

DCC Sounds for the Bachmann Peter Witt Streetcar Model

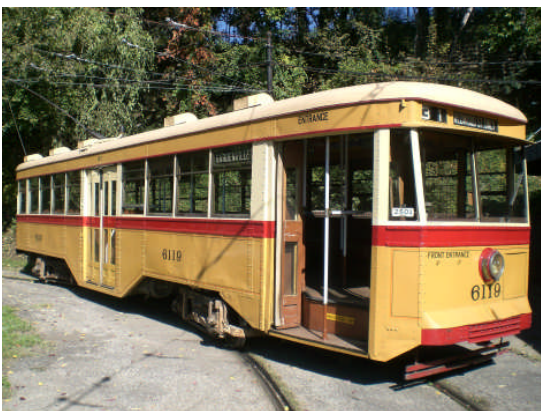
By Fred Miller



Author's model of HO Peter Witt Car

The Peter Witt Streetcar model released by Bachmann (Spectrum) in 2007 generated a lot of interest in both the trolley modeling community as well as with model railroaders in general. The model car is nicely done in most details and includes a Bachmann's E-Z DCC motor decoder. The frame for the car includes an enclosure for a 5/8" speaker, however no sound is provided in the Bachmann release.

Based on my earlier experience implementing DCC sounds in some of my other traction equipment, I decided to do a custom sound installation for the Peter Witt Streetcar model. An undecorated model was acquired since I would be painting the car in my own company colors.



The next step was to acquire the appropriate sounds. In October of 2008 I visited the

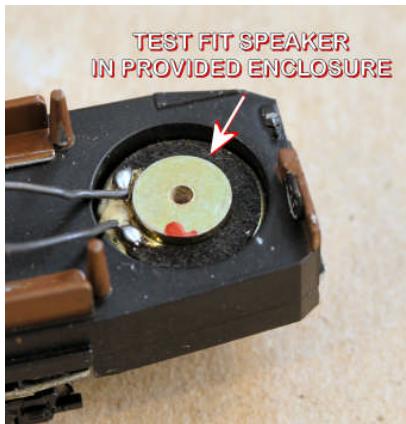
Baltimore Trolley Museum and recorded operating sounds from their Peter Witt car Number 6119. (I understand this was the actual car that the Bachmann folks used to develop their model.)

Although my earlier DCC "generic" traction sound project, implemented using the Digitrax SFX sound decoders, could have been used for the Peter Witt project, I wanted to get a bit more per-

formance (and sounds) included for this project. After the software was developed and the sounds were edited, a nice software project was ready to download into a Digitrax sound decoder. I decided to use the inexpensive Digitrax Soundbug™ (SFX004), which fits very nicely into the



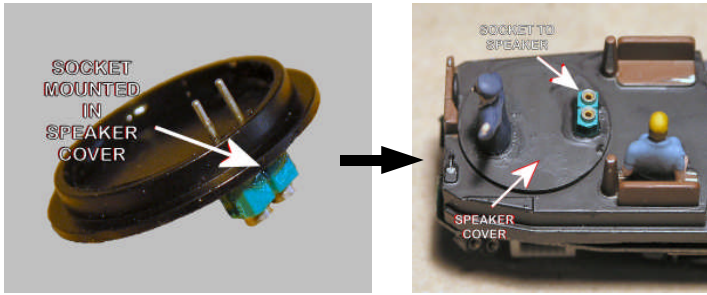
model right on top of the Bachmann E-Z motor decoder. The Digitrax Soundbug™ can be purchased from various retailers for less than \$45. Clipping off the extended pins on the 8-pin plug, normally used to attach the Soundbug™ to a 165 series Digitrax motor decoder, made the profile better to fit in the car. Power leads can be soldered to the two large hole pads as shown in the above photo. I did let the decoder's capacitor stick down into the car.



