT2020 condenser, an XM8500 dynamic, and an Akai ADM-6 (also dynamic).
- A modified VTB1 (opamps upgraded and 3 different tubes used)
- 2 channel mixer
- Yamaha MU128 midi box, with external input and effects (nice reverb)
- old, cheap, and lo-fi (think metallic) digital reverb Art Proverb rack unit, presets only, no parameters to adjust
- gibbs spring reverb tank (same tank used in Color Springs set)

- A-Station synth, ext. input through effects (reverb)
- PC, with various reverb plug-ins ranging from lo-fi to high quality
- real acoustic spaces: rooms, closets, a bathtub and a piano
- Yamaha HS80M speaker for the tuners, when real acoustic spaces were mic'd with them

Installation

There are two main steps to the installation-

- 1) Install the programs/vectors. Just copy the .n2p files to your Nebula 'Programs' folder, and the .n2v files to the 'Vectors' folder. Before moving on to the skin install, check to see that the programs do load properly in default Nebula, by going into Nebula's program finder list and loading them from there. You'll find the programs in the 'REV' category, then either the 'LO4', 'LO5', 'LO8', or 'LO9' sub-categories, depending on the sample rate(s) you've installed. 'TR5' is for the 48khz rate.
- 2) To install the skins consult the skin installation manual (in the skins zip), the section relating to either N3 or N4, depending on which you're using! After installing the skins you will be loading these programs as a unique plug-in, not by using the Nebula program finder/list to select them! So don't ever load them that way again (it breaks the buttons in the skins)!

Controls

Dry Signal - Just what it says. You can increase this control to add some dry signal back in. It's set to fully off by default because you should use these programs as reverb sends in your DAW, on send tracks. Doing so allows you much more freedom. If you do add some dry signal back in with this control to use it more like an insert effect, do not use the feedback control. Because of how Nebula's internal routing is hard-wired, dry signal will also be included in the feedback, resulting in undesired comb filtering.

Reverb Lvl - The reverb output level, but it's more than that. It also acts like an overdrive control that gives you a more or less harmonic saturation from the tube radios. It can also drastically change the sound of the reverb. Just don't go too far and clip Nebula's output. You should also try lowering it, as sometimes having a really quiet output gives you different results with the reverb. Then you can just boost it back up by increasing the gain for your DAW's send channel (assuming you're using it in a send as I suggested).

Feedback - Increase this to add some feedback in. A little bit of this can beef up the reverb. Too much can start to sound metallic. Be careful not to go too far and get a runaway sound that's too loud and damages something! A limiter is always a good idea with feedback.

Button Matrix - Clicking these buttons allows you to quickly and easily select between the various reverbs offered in this collection.

The Reverbs

The following section is not really required reading to use the effects, it just gives descriptions of the setups used to produce them. This section is here mainly to document the effort that went into the library, and give an idea of the variety of sounds that can be had from it- for potential customers and curious owners alike. The program names are usually just descriptive names I came up with, sometimes based on the actual reverb source, other times based on my feelings on how the reverb sounds.

Bath Tub:

Signal went through a cheap Belkin transmitter, and to the Admiral radio which was placed in a metal bathtub, with AT2020 mic hanging from shower head.

Bath Tub Alt:

Image-Line Harmor was used to stretch and pitch shift the impulses. It uses re-synthesis to do those processes so the results sound different from typical stretching/pitch shifting.

Squishy PA:

Two plug-in verbs were applied, so that they morphed between each other across the dynamic steps. At higher input levels one of the two dominates the mix, and the other at lower levels. After the plug-ins the signal went through D/A, straight into the Philco radio (DI). AT2020 mic picked up signal from radio, mic'd in a closet. Then to VTB1 with tube blend, and finally to A/D.

Squishy PA Alt:

For this alt version, the lower level dynamically sampled impulses have been removed, creating a reverb focusing on only the higher ones. The higher steps sound even more 'squishy', so this alt version ends up sounding very different and weird, but maybe you can find a use for it.

Tool Shed:

Quick plug-in delay+feedback applied increasingly to higher dynamic steps. Then the signal went out D/A, to Art Proverb using a room-like preset. From there it went straight into the Zenith radio, and straight out to A/D. Feedback was used here (some signal went back out D/A), with some plug-in effects in the feedback path including: tape saturation sim, EQ, and a formant filter effect.

Tool Shed Alt:

Alt version removes some of the 'early reflection' portion of the impulses.

Attic:

EDM transmitter picked up by Bell tuner and Admiral radio, both in different rooms. Bell tuner went out to Yamaha HS80M speaker with its low cut engaged. Both radios were in rooms that connect to a 3rd room with a wooden floor and low ceiling. Admiral and HS80M were facing into the 3rd room, where an AT2020 mic was dangling from the ceiling.

Attic Alt:

Dynamic steps were 'flipped' for this alt version, meaning the higher sampled impulses are now used for lower drive levels, and vice versa. Harmonics still responds normally (more at higher output levels).

Den:

Same setup as Attic, but a different 'take' was used which just came out sounding differently.

Den Alt:

Alt version focuses on the lower sampled dynamic steps, and the main version focuses on the higher ones. They sound slightly different.

Basement:

Started with Art Proverb rack unit with a very fast room reverb preset (this unit only has presets, no parameters to adjust). From there to VTB1 (no tube blend), then to Philco radio (directly in, no transmitter). Directly out to cheap 2 channel AT mixer, then to A/D. Some signal went back out D/A to create some feedback.

