FarmTek

Sport Timing Specialists

Allegro

Electronic Timer

Operating Instructions

FarmTek, Inc.
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FCC and Industry Canada Information

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a non-residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

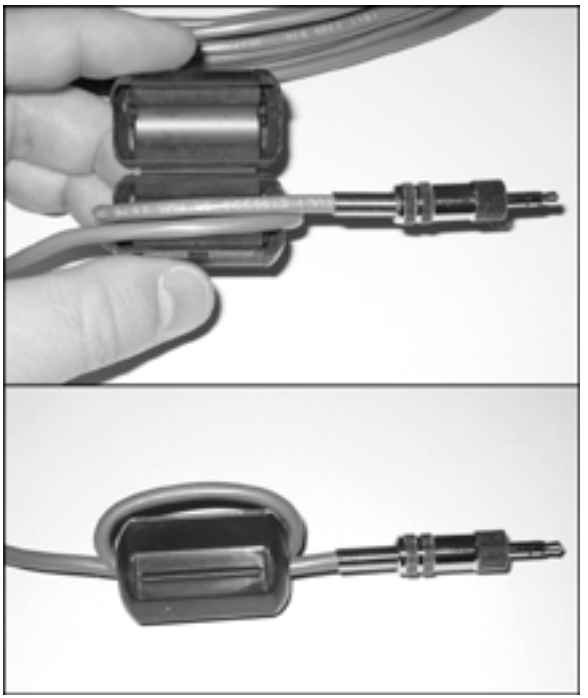
If this equipment does cause harmful interference to radio or television reception, the user is encouraged to try to correct the interference by one or more of the following measures: (1) Reorient or relocate the receiving antenna. (2) Increase the separation between the equipment and the receiver. (3) Consult the dealer or radio/TV technician for help.

CAUTION: Changes made or modifications not expressly approved by the party responsible for FCC compliance of this equipment could void the user's authority to operate the equipment.

If a ferrite clamp is provided with any cabled peripheral, then the clamp must be installed as shown below in order to maintain FCC compliance of the Allegro timer.

This device has been designed to operate with an antenna having a maximum gain of 3.0 dB. Use of an antenna having a higher gain is strictly prohibited per regulations of Industry Canada. The required antenna impedance is 50 ohms.

To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (EIRP) is not more than required for successful communication.



ALLEGRO TIMER CONSOLE

Timer Console Power

Batteries

The 2005 ***Allegro*** timer is powered by four AA alkaline batteries instead of an AC adapter as in the past. The timer runs 50 to 60 hours on a new set of batteries. Always turn the timer off before changing the batteries and always replace all four batteries at the same time – do not mix old and new batteries.

To check the battery level, press the right arrow button on the timer console. The percent of battery remaining ("br") is displayed. For example, if 45% of the battery life is remaining, the display shows:

br 45

The normal time display is automatically restored in about eight seconds, or when the timer starts/stops, or when the left arrow key is pressed.

Keep in mind that when the console is first turned on after being off for a while (e.g., overnight), the reported battery level is artificially high for the first half-hour or so of use.

Low Battery Warning

When about 2 to 4 hours of console battery life are remaining, the decimal point is flashed to alert the timekeeper of the low battery. Note that the decimal is also flashed when an electric eye in the arena has a low battery. Check the console's battery level as described previously to see if it is the reason the low battery warning is flashing.

Power On/Off

Turn the Polaris timer on and off using the slide switch located at the upper right corner of the timer console.

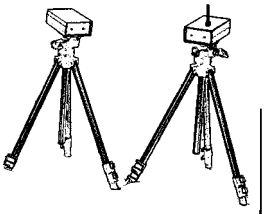
Timer Connections

Connections on the rear of the timer console have changed with the introduction of the 2005 ***Allegro*** timer. The **Power** jack is gone and in its position is the **Input** jack. The **Input** jack is for connection of optional input devices such as a bar code reader and numeric keypad to be offered in the future. **Do not plug an AC adapter from an older FarmTek timer into the Input jack on the new *Allegro*. It can cause serious damage**!

The **Display** jack is for connection of an optional arena display (scoreboard). Additional information is provided with the scoreboard.

The **Printer** jack allows connection of the optional printer or computer interface cable. Additional information is provided with the printer and computer interface cable.

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 **Allegro** timer in the announcer's booth ***flashes the decimal point*** on the time 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 reduce the working range between the eyes. 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 sunshield to print and cut out on the web at: http://farmtek.net/sunshield.htm.

WIRELESS ELECTRIC EYES (Cont'd)

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 recognize 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.

Electronic ID Code

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. You may also want to perform this procedure if your timer console and electric eyes no longer seem to work together.

Follow these steps to force the timer console to learn the ID code of the electric eyes being used.

