

Volume 13, Issue 9 • September 2007

Model Railroad NEWS

Building an Empire:

GN beauty finishes its run with Walthers F7 set and dome cars

Bachmann's old Northerns get a new lease on life

Is Digital Command Control flawed?

John Sipple examines industry-wide Achilles' heel in his *Thinking of DCC* column

PLUS

- Installing a *Totally Hidden Uncoupler System*
- Kato's revolutionary DCC-ready F3s

Zimo brings sound to the garden with new Large-scale decoder

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The NewsMonthly for Model Railroaders

I briefly experimented with mounting the Totally Hidden Uncoupler under a stretch of Kato Unitrack by shimming the metal plate with styrene to raise it high enough. While this is possible, the challenge becomes fine tuning the position of the magnets without easy access; you have to remove the track to adjust them, then put the track down and see if the change worked. Based on this, I wouldn't recommend using the Totally Hidden Uncoupler with Kato Unitrack.

Closing Thoughts

The Totally Hidden Uncoupler does away with the unsightly magnet between the rails approach, providing reliable uncoupling hidden away beneath the track. Based on my experience I would recommend using two starter kits for each uncoupling zone, to minimize the amount of fine-tuning needed.

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REVIEW **DCC** Zimo's Large Scale DCC decoder poised to take sound conversion market

Review and Photos by John Sipple

MX690S (3A, 8 functions, 4 servo outputs),
MSRP: Can \$210.12 (*US \$178.60)
MX690V (5A, 14 functions, switch inputs (as reviewed); servo outputs, low voltage supply (1.5V - 15V),
MSRP: Can \$241.02 (*US \$204.87)
LSFRS5 2 inch speaker,
MSRP: Can \$16.99 (*US \$14.44)
LSFRS7 2.75 inch speaker,
MSRP: Can \$18.54 (*US \$15.76)
SPEIGOMP capacitor kit,
MSRP: Can \$13.90 (*US \$11.81)

*Based on an exchange rate of 0.85

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WHEN I had an opportunity to review one of Zimo's new MX690V sound decoders with a five amp motor output, I jumped at the project, but what locomotive was I going to convert? I looked over my roster and my pulse began to accelerate. Did I dare? Number 9 beckoned to me.

Way back in 1998, I bought my first major Large Scale locomotive, a Bachmann Shay, and oh was it a honey! Well, sort of. I had to send the trucks

back for a rebuild and then it was a honey. It had never been a candidate for conversion to DCC until they came up with their conversion trucks, the ones with the cast truck boxes and the improved truck pickup system that could be separated between pickups and motor contacts, the fundamental of DCC wiring. At the time, I installed a silent motor decoder.

Now I had a chance to have sound in my Nine Spot, one of the few locos to actually wear the proud logo of the Oregon Pine Belt Railway. So in a way, I was risking one of my favorite locomotives, but then I had heard good things about Zimo, so I was in a trusting mood.

The Zimo decoder comes with the decoder, a pair of ribbon cables with the 0.100 cable punchdown terminals, and a very thorough instruction manual. The MX690V is the sound version, which is rated at 5 amps continuous.

Making the Change

There isn't a lot of spare room inside of the bunker shell of Shay, especially with the weight installed. One always toys with the notion of removing it, but then you come back and deny that, because your performance is tied to the weight on the wheels. I'd be working with my Xuron nippers, first taking off some of the circular speaker-mounting site so the speaker's square base would sit down squarely and the mounting tangs could hold it in place. That really only took a few minutes, but it had to be done first and left a limited amount of space above.