Vestibule:

Processed with an old and once very well-regarded DirectX plug-in reverb. This was done in a tricky way- the lower level dynamic steps were processed with settings that emphasized early reflections, while higher dynamic levels emphasize late reflections. Then to the EDM transmitter. Signal received by the Arvin tube radio, and sent directly out to A/D.

Closet:

EDM transmitter, picked up by Zenith radio. Radio was in a closet, facing out into bedroom. AT2020 mic was positioned across the room, caught signal which then went to VTB1.

Piano:

EDM transmitter picked up by Arvin tube radio which was stuffed up inside an upright piano. The radio was in the treble end, facing towards the bass end where an AT2020 mic was placed. The lid wouldn't close all the way on the radio, so some pillows and a blanket were stuffed into the gap to seal it up a bit.

Piano Alt:

Harmor was used again, for pitch shifting and stretching.

Plate:

Signal went into Yamaha Mu128 using reverb with plate algorithm at custom settings. From there went into VTB1, with 'tube blend'. Then, to EDM transmitter, with signal received by Arvin radio. Signal was sent directly out of Arvin radio back to A/D.

Plate Alt:

Image-Line Harmor used for harmonizing effect, which produced a stereo image.

Stage:

First to two channel AT mixer, then directly into Zenith radio, and from there directly out to A-Station synth. Effects used in the A-Station include: 'echo chamber' reverb, some distortion, EQ, and also a very fast delay effect with a lot of feedback. Then to EDM transmitter, received by Heathkit. From Heathkit to A/D. There's more- an mp3 player's headphone output was plugged into the mixer's other input channel, with the mp3 player's radio tuner also picking up the signal from the EDM. This created a feedback loop that included the mp3

player, mixer, Zenith radio, A-Station effects, and EDM. Lastly, some of the signal was sent back out through the D/A, so this created a 2nd feedback loop including the whole setup. There was also some dynamic eq, that made the sound brighter at higher input levels.

Stairwell:

First a convolution reverb was used, with impulses from a stairwell. Two different versions were used (different impulses from the same stairwell), and were crossfaded across the dynamic steps. Then the signal went out through D/A, into the Bell tuner (directly, no transmitting). From there to the Mu128, where additional reverb was applied, along with a lo-fi filter effect. The Mu was also driven fairly hot. From there the signal went back to A/D, but there was a feedback loop set up and some of the signal was sent back out (with some vst delay in the feedback path).

Theater:

Signal went through Yamaha Mu128, using its 'hall 2' reverb algorithm, with settings customized. Then to Hlly FM transmitter, signal picked up by Admiral radio (radio's tone knob set to taste). Signal was taken directly from Admiral.

Metal Shop:

First, some hall style plug-in reverb. Two different custom setups were used, and were 'morphed' between, across the dynamic steps. Next the signal went out through D/A, and straight into the Art Proverb unit. Then to the Heathkit tuner, but I'm not sure how (transmitted or direct?) because I lost this part of my notes.

Shimmering Pool:

Into Novation A-Station synth, using its 'grand hall' reverb. Then signal went to VTB1 preamp, with a little tube blend. Then directly injected into Philco radio. Directly out to AT mixer, and finally to A/D. A bit of the signal was sent back out through D/A, with some plug-in reverb and EQ in the feedback path.

Shimmering Pool Alt 1 & 2:

These alternate versions focus on different parts of the dynamic step samples, and they sound fairly different because of that.

Adjacent Hall:

Nice plug-in verb with customized settings was applied. Then signal went out D/A, to HLLY transmitter, and was picked up by Admiral radio with tone knob set to taste. Akai ADM-6 mic caught signal, with radio/mic combo in closet.

Adjacent Hall Alt:

Dynamic impulses were flipped.

Tape-Vault:

This one was constructed in several stages, with several (3?) trips out through D/A and back to digital made along the way. First, the mu128 was used for reverb. Second D/A and back used the Tascam 122 mk3 cassette deck, with a type 4 metal tape. Then I added some plug-in delay/echo. The echos should react differently at different drive levels. Then I ran the recording back out through D/A again, but this time it went through the University PA amp where the signal was boosted before hitting the Philco tube amp. Each channel used slightly different settings on the Philco's treble knob, and there was some feedback introduced in the chain. This one was originally only available as a bonus included in a special bundle, but now it's included here in this release. It's one of the few stereo reverbs.

Tape-Vault Alt:

Dynamic impulses were flipped.

Radio Echo:

First some vst reverb was applied, then into the Yamaha Mu128. Two reverbs were used in series there. From there, the signal went to the HLLY transmitter, and was picked up by the Bell tuner.

Spring 1:

Straight to Gibbs spring tank, then to VTB1 with small amount of tube blend, then to EDM transmitter. Heathkit tuner picked up signal.

Spring 2:

Gibbs spring reverb tank, with some dampening. Then to VTB1 to amplify the signal, then to EDM transmitter, picked up by Zenith radio and directly out

Spring 3:

Gibbs spring reverb tank, to VTB1, to EDM transmitter. Signal picked up by Bell tuner, back to A/D. Some signal sent back out D/A to create feedback, with a tape-sat style vst distortion plug-in in the feedback path.

Caverns:

Mu128, with 'canyon' reverb algo, and the dimensions of the space were set to resemble a narrow passage. From there the signal went to my EDM TX transmitter, and was picked up by the Bell tuner. From there, to a Yamaha HS80M monitor/speaker. Then, the signal was picked up by an Akai ADM-6 mic adding some acoustic room reverb to the DSP verb.

Huge thanks to Max Ponomaryov, aka azzimov for the skins! Consider donating to his patreon account, which helps allow him to continue doing all the great graphical work (and other help) he's been doing with Nebula!

<https://www.patreon.com/join/azzimov>

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