

FarmTek

Sport Timing Specialists



Polaris

Timing System for
Show Jumping

User's Manual

FarmTek, Inc.
1000 N Hwy 78, Ste D
Wylie, TX 75098

(972) 429-0947
(800) 755-6529

FCC and Industry Canada Information

This equipment has been tested and found to comply with the limits for a Class B 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 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.

Industry Canada

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communications.

This radio transmitter (IC: 3845A-MI043) has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain and required antenna impedance for each antenna type indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

¼ wave whip, max gain 2 dBi, 50 ohm

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

d'Industrie Canada

Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peut fonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada. Dans le but de réduire les risques de brouillage radioélectrique à l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante.

Le présent émetteur radio (IC: 3845A-MI043) de modèle s'il fait partie du matériel de catégorie I) a été approuvé par Industrie Canada pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal et l'impédance requise pour chaque type d'antenne. Les types d'antenne non inclus dans cette liste, ou dont le gain est supérieur au gain maximal indiqué, sont strictement interdits pour l'exploitation de l'émetteur.

¼ whip d'onde, le gain max 2 dBi, 50 ohm

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

POLARIS TIMER CONSOLE

Timer Console Power

Batteries

The *Polaris* timer is powered by four AA alkaline batteries. 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, follow these steps:

- 1) Press SETUP to access setup functions.
- 2) Press NEXT CHOICE until Check Battery is displayed (just one or two presses).
- 3) Press ENTER to show remaining battery life.
- 4) Press SETUP to return to normal operation.

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.

When storing the timer console for an extended period, it is best to remove the batteries.

Low Battery Warning

A low battery icon is flashed in the upper right corner of the Status display when about 2 to 4 hours of console battery life are left. Note that the battery icon is also displayed whenever 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 icon 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

The battery powered *Polaris* timer provides eliminates the **Power** jack found on the rear of older timer consoles and replaces it with the **Input** jack. The **Input** jack is for connection of optional input devices that may be offered in the future. **Do not plug an AC adapter from an older FarmTek timer into the Input jack – it can damage the *Polaris* timer console.**

The **Output** jack is use to connect to a computer for record keeping or to send data to one of our large audience displays (scoreboards).

The **Audio** jack provides audio output to a sound system (PA system) to sound a horn for events that use a buzzer. The **Audio** output is also used to connect to the *External Horn* (legacy product).

WIRELESS ELECTRIC EYES

Overview

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 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.

Care

The electric eyes are not waterproof. If you plan to run in the rain, slip a thin sandwich bag over each electric eye. Snap a rubber band over the bag to hold the bag in place and to keep it taut over the face of the eye where the beam shoots through.

When you arrive home, remove wet equipment from the carrying case, remove batteries and leave the battery compartment cover off each unit. Allow the equipment to dry out thoroughly in a heated or air conditioned environment for several days.

Do not remove the antennas. Even though the antenna can be removed, doing so can cause problems.

Electric Eye ID Codes

Each electric eye is permanently programmed with a unique electronic identification code. The ID code is transmitted whenever the electric eye beam is broken. 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 eyes being used.

If your timer ever loses its settings, or 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:

Learning a New ID Code

- 1) Set up the electric eyes with about ten feet between each other and at least ten feet from the timer console. *Make sure no other electric eyes could accidentally transmit while programming*

in the intended electric eye. If possible, simply have all other electric eyes powered off.

- 2) On the timer console, press the SETUP button to access the timer Setup options.
 - 3) Press NEXT CHOICE until you see the appropriate "Set ID" message for the eye you are programming (e.g., Set Eye #1 ID, Set Eye #2 ID, etc.).
 - 4) When you are ready to break the electric eye beam, press ENTER. The timer will tell you to "break the beam now".
 - 5) Walk through the selected electric eye beam. As soon as the beam is broken, the timer momentarily displays the ID code for the eye.
- Repeat the procedure for other eyes as needed.

HORN OPERATION

The wireless *Polaris* timer supports several different horn options:

- External horn
- A horn built into some older scoreboard models
- The “PA Horn” (a direct connection between the timer console and a PA system)

All horns provide the same functionality as described in the instructions for each event. The primary difference is how each horn connects to the timer.

