

Modeling the O&W
“WOW Sound®” for a Bullmoose
No. 48 in a Series
By Mal Houck



Well done and finished ten years ago, this model of NYO&W Class X “Bullmoose” No. 358 was in need of some touch up. A fine and smooth running engine, this was one of the first of my O&W stable of engines to receive a DDC install.

Originally, one of the earlier Soundtraxx DDC sound decoders was installed but in their configurations back then, while sound was very good for the time, motor control left something to be desired; -- at least in this engine. Back on the bench the decoder was swapped out for a Lenz “Gold” decoder. This decoder has excellent motor control. . . perhaps among the very best, yet today, but no sound output. For the time at which I’d completed the install the silence was acceptable. Following DCC installs with other locomotives, sound equipped with “Tsunami”® decoders, this engine no longer measured up to its roster mates.

Most of those of the NYO&W steam engines (and diesels as well) on my roster equipped with sound decoders have the Soundtraxx Tsunami® and Micro-Tsunami® installed. The ease of installation and programming has made these, to date, nearly a “standard” on my bench. However, always looking for interesting upgrades and contemporaneous engineering, and without any prior knowledge or experience whatsoever, I plunged and bought a TCS WOW Sound® - KA-2 “Stay Alive” decoder at a train show last spring. The package languished in a shop drawer without any attention while the activities of summer and other modeling and authorship projects advanced.

Returning to the shop as the demands of fall season yard chores diminished, some experimentation with Stay Alive add-ons in smaller engines ensued. The short wheelbase NYO&W Class U and U-1 Double Cabs, which can be very finicky in operation over switches, have responded remarkably well with the marriage of Tsunami – KA-2 components. At a historical society convention in early fall, a conversation with craftsman – builder – painter Blake Tatar brought forth his endorsement of the TCS WOW Sound decoders. It was time to break out and try the TCS decoder languishing in my “home hobby shop” inventory. A revision to the mute operation of No. 358 seemed just the place to start.



The image above shows the TCS components “roughed in” for preliminary fitting purposes. Having used the KA-2 Stay Alive super capacitor module before in the smaller tenders as mentioned, I knew of its compact size. I’d installed home-made keep-alive circuits in the past, based upon Marcus Amman’s circuit using a conventional 2400 μ f cap. I was well enough pleased with the better performance of the TCS super-cap and much more compact size to retro-fit some engines and remove my home built stay-alives. What was a surprise when I opened the WOW Sound package was the small size of the decoder itself!

An examination of the specifications for the WOW Sound decoder, and the known current draw of the Cannon motor in the Bullmoose, solidified the decision to use this decoder. As a large and slow moving brute the Bullmoose reputation in life commanded the most exuberant sound that could be mustered. With the “rough in” fitting of the solid state components I was able to select the 1” oval speaker shown in the above image. A recent install in an NYO&W Y-2 Mountain type, using a Tsunami Heavy Steam decoder – KA-2 and 1” High Bass speaker, and its output,

had justified my choice of the largest speaker possible within ready space in the tender of that heavy mainline steam engine. Bullmoose No. 358 could stand for nothing less!



In this image all of the WOW Sound – KA-2 – Speaker – Speaker enclosure components have been nested into the tender superstructure . . . and with some room to spare, no less! The tender trucks are wired directly to the decoder input wire, and each truck in turn has axle wipers made from thin sheared strips of 0.010” phosphor – bronze attached to the truck bolsters with 1 mm screws. Feed wires from each truck are attached to truck bolsters with solder lugs attached also with 1mm screws run into tapped holes on the opposite side of the truck bolster across from the axle wipers. The trucks are attached with nylon screws, insulating the trucks entirely from the tender frame; -- an “ice cold” [electrically . . . as I’ve come to designate it] tender in the final installation.

The TCS method of programming is a bit peculiar (in contrast to other systems, and especially differing from the Soundtraxx protocol with which I’ve become very familiar) in its use of “Audio Assist” voice commands. With the TCS data sheet in hand, containing a diagrammatic flow chart, it’s not so very difficult to master. In summation and result the WOW Sound decoder projects an exuberant “chuff-chuff” sound, a hearty whistle and bell ring with an excellent sound decay.

After its initial run, all that seems to now be missing from No. 358 is some smoke, cinders, a smell of hot valve oil and the shake for the ground as it thunders past!
More Later.....Mal Houck