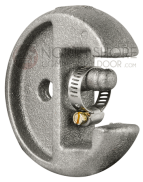
Building a Remote Timing Line for Road Rally Checkpoint Clocks

Over the years, we had tried a number of different ways of timing cars when they crossed the timing line of the control. We have tried a person at the line with a whistle, mirror boxes, rope across the road and even simple observation. All of these methods have similar issues. You need a person at the control dedicated to determining when the car has entered the control. In addition, these methods don't work well at night. To fix this, we decided it was time to build an automatic line that would trigger the clock when the car passed.

We initially considered a wireless solution and built prototypes. However, we could not reach reliability goals. Too many entries were missed, too many times the lines failed to link, etc. At that point, we decided that simple was better and we settled on a wired solution. The basic system we use has three major pieces. They consist of a timing hose and switch, a spool of 250' of wire and the timing clock. We use the Timewise 650 clock for timing, but the Alfa Checkpoint/Club or any other clock that has a remote trip can be used.

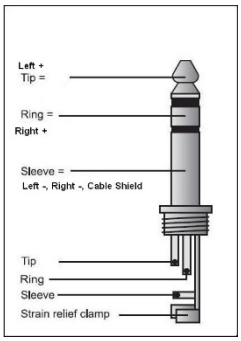
Component 1 – The Timing Line: We get everything for the timing line itself from a company called Northshore Commercial Door (www.northshorecommercialdoor.com)

The hose itself is the material from this link: http://www.northshorecommercialdoor.com/cogadodrtrho.html. We use 15' for each of our lines as we found 10' to be too short.



We place a weighted anchor at the far end, and this seems to work well and prevents the line from flopping around as cars pass over it. It also works well when setting up because you can just throw the anchor across the road and you are in business. The anchor is at this link: http://www.northshorecommercialdoor.com/cogadoopairh.html. Connect one end of the hose to the anchor and secure with a ½" hose clamp.

The next component is the switch box. Choose one that is designed to work with treadle hose and which is normally closed. The Northshore item is found at this link: http://www.northshorecommercialdoor.com/cogadoopnoop.html Connect the other end of the hose to the air connection at the top and secure with a clamp. Inside the cover of the box are a pair of wires.



You will need to connect these to an external plug to be able to plug into your wire spool. I recommend soldering for a robust connection and using a standard junction box clamp (included with the box to provide strain relief. I found it best to use a 3.5 mm female socket here. We will be using the sleeve and the ring connections because of the configuration of the Timewise clock. You can buy the plugs and sockets, but I found the job easier if I bought a stereo headset extension cord, cut it in half and then spliced the loose wires to make the connections. The connections on the actual plugs and sockets are very small and don't really fit the larger gauge wire needed. If you do the splice technique, be sure to either wrap the connections with tape or better still, use heat shrink tubing that will make a tight and rugged

covering. The extension cables we use are found here: https://www.amazon.com/gp/product/B00K8E84R4?psc=1&redirect=true&ref%5F=oh%5Faui%5Fdetailpage%5Fo03%5Fs00&pldnSite=1

Component 2 – The Wire Spool: The wire spool consists of three pieces — the spool itself, the wire and a 3.5 mm male plug on each end.

The wire should be 18/2 Gauge speaker wire. Choose a wire that is rated for outdoor or in-wall use as this will have a rugged outer jacket. Use 250 feet of wire for each timing line. This is necessary to get the timing car a safe distance from the in line. A good wire reference is https://www.amazon.com/Monoprice-250ft-2-Conductor-Speaker-Installation/dp/B003L138RW/ref=sr_1_8?s=aht&ie=UTF8&qid=1488319936&sr=1-8

I recommend the following for the spool. I know that there are cheaper ones on the market, but the one we chose has a ball bearing hub, a convenient handle and enough space to quickly deploy and stow the cable. The spool is available at Amazon at this link: https://www.amazon.com/Woods-22849-Metal-Stand-150-Feet/dp/B0064R6D18/ref=sr_1_9?s=hi&ie=UTF8&qid=1488319604&sr=1-9

Each end should be a 3.5mm male plug as shown above. Solder each end of the cable to ½ of a male patch cable, using the ring and sleeve contacts. The tip should remain unconnected. Be sure to tape or use shrink wrap (preferred). Wind the wire onto the reel. I suggest leaving about a foot loose on the inner end and wrap this through the holes in the side of the wire spool.

Operation: When you get to the control location, determine the location of the in line and the timing car. Set the checkpoint sign at the line and throw the hose out on the road. Leave the switch off the road by the sign. Secure the loose end of the wire to the car with a bit to spare. Run the reel out to the in line and connect the switch box to the end still connected to the reel. Walk back to the car and connect the loose end to the remote socket on the Timewise. Test the setup by stomping on the line. You are now set to time cars.

When you are done, disconnect the clock and throw the loose wire on the ground. Go back to the line, disconnect the switch and reel in the cord. Gather the sign, the hose and the wire and you are off to the next location.

Note: Our group has acquired some canvas bags that hold the hose and other control equipment. Makes it easy to gather it up and have it handy.

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