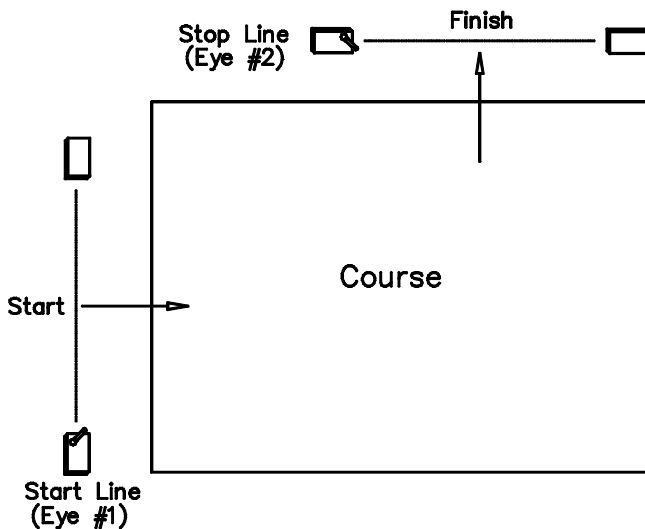


Preparation For Use

AUTCROSS (1)

- 1) Attach each electric eye to a tripod. Place Transmitter/Receiver pairs facing each other to form start/stop lines between the eyes. The lowest tripod height is generally best for timing vehicles.
- 2) Turn the electric eyes ON. The power indicator lamp on each unit should glow steadily. If the indicator is blinking, the battery is low and should be replaced.
- 3) Align the electric eyes. The opposing electric eye should be directly in-line when sighting down either line on top of the electric eye (left to right alignment), and when sighting down the crack on the side of the eye (up and down alignment).
- 4) Turn on the timer console at the timekeeper's table. The power switch is located at the upper right corner of the timer.
- 5) The current event type is shown on the Status display. If AUTCROSS is not displayed, select the Autocross event as follows:
 - a) Press SETUP to access Setup functions.
 - b) Press ENTER to select a new event.
 - c) Press NEXT CHOICE several times until AUTCROSS is displayed.
 - d) Press ENTER to select Autocross.
- 6) Walk through each electric eye beam to force the eyes to send a message to the timer console. This makes the timer console update its electric eye alignment indicators (see below).



Checking Eye Alignment

The **bottom right corner** of the Status display shows the alignment status of the electric eyes. When the eyes are aligned, its number is displayed (1 or 2). If not aligned, or if the beam is broken, "x" is shown.

Alignment	Display Shows
Eyes aligned	Eye #1 <u> </u>
Eye #2 not aligned (or beam broken)	Eye #1 <u> </u> x

Important! When setting up the electric eyes, take time to align the eyes as outlined above – *even if the timer indicates the eyes are aligned*. This ensures a strong alignment instead of a possibly marginal alignment.

Single Vehicle Operation

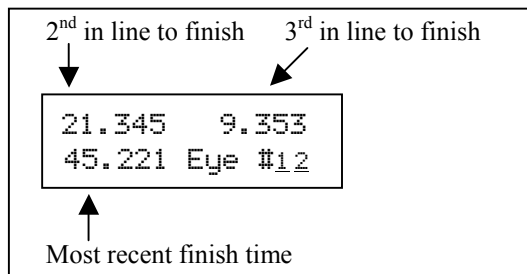
When the electric eye beam across the start line is broken, the timer automatically begins timing from zero – there is no need to reset the timer.

When the electric eye beam across the finish line is broken, the timer stops timing and shows the final time. The timer is now ready for the next car.

Multiple Vehicle Operation

The timer can time up to three vehicles on course at the same time. While it is a bit confusing at first, remembering these three items helps:

- 1) The large numeric display on the top always shows the running time of the next vehicle in line to finish.
- 2) The first line of the bottom display shows the time of the 2nd and 3rd vehicles in line to finish.
- 3) The second line of the bottom display shows the final time of the last car to finish.



Bottom Display with Multiple Vehicles

As each vehicle finishes and new vehicles start, their times will shift through these display positions.

To prevent accidental starts and stops, the electric eyes are each ignored for about two seconds after a vehicle passes through them. This allows time for dust and debris to settle.

Useful Features

Accidental Beam Breaks

If the start beam is accidentally broken, pressing the CLEAR TIME button while the timer is running removes the most recently started time. If the stop beam is accidentally broken, pressing the RESTART button resumes timing as if the timer had never been stopped.

Vehicle Does Not Finish

If a vehicle is not able to finish its run, care must be taken to ensure times are not lost for the other vehicles on course. When the vehicle would have been the next car in line to finish (i.e., its time is running on the large numeric display), press the NO TIME button to stop and remove timing of that vehicle. The time is flagged as “No Time” in memory and as “DNF” on the printer.

Manual Start/Stop

If time *is not* running, pressing the START/STOP button starts the timer. If time *is* running, pressing

the START/STOP button stops timing of *only* the next car in line to finish.

