

HO trolley bypass automatic system by Charley Hentz (crhentz @ frontier.com)

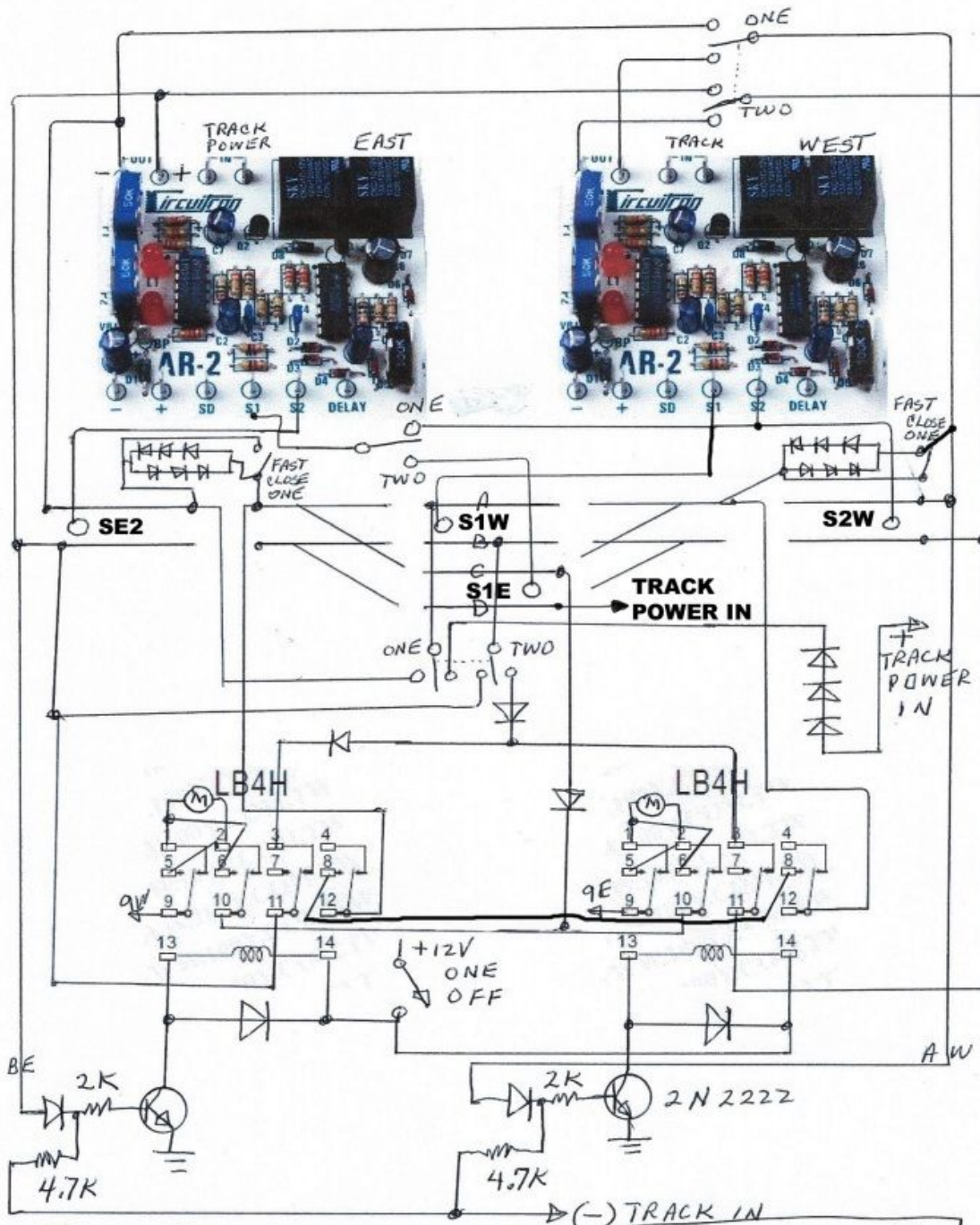
The Garden Spot Village Train club consists of 21 residents and have a large room 24 by 79 feet in the basement with an O gauge layout of 26 by 16 feet and an HO layout that is 40 by 18 feet. We are located at [433 S. Kinzer Ave. , NEW HOLLAND PA 17557](#) (clickable link) and are open to the public each year between Thanksgiving and New Years Eve. on Saturdays from 1:30pm to 4pm. Our two DC HO trolleys are New Orleans style made by Bowser and use a single track with a center bypass section.

The HO trolley bypass automatic system uses two Circuitron AR-2 reversing boards with one photo sensor located at the bypass which stops the trolley and reverses that section of track for the return. But each section of bypass track is dedicated to forward only and controlled by the relay to supply current only when the track ahead gets the correct polarity. Two poles in each relay control the Tortoise motors powering the turnouts and the other two poles control the power to the track in the bypass. When the polarity of the right rail becomes positive, a transistor's base causes it to conduct and power the relay. The relays are 12 volt 4 pole double throw type enclosed with a socket type base for easy removal and replacement. Diodes are used to slow the trolleys as they approach the bypass and also in the bypass.

YouTube Video

<https://www.youtube.com/watch?v=bNYFEt2lpQU>

Schematic and Picture of Electronics Below



(+) RIGHT RAIL = FORWARD
 UNPOWERED RELAYS SET TURNOUT STRAIGHT
 CENTER TRACK A AND D ARE POWERED
 DIRECTLY FROM + TRACK POWER IN WITH DIODE STRING.

SCHEMATIC TROLLEY
 BYPASS SYSTEM
 © R HENTZ 3-2017

