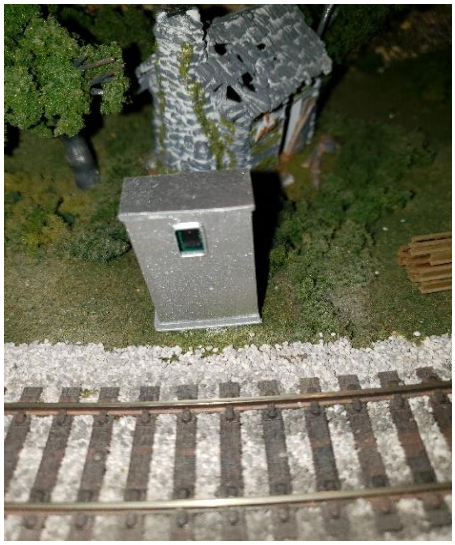
West Point Corner Crossing Signals Documentation

#1. Crossing signals at West Point Corner

The crossing signals in photo #1 (above); as well as a ringing bell sound module (under the layout) are triggered whenever a train approaches the highway crossing in West Point Corner, from either direction. The lights flash on and off, and the bell rings all the while a train is passing the road, and for about five seconds after the end of the train has passed.



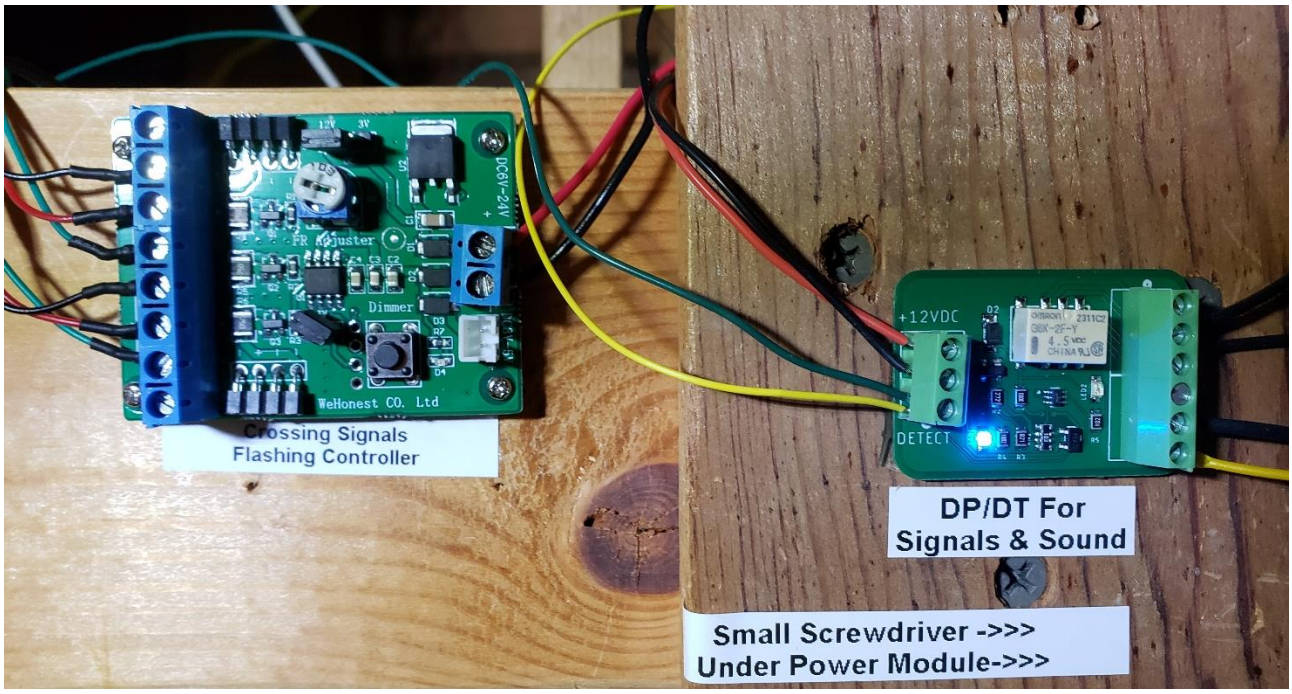
#2. Precision Detector by old shack.