Note: To check horn operation, you can press the HORN button on the timer console at any time to sound the horn.

Mechanical Horns (legacy products)

External Horn

To connect the external horn, plug the gray cable which exits from the horn into the **Horn** jack on the rear of the timer console. Plug the black power cord from the horn into a standard 120 volt outlet. *Do not hang or mount the horn by the wires which exit from the horn.* In a wet environment, orient the horn so that the horn’s cables exit downwards.

Scoreboard Horn

The scoreboards which use light bulbs have a horn built into the scoreboard. Whenever the scoreboard is connected to the timer console for normal operation (by connecting the scoreboard’s data cable to the **Output** jack on the timer console), the horn in the scoreboard is also connected – no additional connection to the scoreboard is required to operate the horn.

PA Horn

Connection

The wireless *Polaris* console provides for a direct connection to a sound system (PA system). The timer console contains a digitized recording of three different buzzer tones.

To use the PA Horn, connect the “Timer to PA Cable” provided with the timer (10 foot cable with a stereo phone plug on one end and an RCA phono plug on the other end) from the **Audio** jack on the timer console to a “line” input jack on your PA system. Line inputs are typically labeled with names like AUX, Line In, Mix In, Left/Right, L/R, etc.

If you need a different connector type for your sound system, you *must still use* the timer to PA Cable provided by FarmTek. Adapt from the RCA plug at the end of that cable to the connector you need. Do *not* plug any other cable directly into the **Horn** jack on the timer console. The PA Horn Cable looks like a normal audio cable, but it is not.

Different Horn Tones

In addition to the standard bull-horn sound, other horn tones can be selected:

- a) Press SETUP to access setup functions.
- b) Press NEXT CHOICE until Set Horn Sound is displayed, then press ENTER.
- c) Press NEXT CHOICE to scroll through the available horn tones. Press ENTER when the desired tone is displayed.

Disabling the Scoreboard Horn

If you are using one of the older scoreboards which has a built-in horn, and you do not want the horn in the scoreboard to sound, follow these steps to disable the horn in the scoreboard:

- a) Press SETUP to access setup functions.
- b) Press NEXT CHOICE until Disable SB Horn is displayed.
- c) Press ENTER to disable the scoreboard horn.

Note: You can re-enable the scoreboard horn when needed by picking Enable SB Horn in step (b).

WIRELESS HANDSWITCH

The wireless handswitch can be used by the judge to remotely stop and restart the timer when a jump is dislodged.

If the timer is running, pressing the handswitch stops the timer and sounds the horn.

If the timer is stopped, pressing the handswitch sounds the horn and starts the timer. Optionally, the timer can be configured for a two-press restart in which the first press sounds the horn and the second press restarts the timer.

To choose between the one-press or two-press restart options follow these steps:

- 1) Press SETUP to access timer setup features.
- 2) Press NEXT CHOICE until the 1 Press Restart or 2 Press Restart (your choice) is displayed, and then press ENTER.
- 3) After selection the option, Done! is displayed for a moment and then the next menu option is displayed. At this point, press SETUP to return to normal operation.

Using the Wireless Handswitch

The wireless handswitches are designed for operation within about 100 feet of the timer console. The handswitch is similar to the wireless electric eyes and **must be turned on** by pressing the red power button on the front panel. Once powered on, the handswitch is operated by pressing the green button on top of the handswitch with your thumb.

Handswitch ID Code

Each handswitch is permanently programmed with a unique electronic identification code. For a handswitch to work with a particular timer console, the timer console must know the ID code of the handswitch being used.

If you use a different handswitch or a different timer console than usual, or if your handswitch is not working with your console, have the timer console learn the ID code of the handswitch(es) being by using the Set HandSwitch ID option in the Setup menu.

Batteries

The handswitch operates 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. The handswitch will operate at least two hours after the *first* indication of low battery. However, 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 handswitch for an extended period of time, always remove the battery.

Preparation for Use

SHOW JUMPING (1)

- 1) Attach each electric eye to a tripod. Place Transmitter/Receiver pairs facing each other to form start/stop lines between the eyes. *Extend tripod legs fully* to ensure the 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.
- 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 in the announcer's booth. The power switch is located at the upper right corner of the timer.
- 5) 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 indicator (see the next page).