This is the first generation Shay,



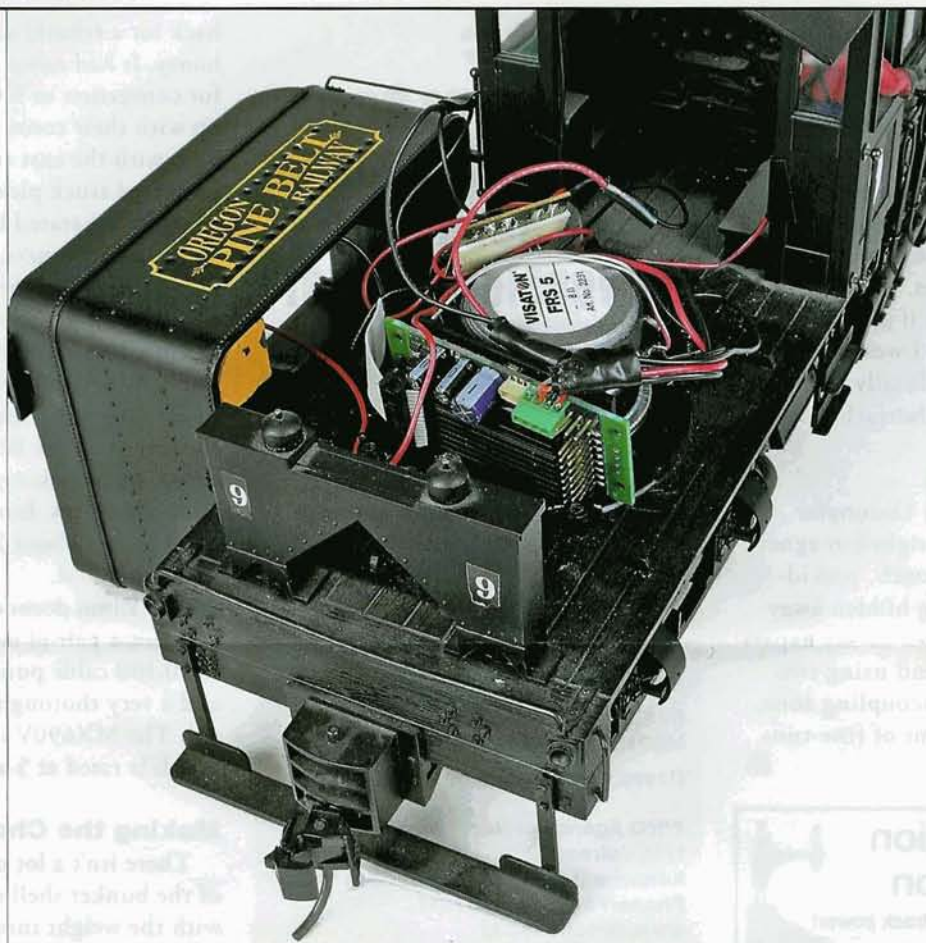
I probably should have shot the decoder before I installed it, but I'm like a kid at Christmas! So here it is, with the ribbon cables going out both sides,

very easy to install and use. The screw terminals make your basic four red, black, orange, and gray connections for motor and track.

and it has a very small power board which I just taped to the side of the speaker to keep it out of the way. When I mounted the original decoder, I didn't convert the headlights, leaving them both running without directional operation. At some point, I may fool around and get them operating, but not today. Between the speaker and the weight, there really isn't a whole lot of space left in the shell.

Generally, unless you want to cut away the bunker inside supports of the shell casting (which probably aren't necessary anyway) you're

going to have to locate the decoder atop the speaker toward the back and crosswise. Even at that, you'll have some difficulty getting the shell fastened down; at least such was my experi-



I first tried it with the larger 2.75-inch speaker but I had trouble getting the shell to close down tight. Finally, I gave up and went to the smaller, two-inch speaker and put the decoder behind while pushing

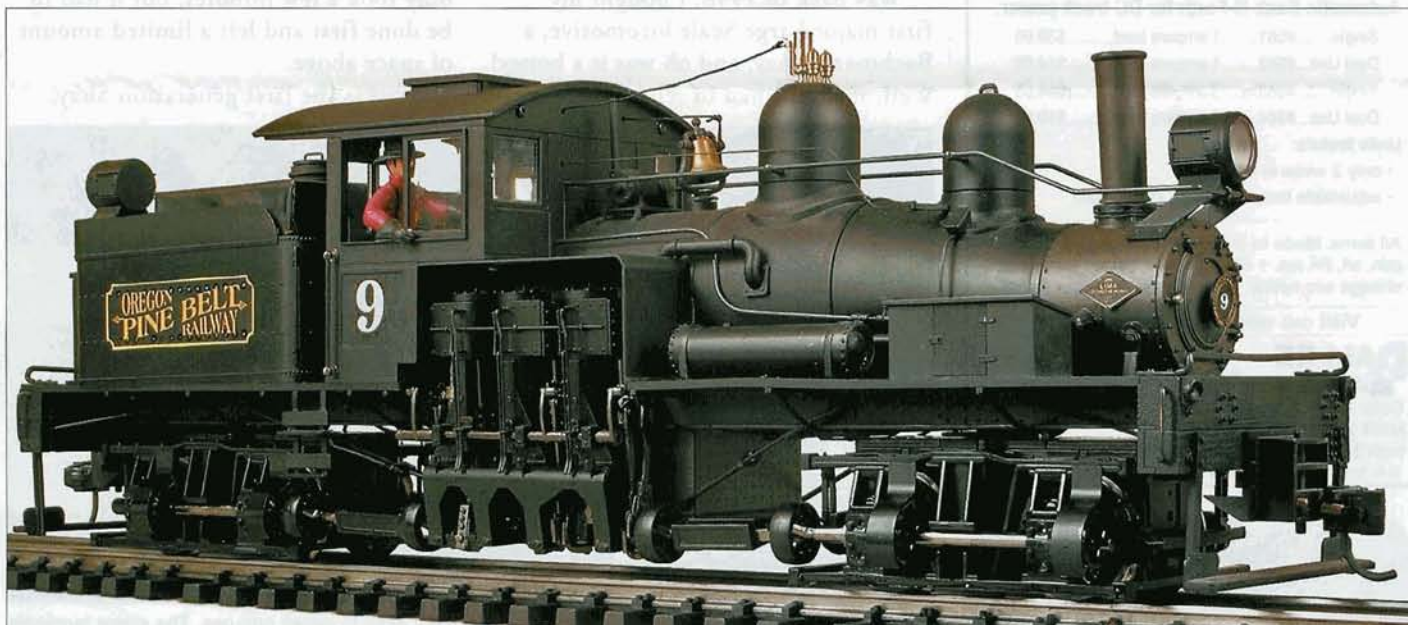
the speaker as far forward as I could. That worked. After this shot, I then collected all the wires into neater bundles and closed it all up nicely.