Previous Time Recall

Use the PREV and NEXT keys to scan back and forth through previous times. The previous time display is removed after about ten seconds, or by pressing any other key. You may view a previous time even while the timer is running.

Locking Out The Electric Eyes

Some events may require the driver to pass through the beams during the middle of the run. For these events, the eyes can be disabled during the run, then re-enabled before the driver completes the course. To disable the electric eyes, press the EYES OFF button. "Off" is flashed over the electric eye alignment display while the eyes are off. To re-enable the electric eyes, press the EYES ON button.

In addition to starting the timer with Eye #1 and stopping the timer with Eye #2, the timer provides other electric eye combinations. To select a different electric eye combination:

- 1) Press SETUP to access Setup options.
- 2) Press NEXT CHOICE once so Set Eye Usage is displayed, then press ENTER.
- 3) Press NEXT CHOICE to scan through the available eye combinations and press ENTER when the desired combination is displayed.

Note: An asterisk (*) is displayed next to the currently active eye combination.

Timer Display	Timer Action
Start #1, Stop #2	Start with Eye #1, Stop with Eye #2.
Start #2, Stop #1	Start with Eye #2, Stop with Eye #1.
Start #1, Stop #1	Start and Stop with Eye #1 (common start/finish line).

Scoreboard Operation

An optional scoreboard adds excitement to the event for the spectators. When multiple vehicles are on course at the same time, the scoreboard shows the running time of the next car in line to finish. When that vehicle crosses the finish line, his time is displayed for about five seconds (this period is adjustable), after which, the scoreboard displays the running time of the *new* next car in line to finish. If another vehicle crosses the finish line before the five second hold time for the previous car has elapsed, the time of the second car is immediately displayed.

Split Times

Up to two additional sets of electric eyes can be added to the timing system to measure split times along the course. This can be useful for practice and training, or just to add excitement to the autocross event. In general, split times are most useful when only one vehicle is on course at a time. Otherwise, trailing cars may generate meaningless split times for the lead vehicle on course.

Computer Interface

A cable is available from FarmTek to connect the Polaris timer console to a serial or USB port on your computer. Software is also available to record times as each vehicle finishes into your spreadsheet.

To work with third-party software, the timer can emulate the output of the TAG Heuer CP520, CP604 and CP705 timers. Choose one of these timers in your software and then follow these steps to enable TAG Heuer output on your timer:

- 1) Press SETUP to access Setup options.
- 2) Press NEXT CHOICE once until TAG Heuer On is displayed, then press ENTER.

To turn off TAG Heuer emulation (in order to use the FarmTek log printer or to dump times into a spreadsheet), choose "TAG Heuer Off" instead.

When emulating the TAG Heuer output, the timer provides both start and finish beam breaks to support advanced features in your software. When the

Polaris "Eye Usage" menu is used to change which photo-sensors start and stop the timer, the timer still sends the proper messages to the PC so that no settings changes in your software are required – even if common start/stop is chosen on the timer.

Pass-Through Mode

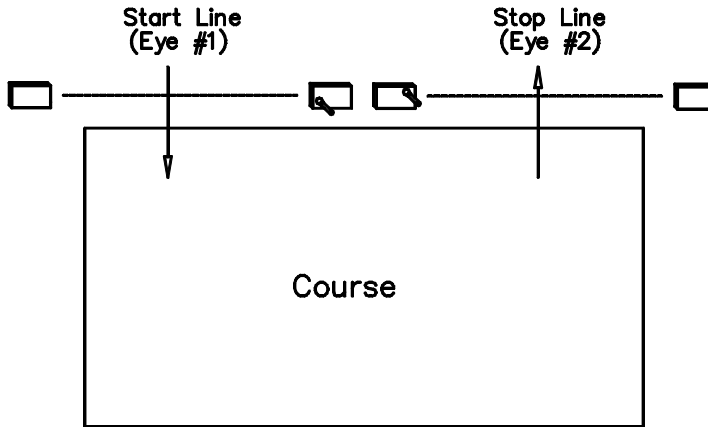
For ultimate flexibility, the timer can be placed into a pass-through mode in which the Polaris timer does not display any timing information. Instead, the timer console is a "black box" that simply passes beam break information to the PC software. To enter pass-through mode, follow these steps:

- 1) Press SETUP to access Setup options.
- 2) Press NEXT CHOICE once until Pass thru Mode is displayed, then press ENTER.

The timer will restart in a new event called Time-Stamp. This directly passes beam break information to the PC in TAG Heuer format.

Optical Interference / Crosstalk

If the start and finish lines are along the same side of the course (or even close to being along the same line), ***be sure to face the eyes in opposite directions*** as illustrated below. This prevents the start line electric eye from seeing the finish line electric eye, and vice-versa.



Protecting the Electric Eyes on Course

The optical range of the electric eyes is about 200 feet in direct sunlight. This means you can place the electric eyes well off the course to reduce the likelihood of being hit. If any sort of enclosure is built over the electric eyes, do not use metal as this may cause the radio link from the electric eye to the timing console to fail.