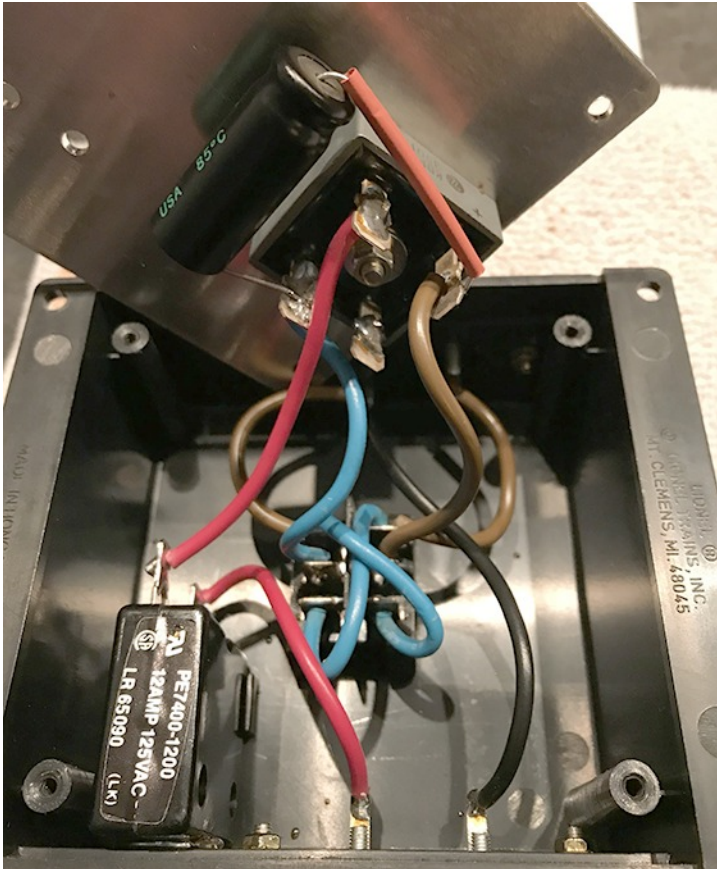


Lionel's Long Forgotten AC Rectifier - The DC Converter Box

By Greg Viggiano



Those who started their childhood model railroading days with Lionel trains certainly remember the mighty ZW transformer. Rated 275 W, this AC behemoth was something to behold!

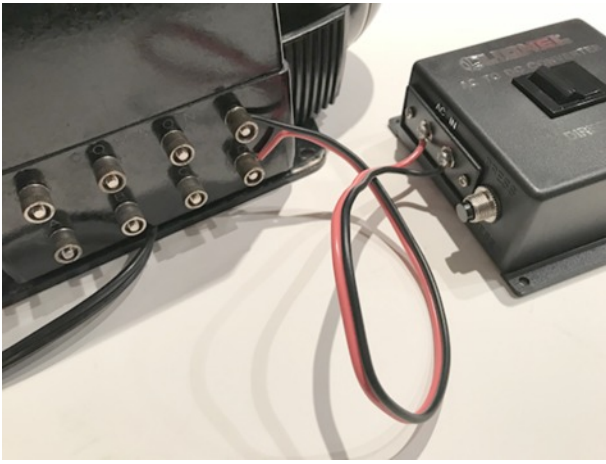
Beautiful as it is powerful, you can still find plenty of these transformers at swap meets, ranging in price between \$100 and \$200 (depending on condition). Also, it's relatively easy to service and restore these units.

I took my 1950s era ZW to Trainland in New York. Their service is excellent, and I was even able to get it back a few hours later. As a working piece of model railroad history, I thought that might be interesting (and nostalgic) to put it back into service. Also, at a recent visit to the TCA show in York, PA on April 18, I came across another ZW transformer expert that I would send restoration work to. John Thomson was selling beautiful, fully restored Lionel ZWs for \$185. His work looked exceptional and the restoration cost of a typical ZW is usually about \$100 (depending on condition). His email address is rcflyer76@yahoo.com and phone number is 484-650-1855.



Using a simple rectifier circuit, it's not difficult to convert the ZW's AC output to good old DC. Apparently around 1990, someone at Lionel thought that it might be a good idea to offer such a product and they came out with the DC Converter Box, part number 8-82116.

Prices for the Lionel Converter Box usually range between \$25 and \$50 on eBay and are not too hard to find. Most Converters I've seen are in excellent condition and come with all of the original packaging, instructions, and even the warranty card. The Converter Box features a top-mounted reversing switch and an 8 amp circuit breaker. I added an internal capacitor (Aluminum Electrolytic Capacitors - Axial Leaded 200uF 50volts, Mouser part number:75-500D207G050FF2A) for smoother operation, but the



Converter works fine right out of the box and operations are very reliable at low speed.

The Converter Box product information sheet notes that the unit has an internal 8 amp circuit breaker, but when I installed the capacitor the circuit breaker was labeled at 12 amps (see picture).

Installation connections are super easy. Two AC wires go from the ZW terminals to the Converter Box's AC terminals and two DC wires (check for intended polarity) go from the Converter Box's DC terminals to the track. That's it.

Why bother?

If for no other reason, nostalgia - but, it's good to have multiple power options for test tracks, isolated loops, dare I say, even a 3-rail segment. With this approach, the ZW transformer provides AC power and adding the Converter Box, you now have DC power. For DCC locomotives, I run a separate, isolated NCE system. And last, but not least, my personal favorite is DCC power on board, a.k.a. dead rail. This arrangement provides me with multiple power options for all kinds of locomotives . . . even 3-rail (before converting to 2-rail).

So, no matter what kind of locomotive you brought home from your last train show. You can soon have it running in a few minutes.