Setting Course Times, Electric Eye Usage

The Polaris timer is easily switched between "First Round" and "Jump-Off Round" (see the *Timer Operation* Section). This capability allows the following:

- Separate course times are maintained for First and Jump-Off rounds. The timer automatically stops and then sounds the horn at twice the course time.
- Computation of time faults can be different for First Round versus Jump-Off Round.
- The way the electric eyes are used to start and stop the timer can be set differently for the First Round and Jump-Off Round. When the timer is switched between rounds, the eye configuration is automatically changed.

The example below shows sample course times and eye usage for First and Jump-Off Rounds:

	First Round	Jump-Off Round
Course Time	72 sec.	68 sec.
Eye Usage	Eye #1 starts Eye #2 stops	Eye #2 starts Eye #3 stops

To Set Course Times and Electric Eye Usage:

- 1) Press SETUP to access timer setup features.
- 2) Press NEXT CHOICE until the 1st Round Time option is displayed and then press ENTER.
- 3) To accept the course time shown, press ENTER, or, key in a new time followed by the ENTER key. (To fix a mistake, press *and hold down* the CLEAR TIME key until the time is cleared).
- 4) After entering the First Round time, the option for entering the Jump-Off Time is displayed. Press ENTER to input the Jump-Off time.
- 5) After entering the Jump-Off time, the option for selecting which eyes are used for the First Round is shown (1st Round Eyes). Press ENTER, then use the NEXT CHOICE key to scroll through the possible eye combinations ("**" is displayed next to the current setting). Press ENTER when the desired combination is shown.
- 6) Repeat Step 5 for Jump-Off Round electric eyes.
- 7) Press the SETUP button to exit Setup.

- You can press SETUP at any time to exit Setup and return to timing mode.
- These parameters can be updated individually and in any order desired.
- All changes are automatically stored in the timer until changed again in the future.

- To disable the display and printing of time faults for a class, enter a course time of zero.
- See the *Show Jumping (3)* and *(4)* page for more setup options.

The bottom right corner of the Status Display shows the alignment status of each electric eye. When an electric eye is aligned, its eye number is displayed. If not aligned, an “x” is displayed.

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

Important! When setting up the electric eyes, always 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.

Timer Operation

- 1) Verify the proper round is shown on the display (FIRST ROUND or JUMP-OFF ROUND).
To change rounds: Press the SETUP key, then press ENTER to accept the new round type.
- 2) Sound the horn and start the rider-start count down by pressing the COUNT DOWN button. If a count down start timer is not needed, sound the horn by pressing the HORN button. Once started, the count down can be paused / resumed with successive presses of the COUNT DOWN button. Press CLEAR TIME to start a new count down.
- 3) Make sure the electric eyes are enabled by pressing the EYES ON button before the rider is ready to cross the start line. When the rider breaks the beam, the timer begins timing from zero and the eyes are automatically turned back off.
- 4) As the rider comes to the end of the course, press the EYES ON button to re-enable the electric eyes. When the beam is crossed, the timer stops and the eyes are automatically turned back off. If the rider's time exceeds the time allowed, time faults are shown on the Status Display. At twice the course time, the timer automatically stops and sounds the horn.
- 5) If the rider is eligible for the Jump-Off, press SETUP and then ENTER to switch rounds.
- 6) Repeat steps 2 through 4 for the Jump-Off Round.

Useful Features

Manual Start/Stop

The timer can be manually started and stopped by pressing the START/STOP button.

Dislodged Jump

If a rider dislodges a jump, sound the horn by pressing the HORN button and stop the clock by pressing the START/STOP button. Press RESTART (**not the START/STOP key**) to resume timing. A wireless handswitch is available as an option to automatically sound the horn and stop the timer, or sound the horn and resume timing.

Adding a Time Penalty (not jumping faults)

With the timer stopped, press the SCORE/PENALTY button, then key in a penalty followed by the ENTER button. The time penalty is added to the rider's time.