ence. There really isn't room between the speaker and the side of the shell for the decoder, nor between the rear or the front. If you employed a smaller speaker and located it off center to one

side or pushed to the front, you could probably make an easier go for yourself. However, the larger speaker also closed the baffle and gave a very lovely tone.

The other issue is the one of holding down the shell. Bachmann uses hook catches in the front and one, long screw under the water hatch. If you were prepared to use something else of your own creation, you could abandon the hook catches, which aren't reliable, and nip off the screw business, which would give you a good space to locate your decoder. Small L brackets with screws would work very dependably.

For me, wiring was very simple since I didn't connect any of the functions. I used the connector on the right to make contact with the two speaker leads and the four screw terminals to



The point of this portrait is that you can't tell from the outside what's inside the locomotive, if it's done right — at least until you fire it up! This first generation Shay

needed a truck job to set the stage, a good upgrade. The Nine Spot's still a classy-looking old woods hauler, but with the Zimo, she works like a champion.

hook up the track and motor leads. That was it. I'll tend to that issue when I feel like chasing down leads for wiring the headlights. The Zimo system uses what amounts to a computer cable connection which will have you making up your own ribbon cable. Don't be afraid of it; you can use your channel lock pliers or your bench vise, which was my choice. The only soldering I did was to secure the speaker terminals on the side of the speaker — an easy job.

In the end, however, I lost the battle of the space to the speaker size. I gave up the larger 2.75 inch for the 2 inch. The Zimo has the power to make a noticeable difference in sound; you should know that. There was more fidelity with the bigger transducer, but the engineering demanded more than the sound im-

provement. In went the smaller speaker, shoved toward the front, and the decoder sat on its edge right behind it, in front of the weight. Nobody else has heard them both, so nobody else cares. There's just as much volume but just a little less bottom end. I can handle it.

Living with the Change

My first operation was up on test rollers. I worked with both a Digitrax and an NCE system, just to see how both of them did. Since those are the most common for users in North America at this point in time, you'll be pleased to know both of them worked with the Zimo just fine. I shifted the locomotive's address over to No. 9 without incident; my supplier had already set the decoder up for a very nice Shay sound.

This is a fully loaded decoder with a full crayon box of CVs with which to color. There is Back EMF that can be turned on and off, up and down. Not only do they have all the standard stuff such as Vstart, Vhigh, Vmid, Accel rate, Decel rate, four digit addressing, consisting controls, and much more, they also have such exotic things as signal controlled acceleration and deceleration. I'll let you ponder what that might mean.

Meanwhile, I started pushing function buttons. Once a decoder has taken charge of a locomotive, simply pressing the number buttons on your cab will make things happen. Generally, you press [0] to operate the headlamps, [1] for the bell, [2] for the whistle, [3] for the couple clank, [-8] to turn on or off

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the sound, and so on. In this case, the folks in Europe are not bound by our trends in operation (and that's all these conventions really are), and so [1] is a two-chime whistle, [2] is a mid single chime whistle, [3] is another duo-chime whistle similar to the first, [4] is a steam let-off, [5] is a single high piping whistle, [6] is the bell, [7] is coal being scooped, [8] makes a chuff sound in motion and steam idling sounds at rest, [9] sounds like a grease gun, and [10] is the feedwater pump.

