

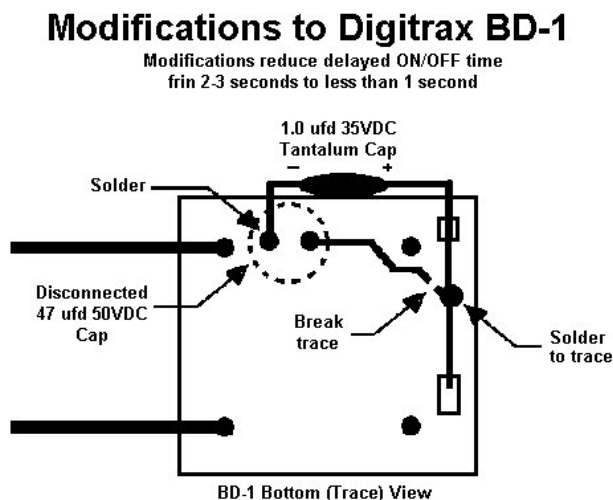
SPEED MODIFICATIONS TO DIGITRAX BD-1 DETECTION MODULE by Fred Miller MMR

The Digitrax BD-1 detection module is used in conjunction with the Digitrax DS-54 Stationary Decoder to detect and report track occupancy. The BD-1 has about a two to three second reaction time when changing detection states. In other words, when a power drawing piece of equipment is detected, it takes about 2-3 seconds before it is registered through the associated DS-54 stationary decoder. Similarly, when the power drawing equipment is out of the detection block, it takes 2-3 seconds for that change to register.

This delay may be fine for typical signal operations. However, when using the BD-1 (and associated DS-54) to notify a WinLok script controlling automatic stops in limited distance blocks, a faster reaction time may be needed. This is certainly the case for my HO traction modeling.

I have made modifications to all of my BD-1s by replacing the included 47 ufd capacitor on the BD-1 circuit board with 1 ufd capacitors. This reduces the reaction time down to less than one second and is adequate for short block detection needs.

My modification is fairly simple. First, the plastic covering must be removed from the BD-1. This can be accomplished using a sharp hobby knife tracing along the edge of the circuit board. Since the small red and black leads are also embedded in the plastic covering, I sometimes need to cut those leads and resolder them later.



I do NOT unsolder the original capacitor, but merely make a break (using the hobby knife) in the circuit board copper trace leading up to one lead and then solder the smaller value capacitor with one lead on top of the original, and the other lead to the far side of the broken trace. Of course, the +/- polarity must be carefully matched. See the drawing showing the positions and traces. This is a much simpler soldering job.

I have had good success with the 1.0 ufd Tantalum capacitor available from Radio Shack (#272-1434 at 59 cents)