#3. Precision Detector by tunnel entrance.

Photos #2 & #3 (above) are of the sensors (called “Precision Detectors”) installed near either entrance to West Point Corner. Whenever a train (or your hand) passes in front of either sensor, it ‘triggers’ the lights and bell.

The details of how this works are as follows:

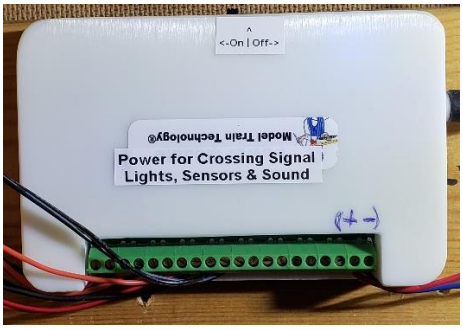
1. The “Precision Detectors” (photo’s #2 & #3) use (radar like) technology to detect the presence of an object (train) within a certain range (adjustable from 1mm *{a little over 1/32 of an inch}* up to 150mm *{almost 6 inches}*) range. In this case, that ‘range’ is set to the width of the two tracks passing through West Point Corner. For more detailed information on how they work, please see the “MTT Precision Detector Operations Manual” in the “Model Train Technology” book.
2. Whichever ‘Precision Detector’ first detects a train in front of it, will send a ‘trigger’ signal to the DPDT switch, which in turn, turns on the (ringing bell) sound, and the ‘Flashing Controller’. The ‘Flashing Controller’ then starts the lights flashing in the crossing signals. The ‘Flashing Controller’ controls the brightness of the lights and the frequency of their flashing.
3. So long as either ‘Precision Detector’ detects a train car (or your hand) in front of it, the trigger signal is maintained, and the lights continue to flash, and the bell continues to ring.



#4. Flashing Controller (left) and the DP/DT Relay Switch (right) Under the layout.

4. The red and black wires in photo #4 (above) are the 12VDC power for the two circuit boards (Red = +12VDC; Black = -12VDC) supplied by the Power Supply shown in photo #5 (below).
5. The yellow and green wires coming in from behind the framework (top of photo #4) are the ‘trigger’ input wires from the ‘Precision Detectors’ (discussed in paragraphs 1 through 3, above)

6. The black, red & green wires leaving the left side of the ‘Flashing Controller’ in photo #4 are the outputs to each of the crossing signals.
7. The pair of black wires leaving the upper right of the DP/DT relay switch in photo #4 are the output wires from the ‘on/off’ switch for the ‘Flashing Controller’ power. When the DP/DT relay switch receives a trigger signal from one, or more of the ‘Precision Detectors’, then it closes this switch and power is supplied to the ‘Flashing Controller’, and the lights flash. When no ‘trigger’ signal is received, then this switch is open and power to the ‘Flashing Controller’ is cut off, and the lights don’t flash.
8. The black and yellow wires leaving the lower right of the DP/DT relay switch are the output wires from the ‘on/off’ switch for the Bell Sound Module (photo #6, below). As above, when the DP/DT relay switch receives a trigger signal from one, or more of the ‘Precision Detectors’, then it closes this switch and power is supplied to the ‘Bell Sound Module’; and the bell rings. When no ‘trigger’ signal is received, then this switch is open and power to the ‘Bell Sound Module’ is cut off, and the bell is silent.
9. Because the screws that tighten the connections on these circuit boards and the power supply module are so small, a small screwdriver (photo #7, below). is stored in the layout framework below the ‘Power Module’.
10. For more information on the ‘Bell Sound Module’, see the “Bell Module Operations Manual” in the “Model Train Technology” Book.



#5. Power Supply

#6. Bell Sound Module

#7. Small Screwdriver