As delivered, the package is very reasonable, so I felt no particular need to change anything, though there is prodigious control of just about everything. Perhaps, after I've played with it a while, I'll get into it some more. Outdoors, on the layout, I really liked the sound, especially the whistle on function 3. You have to press to turn it on and also to turn it off, but you get used to this. It is very immediate, which I like, and the whistle has a lovely echo to it. The chuff barks nicely when you throttle up and eases off when you drift.

The loco, with the decoder right out of the box, runs at speed step one,

crawling from tie to tie at less than one scale mile per hour. Astounding! We knew Bachmann had built this into their trucks, but it took DCC to get it back out. Top speed is around 18 scale miles per hour; very realistic. I put on a little momentum just to simulate the ponderous weight of the beast. What a sweetheart!

Enhancements to the Decoder

Zimo lives in the entire world, not just North America, so it is prepared to operate with Marklin, Roco, and LGB. This decoder also supports the SUSI sound module standards (which either you understand or don't. If you don't, please don't worry about it.). This decoder supports "Krois coupler/uncouplers," another item with which I have no experience but find interesting.

There are four servo motor outputs on this decoder, something missing from most other large scale decoders. These would operate at around five volts at fairly low amperage, something you could probably arrange on another decoder's function, if you were careful and clever. This decoder offers Smart Stop Management. This feature

prevents the loco from stopping on a stretch of dead track caused by dirt. It does this by having a capacitor in the power supply that is triggered if the loco stops where it has no access to power; the cap drives the loco forward a bit until it reaches a powered section. Very cool.

Since a minimum of 1,000 microFarad would be needed and more like 10K would be useful, and given the space problems I was experiencing and that caps like this would be the size of my thumb, I had to pass on this magic, at least without some advanced engineering. I suppose it would be possible to position a large cap right on the catwalk to look like an air tank, make the insulated leads look like pipes and put on some straps, painting the whole thing flat black and routing the leads back into the shell area. It is also possible to set up this capacitance to assist the loco over dirty track during regular running, though I use stainless steel track and have very little trouble with this.

The Zimo Solution

Well, my trust wasn't misplaced. This is a dandy solution, one that

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09329208	535-Series Coach	February '08
09329207	Pullman Super Dome #50-59	August '08
09329204	Tap Lounge #172-173	June '08
09329203	Diner #121-126	May '08
09329205	"Valley" Series Parlor Car #190-197	December '07
09329206	"Rapids" Series Skytop Lounge #186-189	July '08

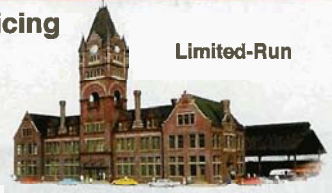
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works very nicely. I don't think I've completely explored the placement options under the shell. I may try to wire the headlights and cab lights to various functions. I also may try to re-engineer the installation so I can use the larger speaker, but that's going to take some real work. I was amazed at how quickly this went and how good it sounds and operates. I cringed at the thought of digging into my old Shay, but now I'm wondering why I worried! Most of all, my old Nine Spot is an even greater favorite.

Model Rectifier Corp. releases dual mode decoder for Kato F3s



DCC & DC— Model Rectifier Corporation has released a drop-in, Dual Mode decoder for Kato's. The decoder is equipped with all 28 NMRA functions.

Following MRC's latest Dual Mode sound decoders: the 1644 (Kato SD70MAC/AC4400) and 1645 (Kato P-42 Genesis and EMD E8/9), the F3 decoder has no connectors, and requires no wiring, machining, or dremeling, making it easy to add sound and DCC capabilities to Kato's new locomotive. Simply remove the loco body, unclip the factory circuit board, drop in the new decoder, insert the clip, and put the body back on.

Featuring MRC's Brilliance sound, the drop-in board is mounted with a high-fidelity speaker and includes genuine EMD 567B prime movers sound, and the modeler's choice of bells, horns, and more. The dual-mode decoder also allows DC railroaders synchronized diesel rumble as well as full sound and control capability when coupled with MRC's BlackBox (#1050) control unit. The decoder is available with sound (#001658) for \$84.98 and without sound (#001659) for \$32.98.

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