

Better sound in a consist

Bob #1 March 28, 2018, 11:24pm

For those of you using Loksound or Soundtraxx Tsunami version 1.2 decoders, there is a way to make multiple, identical locomotives operated in a consist sound better. An example would be an ABA set of F3 locomotives.

The basic problem is that ordinary decoders, when operated in an advanced consist, all fire the #1 cylinder at the same time. My ABA F3s sounded like I had one decoder driving 3 speakers. Now mind you, back in 2002 we thought they sounded great. In 2002 *any* sound was great.

Lately I've been standardizing on Loksound decoders, and I came across something wonderful. I slowed down the playback speed of the 567BC prime mover in one unit by about 2% and sped it up in another by the same amount. Now the #1 cylinders don't fire at the same time, and the consist sounds like a cacophony of 3 separate engines.

Here's a link to my Smugmug account to a gallery with two videos. The first video, recorded around 2002, shows the ABA consist with ancient Soundtraxx DSX decoders, all of which fire cylinder #1 at the same time. The second recent video shows them after the speakers were replaced with "high bass" units (and will again be replaced with Tang Band 1825 modules) and Loksound decoders, running normal speed, +2% and -2% speed shift.

If you have a LokProgrammer, here's how the speed shift is done.

Sound slot configuration

Sound slot 1: EMD-16cyl-567BC-AT-FT
 Sound slot 2: Drive Hold
 Sound slot 3: Nathan Single Chime
 Sound slot 4: Bronze Bell
 Sound slot 5: Coupler
 Sound slot 6: ALCO Dynamic Brake 251-16 FT
 Sound slot 7: Compressor
 Sound slot 8: Radiator Fan
 Sound slot 9
 Sound slot 10
 Sound slot 11: Independent Brake
 Sound slot 12: Brake Set/Release
 Sound slot 13: Sanding Valve
 Sound slot 14: Short Air Let Off
 Sound slot 15: Air Dryer
 Sound slot 16: US airhorns pack #1 - short airhorns (L...
 Sound slot 17: Slow Spitter Valve
 Sound slot 18: Spitters on Shutdown
 Sound slot 19: Air Reverse
 Sound slot 20: Run 8
 Sound slot 21: Coast
 Sound slot 22
 Sound slot 23: Gong Bell

Sound slot 1: EMD-16cyl-567BC-AT-FT

▶ Preview

■ Stop

Volume [CV259 (CV32=1)]

128 100%

Minimum sound speed [CV261 (CV32=1)]

125 97.66%

Maximum sound speed [CV262 (CV32=1)]

125 97.66%

Play only if drive sound is enabled [CV260.0 (CV32=1)]

Sound selection

Sound configuration: [CV48]

64

Lest you think I've lost my mind, the Alco dynamic brake is something I *intentionally* changed. That's because the F3 (and probably F2 and FT) used squirrel cage blower fans to keep the dynamic brake grids cool. Those had a high pitched whine, closer to the Alco DB than the stock EMD DB sound.

Here are a few photos of the F3 DB assemblies. These are non-functional, as are all other known F3 DBs.

Dynamic brake grid in an ARHS F3, upper right:



Dynamic brake squirrel cage fan on one side of the ARHS F3. There are two of them:



GNR #2 March 30, 2018, 2:58am

Can this be done with the air horn sounds?

Scott

Bob #3 March 30, 2018, 3:43am

Scott -

Technically, yes, any sound slot can have its playback speed changed. The main question would be what do we wish to accomplish by that?

Changing playback speed lets us create a sound panorama in multiple locomotives that play the same sound at the same time. The prime mover and the dynamic brake (if any) are two sounds that benefit. However, only one locomotive's horn should sound, and there are CVs to disable horn sounds in all but one locomotive in a consist.

With most DCC systems one must decide in advance which engine in a consist will sound the horn and bell. However, the current NCE system lets us set up every locomotive so that only the selected lead locomotive in a consist has an active horn and bell. Before NCE added this I set up only the B unit in an ABA consist to sound the horn and bell.

I suppose one might tweak the playback speeds for a horn so that one or more would be out-of-tune, and thereby sound different.

GNR #4 March 31, 2018, 1:41am

That was the idea. One of the things I like about old horn valves are the engineers. When pulling the valve slowly the horn has different sounds. There was also a manifold for the prime 920 that opened slowly on one bell the went to full three bells. Changing the sound speed would hopefully achieve that effect.

Scott

Bob #5 March 31, 2018, 2:09pm

Scott -

The pitch of everything in a sound slot changes with the playback speed, so the horns will go *way* out of tune before they significantly slow down. It might prove helpful to download the free LokProgrammer software and one of the Select diesel files (each one has multiple horns.) There is a simulator feature you can use to hear what each horn would sound like when slowed down.

CentralFan1976 #6 March 31, 2018, 2:15pm

That's fantastic!

I also like the sound of out of sync diesels, and did the same thing using Lionel's sound controls! In my case, I used the ERR generic F in the Atlas F2 and Lionel's original sounds in the F3, which are at different RPMs and notch up/down out of sync. Even better, was when I swapped the sound chips out of the Atlas GP35, I used the Lionel SD40 sounds (yes, I know it's a 645 prime mover), so now not only do they notch up/down out of sync, but also their turbos spook up/down out of sync as well! The sound is amazing!

Great job!

Bob #7 March 31, 2018, 3:29pm

I'm glad you like installing different sounds. To some extent that can also be done with Loksound, as there are multiple recordings of certain locomotives, such as the SD-40.

However, I prefer to have all locomotives in a consist notch up and down together. Prototype locomotives use a multi-pin MU cable to control throttle notching. In this short Youtube video, notice that the RS3s all notch up at the same time as witnessed by the plumes of honorary steam engine smoke about 47 seconds into the video.

CentralFan1976 #8 March 31, 2018, 4:02pm

Nice!

I shouldn't have said "out of sync" as they do notch up/down at the same time, as they are mu'd as a train.

Thanks!

-Mario