Accidental Beam Break

If an electric eye accidentally stops the timer, the rider can still be accurately timed. Pressing the RESTART button resumes timing as if the timer had never been stopped. (**Note:** If the timer is manually stopped using the START/STOP button, RESTART resumes timing from the time shown on the display)

Previous Time Recall

Use the PREV and NEXT keys to scan back and forth through previous times, time faults and the associated round (First Round or Jump-Off). If a course time is changed, then the saved time faults are updated to reflect the new course time.

Several timer options can be changed to support rule variations that may affect your event:

- Time allowed for a rider to start the run.
Default: 45 seconds
- Display format of the starting countdown timer (fractional seconds, whole seconds, etc.),
- What happens when the starting timer expires (sound a horn or start timing).
Default: Start timing
- Faults per second (or other unit of time) for First Round and Jump-Off.
1st Round US: 1 fault/second
1st Round FEI: 1 fault/4 seconds
Jump Off: 1 fault/second

Easy Set-Up

To set all options for U.S. or FEI rules at one time as shown to the left, follow these steps:

- 1) Press SETUP to access timer setup features.
- 2) Press NEXT CHOICE until Rule Options is displayed, then press ENTER.
- 3) U.S. Rules is displayed first. Press ENTER to select U.S. rules, or press NEXT CHOICE to display FEI Rules and press ENTER.
- 4) After ENTER is pressed, the timer momentarily displays Done!, then the chosen rule set is shown again. Press SETUP to exit.

Changing Individual Rule Options

Time Allowed for the Rider to Start

To set the time allowed for the rider to start:

- 1) Press SETUP to access timer setup features.
- 2) Press NEXT CHOICE until Rule Options is displayed, then press ENTER.
- 3) Press NEXT CHOICE until Start Timeout is displayed, then press ENTER.
- 4) The current starting timeout is displayed. To keep the same timeout, just press ENTER, or, key-in a new starting timeout followed by ENTER.
- 5) After ENTER is pressed, the timer momentarily displays Done!, then the Start Timeout menu option is shown again. Press NEXT CHOICE to change other rule options, or press SETUP to exit.

Timer Action upon Starting Timer Expiration

When the rider's starting time expires, the timer can either sound the horn to signal the rider off course, or the timer can start running:

- 1) Press SETUP to access timer setup features.
- 2) Press NEXT CHOICE until Rule Options is displayed, then press ENTER.
- 3) Press NEXT CHOICE until Horn w/Timeout or Start w/Timeout is displayed (your choice), then press ENTER.

- 4) After ENTER is pressed, the timer momentarily displays Done!, then the menu option you selected is shown again. Press NEXT CHOICE to change other rule options, or press SETUP to exit.

Display Format of the Starting Timer

The starting countdown timer can be displayed in any of several time formats. Changing the countdown time format does not affect the time format of normal timing functions. To change the countdown time format, follow these steps:

- 1) Press SETUP to access timer setup features.
- 2) Press NEXT CHOICE until Rule Options is displayed, then press ENTER.
- 3) Press NEXT CHOICE until Timeout Format is displayed, then press ENTER.
- 4) Press NEXT CHOICE to scroll through the different time formats available. When the desired time format is displayed, press ENTER.
- 5) After ENTER is pressed, the timer momentarily displays Done!, then the Timeout Format menu option is shown again. Press NEXT CHOICE to change other rule options, or press SETUP to exit.

Changing Faults per Second (or other unit of time)

You can enter the faults per unit of time for First Round and for the Jump-Off Round. To change faults per unit of time, follow these steps:

- 1) Press **SETUP** to access timer setup features.
- 2) Press **NEXT CHOICE** until Rule Options is displayed, then press **ENTER**.
- 3) Press **NEXT CHOICE** until Round 1 Faults or Jump Off Faults is displayed (your choice), then press **ENTER**.
- 4) The current value of the "faults" portion of faults per unit of time is displayed. To keep the same value, press **ENTER**, or key-in a new value for faults followed by **ENTER**. For example, press "1" then **ENTER** for whole faults. Key in ".25" then **ENTER** for ¼ faults.
- 5) After **ENTER** is pressed, the timer momentarily displays Done!, then Sec(s) is displayed to prompt for the unit of time. For example, key in "1" for faults per second, or key in "4" for faults per four seconds, then press **ENTER**.
- 6) After **ENTER** is pressed, the timer momentarily displays Done!, then the menu option you selected is shown again. Press **NEXT CHOICE** to change other rule options, or press **SETUP** to exit.