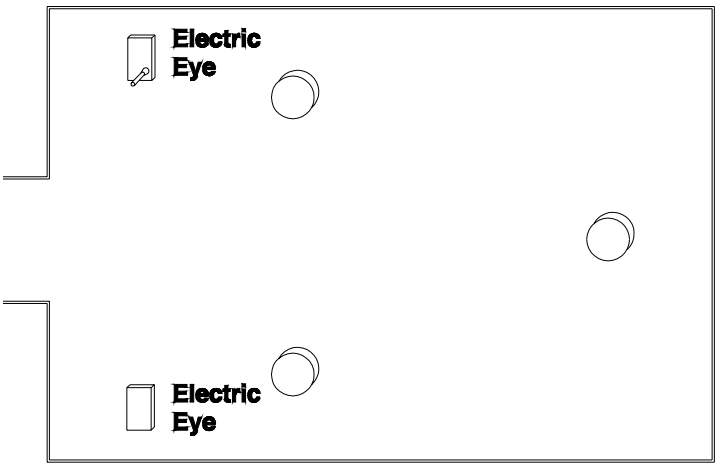
1) Set up the electric eyes and the timer console for normal operation as per the ***Barrel Racing*** instructions. (Note: The **Check Eyes** alignment indicator on the timer console will not update until after the ID code has been set.)
2) On the timer console, press the **Eyes On** button and *hold the button down* until a series of dashes ("-----") is shown on the display (this will take several seconds).
3) Walk through the electric eye beam. When the beam breaks, the electric eye sends a message to the timer console. The timer console displays a four digit ID code for a few seconds, then the normal display is restored. That's it! The timer is now ready for operation.

Note: If the dashes remain on the display, the timer console 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).

Preparation For Use

BARREL RACING (1)

1) Attach each electric eye to a tripod. Place the eyes on opposite sides of the arena to form a start/stop line between them. *Extend tripod legs fully* to ensure the electric eyes are high enough to be broken by the horse's body (not its legs).
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 as soon as possible.
3) Align the electric eyes. The electric eye on the opposite side of the arena should be directly inline 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 electric eye (up and down alignment).
4) Turn on the timer console using the slide switch located at the upper right corner of the timer.
5) When the timer is first turned on, the entire display is lit for about one second, then a time of "0.000" is displayed. If the timer fails to come on, turn the power switch off and verify the batteries are installed correctly.
6) Walk through the electric eye beam at least once to force the eyes to send a message to the timer console. This makes the ***Allegro*** console update its electric eye alignment indicator (see below).



Typical Barrel Racing Layout

Checking Eye Alignment

The **Check Eyes** indicator is shown on the time display when the electric eyes are *not* aligned or anytime the beam is broken.

Important! When setting up the electric eyes, always take the time to align the eyes as outlined in Step 3 above– *even if the timer indicates the eyes are aligned.* This ensures a strong alignment instead of a possibly marginal alignment.

Timer Operation

1) As the rider enters the arena and breaks the beam, the timer automatically begins timing from zero.
2) When the rider finishes the run and again breaks the beam, the timer stops and shows the rider's time. The timer is now ready for the next rider!

Note: After the beam is broken, it is ignored for about 2 seconds to allow dust to settle.

Useful Features

Manual Start/Stop

The **Start/Stop** button starts and stops the timer just as if the electric eye beam had been broken.

Accidental Beam Break

If the timer accidentally stops during the middle of a run, *the rider can still be accurately timed.* Pressing the **Restart** button resumes timing as if the timer had never been stopped. As long as the **Restart** button is pressed before the ride is completed, the time is not lost. To alert you, the timer console beeps whenever the beam is broken.

Locking Out The Electric Eyes

Some events require the rider to pass through the beam several times during a run. For these events, the eyes can be disabled during the run, then re-enabled before the rider finishes. To disable the electric eyes, press the **Eyes Off** button. While the eyes are disabled, the **Eyes Off** indicator is shown on the display. Press the **Eyes On** button to re-enable the electric eyes and remove the **Eyes Off** indicator.

Viewing Previous Times

The ***Allegro*** saves times and penalties for the most recent 100 riders. Press the left arrow button to scroll backwards through times and the right arrow to move forward. Previous times are identified on the display by the presence of the **Prev Time** indicator.

When viewing a previous time, its position relative to the current time is displayed as long as the arrow button is held down. For example, "1" is shown while the left arrow is pressed for the most recent previous time. "2" is shown while the left arrow is pressed for the second previous time, etc. Previous times are displayed for 8 seconds or until the timer starts, stops, or another button is pressed. After 8 seconds, the original display is restored.

Skipping a Rider / No Time

Pressing the NO TIME button enters "no run" in the timer's memory and prints "-- No Time --" on the optional printer. This ensures an entry is present in timer memory and on the printer for each contestant registered to ride.

Penalties

Entering Penalties

Penalties can be entered while the rider is on course or after a run is completed. Each press of the **Penalty** button adds 1 penalty to the current run. The **Penalties** indicator displays the total number of penalties recorded. Up to five penalties can be added to a run.

While time is running, the time shown ***does not*** include the penalties. When time is stopped, the time value of the penalties is added into the time shown.

Time Value For Each Penalty Point

The preset time value for each penalty is 5 seconds. To change the time value for a penalty, press and hold down the **Penalty** button until the timer beeps and the current penalty value is displayed. Press the left arrow to lower the penalty value and the right arrow to increase the penalty value. When the desired penalty value is reached, press the **Penalty** button again. The new penalty time value is permanently saved until changed again in this same manner.

Trouble Shooting Suggestions

- Verify both electric eyes are on and aligned. If the power light is flashing, replace the battery.
- Check the battery level (see page 1).
- Move the timer console and the electric eye with the antenna away from large metallic objects or potential sources of radio interference.
- Ensure a clean "line of sight" between the timer console and the electric eye with the antenna.
- Reset the electric eye ID Code in the timer console (see the Wireless Electric Eyes page).
- Turn the timer off, then back on.

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