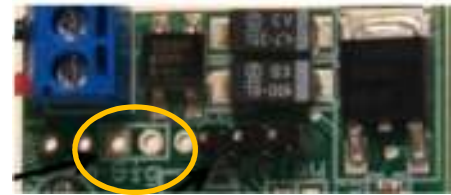


## Introduction

This application note describes how to connect a Tam Valley Depot (TVD) Singlet servo driver board to the **Grade Crossing Pro (GCP or GCP-IR, hereafter just referred to as simply GCP)**. You might choose to use servo motors to control your crossing gate arms rather than a slow motion motor such as the Circuitron Tortoise. Specific details on connecting the servo motor to the TVD board and programming it are NOT provided here; refer to the instructions that are provided by TVD! This application note does not provide details on wiring your crossing signals – these details are provided in the GCP instructions! This application DOES include wiring for an optional grade crossing bell module.

## GCP with a TVD Singlet servo driver board (no bell module)

Figure 1 below shows the connections to allow the GCP to trigger TVD's Singlet servo driver board. It is important to pay attention to the connections so that you don't damage either board. **NOTE: Newer Singlet circuit boards do NOT have a square hole on the left side of the area marked "Sig"; these boards have round holes only. So, make sure that in the connections shown below that the left hand hole above the word "Sig" is the one which is connected to the GCP's TO terminal through a 1K ohm resistor.**



The 1K ohm resistors can be rated at ¼ watt or ½ watt. When the GCP's Trigger Out (TO) is "on" it will activate the servo driver board using its "Signal" input (location shown at right). If you are controlling two separate servo motors simply replicate the same wiring between the GCP and the second servo driver board.

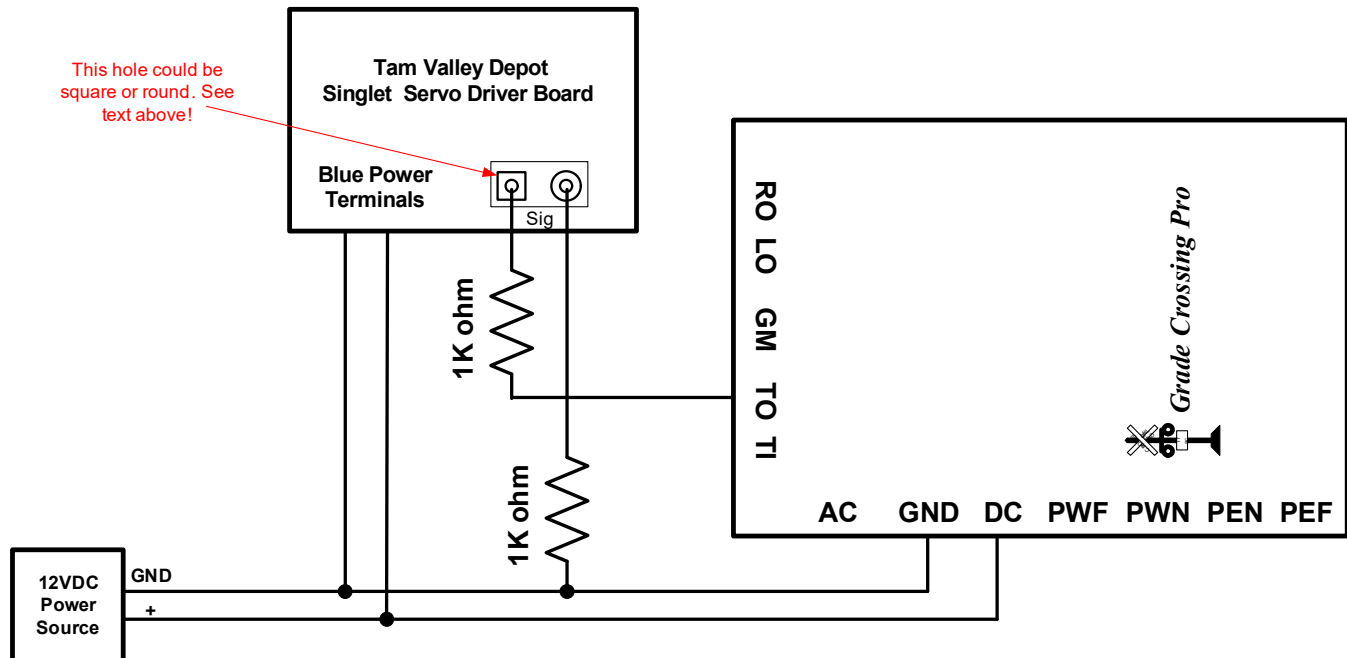


Figure 1 – Wiring between the GCP and a TVD Singlet servo driver board

## GCP with a TVD Singlet servo driver board and ITT Grade Crossing Bell sound module

Figure 2 below shows the connections to allow the GCP to trigger TVD's Singlet servo driver board AND the ITT Grade Crossing Bell sound module. It is important to pay attention to the connections so that you don't damage any of the boards.