Miscellaneous Features**Using Three or Four Sets of Electric Eyes**

A third or fourth set of electric eyes provides the course designer with more flexibility in course layout. To add a third or fourth set of sensors to an existing timer, program Eye #3 (or #4) into the timer as detailed in the "Electric Eye ID Codes" section of this manual.

To remove a third or fourth set of eyes from the timer, follow the procedure for learning a new ID code to the point where "Break Beam Now..." is displayed. However, instead of breaking the beam, press any key on the timer to abort the programming process. This will remove the eye from the alignment indicator in the Status Display.

Power & Speed Classes

The Polaris timer includes a separate event specifically designed for Power & Speed classes. See the following page for details.

Start Timeout

If the timer automatically starts because the rider fails to cross the start line before the 45 second count down timer expires, the rider's time is flagged with a "(T)" on the optional printer.

Table V (Optimum Time)

For Optimum Time classes, the large scoreboard can be automatically blanked while the competitor is on course, and then restored when the run is finished:

- 1) Press **SETUP** to access Setup options.
- 2) Press **PREV CHOICE** until Scorebd Options is displayed, then press **ENTER**.
- 3) Press **NEXT CHOICE** until Run Time Off is displayed, then press **ENTER**.

Normal operation is restored by choosing Run Time On, by picking another event, or cycling power.

Fault & Out Classes

For Fault & Out and similar classes, a warning horn can be set to sound at a specified time. Manually sounding the horn while the timer is running suppresses the warning horn for the current rider .

To set a warning horn, follow these steps:

- 1) Press **SETUP** to access Setup functions.
- 2) Press **NEXT CHOICE** until Set Warn Horn 1 is displayed, then press **ENTER**.
- 3) To keep the time shown, press **ENTER**, or key in a new time followed by **ENTER**.

Preparation For Use

POWER & SPEED (1)

Power and speed classes require three sets of electric eyes. Eye #1 starts timing of the power phase. Eye #2 stops the power phase and starts the speed phase. Eye #3 stops the speed phase. Place the eyes in the appropriate location on course and follows these steps to complete preparation:

- 1) Attach each electric eye to a tripod. Place Transmitter/Receiver pairs facing each other to form start/stop lines between the eyes. *Extend tripod legs fully* to ensure the 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.
- 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 in the announcer's booth. The power switch is located at the upper right corner of the timer.
- 5) The current event type is displayed on the timer. If POWER PHASE is not displayed, select the Power & Speed event as follows:
 - a) Press SETUP to access Setup options.
 - b) Press NEXT CHOICE (if needed) until Pick New Event is displayed. Press ENTER to pick a new event.
 - c) Press NEXT CHOICE until Power & Speed is displayed.
 - d) Press ENTER to select Power & Speed.
- 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 indicator (see the next page).

Checking Eye Alignment

The bottom right corner of the Status display shows the alignment status of each electric eye. When an electric eye is aligned, its eye number is displayed. If not aligned, an "x" is displayed.

Alignment	Display Shows
Eyes aligned	Eye #1 <u>2</u> 3
Eye #2 not aligned (or beam broken)	Eye #1 <u>X</u> 3

Important! When setting up the electric eyes, always 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.

Section 2(c) or Section 2(d)

Choose between a Section 2(c) or Section 2(d) class as follows:

- 1) Press SETUP to access timer setup features.
- 2) Press NEXT CHOICE until the Section 2C or Section 2D (your choice) is displayed, then press ENTER.

- 3) After choosing Section 2(c) or 2(d), a prompt for entering the power phase time is displayed. You can continue setup by specifying the course times now (see next page) or press SETUP to exit the setup mode and return to normal timing.

Setting Course Times

POWER & SPEED (2)

The course times for power phase and speed phase can be separately specified. Time faults accumulate as the rider exceeds the course time. Timing stops and the horn sounds if a rider exceeds twice the time allowed. If either phase is not to be timed, enter a course time of zero for that phase.