The provided speaker enclosure can only accommodate a 5/8" speaker. I tried various other speaker enclosures with larger speakers but to my ears, the improvement in sound wasn't worth the loss of the "look through" empty

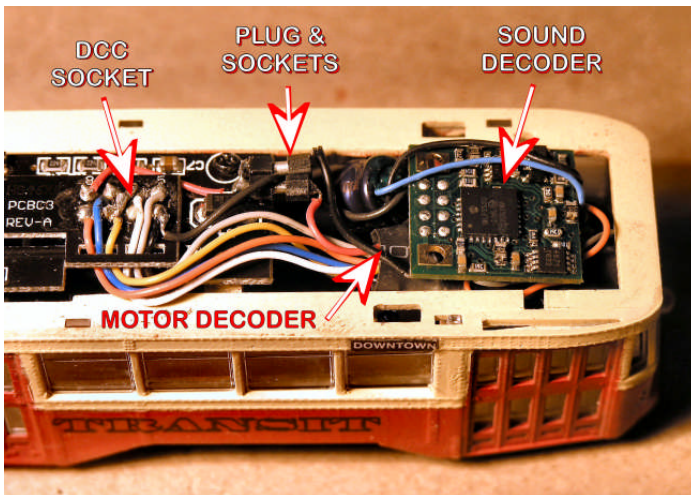
space in the car so I stuck with the provided enclosure. Most of the sounds I have implemented are at the higher frequencies so the small speakers do just fine. I used a 0.62 inch, 8 Ohm, 0.1-Watt speaker available from a number of DCC retailers for less than \$10. This speaker works nicely with the Digitrax Soundbug™

The Bachmann model comes with a speaker enclosure "lid" and holes at the bottom of the enclo-



sure for sound to come out the bottom of the car. To facilitate assembly/disassembly I installed a 2-pin socket in the “lid” so that I could unplug the Soundbug™ speaker lead during development.

I have also found that reading/writing CVs to a decoder is much improved if the motor decoder can be disconnected. The photo shows my plug and socket addition to the top circuit board to iso-



late either decoder when desired. One “track” lead is common to both decoders, while the other lead goes to the plug/pin. Both leads are simply tapped off the DCC plug.

The Sound Project I developed for my Peter Witt Streetcar includes a variety of sounds recorded from the prototype car at the Baltimore Trolley Museum. Throttle Function keys operate sounds for gongs, doors, passenger buzzer, and route rollup signs. Motor/track sounds are matched to the throttle “notch” and controller sounds are heard as the throttle is advanced or direction changed. Options can be set to sound two gongs automatically at startup (for the lazy motorman). Brake squeal and air release are automatic at stopping. Air Compressor sounds are initiated at selected time cycles as is an automatic passenger buzzer. Farebox coin clinks and voice an-

nouncements are randomly issued at door open/close cycles as well as automatic Conductor bells at door close. Track squeals can be played while the car is in motion. All sounds can be muted with a Throttle Function key (F6) and volumes for each individual sound can be adjusted by changing decoder CVs.

Throttle Function Key Definitions

- F0 - Lights (Only used by Motor Decoder)**
- F1 - Continuous Warning Gongs (Sounds while F1 is ON)**
- F2 - One or Two Trolley Gongs (depending on CV154)**
- F3 - Open Door (F3-ON), Close Door (F3-OFF) or Track Squeals if car is in motion**
- F4 - Passenger Buzzer (Sounds while F4 is ON)**
- F5 - Route Sign rollup (Sounds while F5 is ON)**
- F6 - Mute All Sounds**

SFX Decoder defined CV's

- CV58 Master Volume 1-15**
- CV132 Controller Notch Rate**
- CV135 Volume when Muted**
- CV140 Motor /Track Volume**
- CV141 Gong Volume**
- CV142 Controller Click Volume**
- CV143 Compressor Volume**
- CV144 Passenger Bell Volume**
- CV145 Sign Rollup Volume**
- CV146 Door Sounds Volume**
- CV147 FareBox Volume**
- CV148 Voice Announcements Volume**
- CV149 Track Squeal Volume**
- CV150 Time between Compressor Cycles**
- CV151 Compressor Running time**
- CV154 Number of F2 Gongs and Auto Start Gong**
- CV155 Time between Auto Passenger Buzzer**

Addendum—Installing Digitrax Sound Projects

Digitrax format Sound Projects include software to command the SFX sound decoder, sound clips in the standard Microsoft WAVE file format, and other control information. The Sound Project is loaded into the decoder using Digitrax Sound-Loader™ software and a PR-2 or PR-3 hardware interface between the decoder and the PC.

The Peter Witt Streetcar Sound Project (file name PeterWitt.spj) is loaded into a Digitrax SFX sound decoder. The file is available from my web site (www.fnbcollections.net/tractionfan). For those individuals not wanting to invest in the PR-2 or PR-3 interface I offer to load, without charge, my Peter Witt Sound project onto the individuals provided SFX sound decoder. Contact me at tractionfan@aol.com for further information.