**NOTE:** Newer Singlet circuit boards do NOT have a square hole on the left side of the area marked "Sig"; these boards have round holes only. So, make sure that in the connections shown below that the left hand hole above the word "Sig" is the one which is connected to the GCP's TO terminal through a 1K ohm resistor and diode.

The 1K ohm resistors can be rated at ¼ watt or ½ watt. Make sure you connect the diodes with the proper polarity as shown! When the GCP's Trigger Out (TO) is "on" it will activate the servo driver board using its "Signal" input along with the bell module's MOM/LOOP input. If you are controlling two separate servo motors simply replicate the same wiring between the GCP and the second servo driver board; you don't need a 3<sup>rd</sup> diode; just connect another 1K resistor to the positive (+) side of the existing diode.

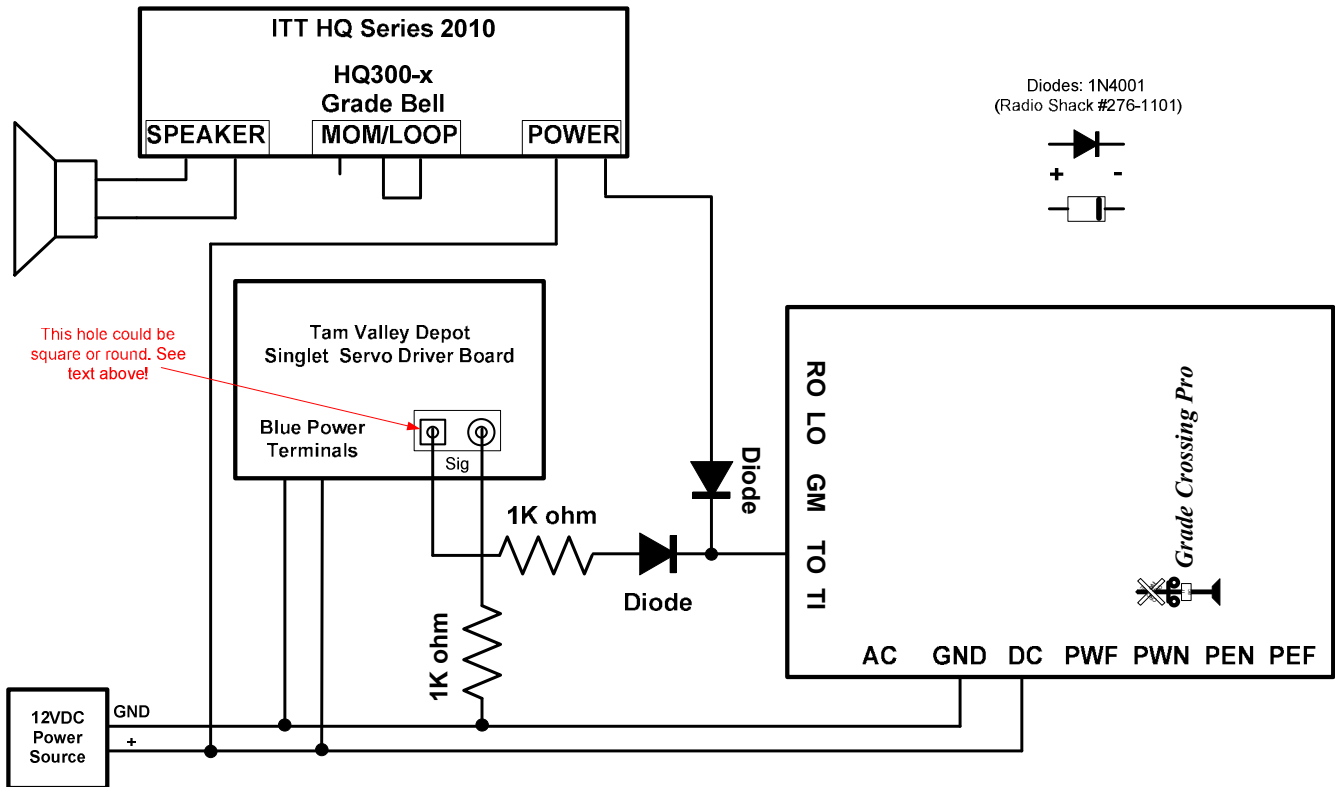


Figure 2 – Wiring between the GCP, a TVD Singlet servo driver board, and ITT bell module

## Technical Support

If you need further assistance with this application please do not hesitate to contact us by phone, mail and email; our contact information can be found on the top of Page 1.