To set the course times for the power and speed phases, follow these steps:

- 1) Press **SETUP** to access timer setup features.
- 2) Press **NEXT CHOICE** until the Pwr Phase Time option is displayed, then press **ENTER**.
- 3) To accept the course time shown, press **ENTER**, or key in a new time followed by the **ENTER** key.

(To fix a mistake, press *and hold down* the **CLEAR TIME** key until the time is cleared).

- 4) After entering the power phase time, the option for entering the Spd Phase Time is displayed. Press **ENTER** to display the speed phase time.
- 5) To accept the speed phase course time shown, press **ENTER**, or enter a new course time followed by the **ENTER** key.
- 6) After entering the speed phase time, the option for modifying the time fault values for the power and speed phases is displayed. Press **SETUP** to exit the setup mode and return to normal timing.

Timer Operation

- 1) The timer displays the most recently completed phase (**POWER PHASE** or **SPEED PHASE**) on the bottom display. It does not matter which phase is displayed before a rider starts – breaking Eye #1 will always start timing of the power phase.
- 2) Sound the horn and start a count down by pressing the **COUNT DOWN** button. Once started, the count down can be paused / resumed with successive presses of the **COUNT DOWN** button. Press **CLEAR TIME** to start a new count.
- 3) Make sure the electric eyes are enabled by pressing the **EYES ON** button before the rider is ready to cross the start line. When the rider crosses Eye #1, the timer begins timing from zero and the eyes are automatically turned back off.
- 4) If jumping faults occur, press the **NO TIME** button to prevent timing of the Speed Phase (Table 2(c) only). Press **NO TIME** again to turn jumping faults back off.
- 5) As the rider nears the end of the power phase course, press the **EYES ON** button to re-enable the electric eyes. When the rider crosses Eye #2, the rider's power phase time is shown on the Status Display. If a scoreboard is connected, it shows the power phase time for several seconds before

reverting to the running time of the speed phase (if the rider continues).

Section 2(c): If the rider completes the power phase prior to expiration of time allowed and no jumping faults have been entered (item #4), then timing automatically begins for the speed phase. Otherwise, the horn sounds and timing stops.

Section 2(d): Time faults accumulate if the rider exceeds the power phase course time. If the rider completes the power phase prior twice the course time, then timing automatically begins for the speed phase. Time and fault information is shown on the Status Display as "P12.345 F4" where "P" indicates power phase time and "F" indicates time faults.

- 6) As the rider comes to the end of the speed phase, press the **EYES ON** button to re-enable the electric eyes. When Eye #3 is crossed, the timer stops and the eyes are automatically turned back off. If the rider's time exceeds the time allowed, time faults are shown on the timer's Status display. At twice the speed phase course time, the timer automatically stops and sounds the horn.

Dislodged Jump

If a rider dislodges a jump, sound the horn by pressing the HORN button and stop the clock by pressing the START/STOP button. Press RESTART (*not the START/STOP key*) to resume timing. A wireless handswitch is available as an option to automatically sound the horn and stop the timer, or sound the horn and resume timing.

Adding a Time Penalty (not jumping faults)

With the timer stopped, press the SCORE/PENALTY button, then key in a penalty followed by the ENTER button. The time penalty is added to the rider's time.

Previous Time Recall

Use the PREV and NEXT keys to scan back and forth through previous times, time faults and the associated phase are also shown.

Accidental Beam Break

If an electric eye accidentally stops the timer, the rider can still be accurately timed. Pressing the RESTART button resumes timing as if the timer had never been stopped. (**Note:** If the timer is manually stopped using the START/STOP button, RESTART resumes timing from the time shown on the display)

Setup Options

Faults per second (or other unit of time) can be set for the power and speed phases using the Power Faults and Speed Faults setup options. See the "Advanced" page of the Show Jumping instructions for further information.

Duration of the starting count down timer can be changed using the Start Timeout setup option.

How long the scoreboard holds the power phase time can be changed using the Set Hold Time option of Scoreboard Options in the setup menu.

FarmTek, Inc.
1000 N Hwy 78, Ste D
Wylie, TX 75098

(972) 429-0947
(800) 755-6529

On the web at <http://farmtek.net>
E-Mail: sales@farmtek.net

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