WIRELESS ELECTRIC EYES

Operation

Batteries

The electric eyes operate over 70 hours from a 9 volt alkaline battery (*use only alkaline batteries)*. The **Power** lamp on the unit glows steadily while the battery is good and flashes when the battery is low.

To help detect an eye with a low battery, the **Polaris** timer in the announcer's booth *flashes a low battery icon* in the upper right corner of its Status Display when any electric eye in use has a low battery.

The electric eyes operate at least two hours after the *first* indication of low battery. **Note**: The two hour period is from the *first time* the low battery light begins flashing. If a unit with a low battery is turned off and then later turned back on, the lamp may glow steadily for some time before it starts flashing again. This does not mean there are two more hours of operation remaining at this point.

Once the **Power** lamp begins flashing, it is simplest to just replace the battery during the next break in your event – don't worry about trying to use the last few hours of the battery.

When storing the electric eyes for an extended period of time, always remove the batteries.

Helpful Hints

Even though the antennas can be unscrewed, doing so can cause problems: ***Do Not Remove the Antennas!***

Placement of the electric eyes and the timer console in the arena and the announcer's stand can affect performance of the radio link. Note these guidelines:

1) Ensure an unobstructed line-of-sight between the antenna on the electric eye and the antenna on the timer console in the announcer's booth. Verify clear line-of-sight from down at the antenna's level – not from your standing eye level.

2) Position the timer console at least 2-3 feet from major electronic equipment such as computers, monitors, and the PA system.

Optical Interference from the Sun

When the electric eyes are setup with more than 100 feet between them, a late afternoon sun shining directly into the Photo-Receiver (the electric eye *with* the antenna) can cause problems. A simple remedy is to swap the electric eyes with each other so that the sun shines into the face of the Photo-Transmitter instead (the electric eye *without* the antenna). Or, you can construct a shade for the Photo-Receiver – see a sample sun-shield to print and cut out on the web at: farmtek.net/sunshield.htm.
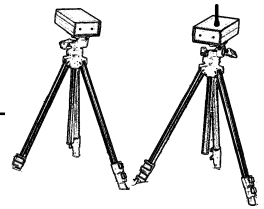
Two Timers At Once

Two complete timers can be used at the same time to provide back-up for each other. However, when two Photo-Transmitters (the infrared light source) are on at the same time, they interfere with each other at the Photo-Receiver. To prevent problems, set up both complete timers, stacking the electric eyes on top of each other. However, *only turn on one of the* Photo-Transmitters. Both Photo-Receivers will "see" the beam, but since the beam is coming from just one Photo-Transmitter, there is no interference.

Note: Older wired electric eyes may not "recognize" the wireless Photo-Transmitter. In this situation, make sure the one Photo-Transmitter that you turn on is the older, wired Photo-Transmitter – both the wired and wireless Photo-Receivers will operate from the older, wired Photo-Transmitter.

Two Wireless Timers at Once

If the two timers in use are both wireless timers, then in addition to the requirements already mentioned, make sure the two Photo-Receivers (the electric eye with the antenna) operate on *different* channels. The channel number used by the Photo-Receiver is stamped inside the battery compartment.

Each wireless electric eye produced by FarmTek is permanently programmed with an electronic identification code. No two units have the same ID code. The ID code is transmitted along with other information whenever the electric eye beam is broken or restored. For a set of wireless electric eyes to work with a particular timer console, the timer console must "know" the ID code of the electric eye being used.

If you use a different set of electric eyes or a different timer console than usual, you must have the timer console "learn" the ID code of the electric eyes being used as detailed below.

Note that the Polaris timer supports up to four sets of electric eyes. These are referred to as Eye #1, Eye #2, Eye #3 and Eye #4. The table below shows which eyes are used for each event. *If a new ID code is learned for Eye #1, then all events that use Eye #1 are also affected*. The same logic applies when the ID code for any other eye is updated.

Event	Eye #1	Eye #2	Eye #3	Eye #4
Barrel Racing	Start/Stop			
Roping	Steer (Start)	Header (Breakout)	Heeler (Breakout)	
Bull Riding				
Team Penning	Start (Optional)			
Cutting	Start (Optional)			
Show Jumping	Start/Stop	Start/Stop	Start/Stop	
Lap Timing	Start/Stop			
Sprint/General	Start/Stop	Start/Stop		
Time Stamp	Time Message	Time Message	Time Message	Time Message

Learning a New ID Code

1) Set up the electric eyes and the timer console as normal for the event you are performing. (The alignment indicators on the timer console may not update until after the ID codes have been set.)

2) On the timer console, press the SETUP button to access the timer Setup options.

3) Press NEXT CHOICE until `Set Eye#1 ID` is displayed. (For some events, like Roping and Show Jumping, you can choose from two or three different eyes – choose the one you need to set.)

4) When you are ready to break the electric eye beam, press ENTER. The timer will display `Break Eye#1 Beam Now...` (or the appropriate message for the eye you selected).

5) <u>Walk</u> through the selected electric eye beam. As soon as the beam is broken, the timer momentarily displays the ID code for the eye.

That's it! For events like Roping or Show Jumping, repeat the procedure for other eyes, if needed.

Note: If the "Break Eye Beam Now…" message remains on the display, the timer did not receive a transmission from the electric eye. Make sure the eyes are on and visually aligned, then walk through the beam again. If the timer still fails to receive an ID code, move the eyes closer to each other and closer to the timer console (try less than 100 feet).

For events which can use more than two sets of eyes, learning the ID code for Eye 3 or 4 enables those eyes. Conversely, to disable an electric eye that is not used, follow steps 2 to 4 for the eye you wish to disable, then abort the programming process by pressing any button on the keypad. This disables the selected electric eye.