MODEL C450 TIMER

INSTRUCTIONS

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Model C450 Timer

DO NOT SWITCH OFF DURING AN EVENT. POWER CONSUMPTION IS VERY LOW AND IF YOU SWITCH OFF, THE CHANNEL AND COMPETITION SETTINGS WILL BE LOST AND WILL HAVE TO BE RE-ENTERED WHEN YOU SWITCH ON AGAIN.

INTRODUCTION
The timer can be used manually, or automatically with one or two infra-red gates. A gate memory allows correct timing even if the start or finish gate is not switched on when the competitor passes. The timer is for use with wire-free gates. A menu system allows the channel of the built-in receiver to be changed.
For show jumping, a 45 sec countdown timer and two-phase timing are available.
For dog agility, timing can be set for 'pairs' and 'team' competitions.

CHARGING
The timer has a built in battery, which should be recharged when the heads are recharged.
We recommend charging for 24 hours before and after each use and every 3 months if not in use.
You cannot overcharge. You can run the timer from the mains by connecting the charger.

OPERATION
Switch on the timer and set up gates as described below.
For show jumping press the **Arm** button as the competitor approaches the start line.
Press the **Arm** button again as the competitor approaches the finish line.
For dog agility, the gates are armed automatically.
The red **Armed** lamps light to show when the gates are armed.
The red **Beam** lamps light when the beams are broken.
The **out of range** lamp lights if there are not two working gates within range of the timer.

GATES
Attach the heads and reflectors to the tripods and position at each side of the start and finish lines (the head and reflector must be between 3 and 6 metres apart). Ensure that the tripods are firm.
Switch the head to **CH1 S** for the start gate, or to **CH1 F** for the finish gate.
Align the head with the reflector - the 'beam' lamp will go **out** to show correct alignment.
Tighten all the screws and carefully recheck that the head is still aligned.
NOTE that any delay you may notice in the start or finish signal to the timer (due to radio reception delays) is cancelled-out by special circuitry in the receiver to ensure perfect timing accuracy.
If there is difficulty in aligning, ensure reflector and head lenses are clean and dry. Place head and reflector closer together, but no closer than 3 metres.

TWO PHASE
Normally, three gates are used in the ring. Set the head at the start of phase one to **Ch 1 S**. Set the head at the finish of phase one/start of phase two to **Ch 2 S**. Set the head at the finish of phase two to **Ch 2 F**. On the timer, set the channel to **2gn**, and set the mode to **2Ph** (the finish 'Fault' lamp may come on when waiting for the competitor to start - this is normal).
It is possible to use only two gates by combining the start of phase one and the start of phase two. In this case, set the head at the start of phase one and phase 2 to **Ch 1 S** and the head at the finish of phase two to **Ch 1 F**. Set the 'Gate channel' on the timer to **1**.
Press the 'memory' button if there are faults in phase 1 – the phase 1 time is then displayed.

CONNECTIONS
At the back of the timer are sockets for the charger/mains adapter, and public display.

WARNING
Although the heads are designed for outdoor use, the timer is not, and must not get wet. If necessary protect it with a polythene bag.
The charger must not be used outdoors, or in damp conditions.

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CONTROLS

On/off switch	Has 3 positions. The centre is off. Pull towards you for show jumping; push away for dog agility.
Display	The maximum time that can be shown is 399 sec (for show jumping) or 3 min 59 sec (for dog agility). If the time exceeds this, the left hand three will flash on and off as a warning.
'Out of range' lamp	This will light if there is no radio signal from both the start and finish gates (in particular, it will light if you are using a common gate for start and finish and for phase 1 of two phase timing). It will flash if there is radio interference, or if two gates are switched to the same channel setting.
'Armed' lamps	These lamps light to show that that gates are armed to start or stop the timer.
'Beam' lamps	The red lamps will come on if there is no gate switched on, or if the gate beam is broken. The finish beam lamp will come on when a two phase competition is waiting to start.
Gate memory	To turn this on and off, press and hold down the Memory <set> button and then press the Arm <mem/arm select> button. The display will show whether the memory is on or off. Press the Arm <mem/arm select> button again to change the setting.
Gate channel	To change the radio channel, press and hold down the Memory <set> button and then press the Start <channel> button. The display will show which channel is selected. Press the Start <channel> button again to change the setting. Four channels are available: channel 1 (displayed as C1), channel 2 green (displayed as 2gn), channel 2 black (displayed as 2BL) and channel 2 grey (displayed as 2gy).
Mode	To change the mode, press and hold down the Memory <set> button and then press the Stop <mode> button. The display will show which mode is selected. Press the Stop <mode> button again to change the setting. For show jumping, three modes are available: normal (displayed as nor), two phase (displayed as 2Ph) and test (displayed as tESt). To use two phase timing you should switch the gate channel to 2. For dog agility, four modes are available: normal (displayed as nor), pairs (displayed as Pr.), team (displayed as t.4) and test (displayed as tESt). Test mode switches all the display numbers on and off and is useful for testing a public display.
Countdown	To turn this on and off, press and hold down the Memory <set> button and then press the Zero <countdown> button. The display will show whether the countdown timer is on or off. Press the Zero <countdown> button again to change the setting. The countdown timer is only available if you are switched to show jumping timing. To start the countdown, press the Zero button. The timer will count backwards from 45 seconds. If you press Zero button a second time, the countdown will stop and the timer will be reset to zero.
Memory button	If gate memory is enabled and a beam is broken but not armed a buzzer will sound for 5 seconds. Pressing the Memory button during this time will start or stop the timer from when the beam was broken. At other times the Memory button will show the last competitor's time. The public display is not affected, except during the second phase of a two phase competition, when the time for the first phase is shown both on the timer and on the public display.
Start and Stop	These buttons can be used at any time for manual operation.
Zero	Sets the timer to zero. For show jumping, this operates only if the timer is stopped. Starts the 45 sec countdown timer if this is enabled. It is not necessary to zero the timer since this is done automatically when the start gate operates.
Arm	This arms the start gate if the timer is stopped, or arms the finish gate if the timer is running. If the gate is already armed, pressing this button will dis-arm it.

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Memory/Recall   The timer is designed to give a correct time even if a competitor passes the start or finish with the gate accidentally switched off. In these circumstances a buzzer will sound for 5 seconds. If, during this time, the memory/recall button is pressed, the timer will start from the time the start gate was passed, or will display the time when the finish gate was passed, as appropriate. If this is not required, do nothing - at the end of the 5 seconds the buzzer will stop. This memory facility may be switched off if not required.

Pressing this button when the buzzer is not sounding will display the previous competitor's time, or the phase 1 time. Current timing is not affected by this.

Buzzer   The buzzer sounds a short warning whenever one of the buttons is pressed and performs a function (but not, for example, if the stop button is pressed with the timer stopped). A longer note sounds note whenever the active gate beam is broken. A 5 second note sounds during the gate memory period. A tick sounds whenever the timer is running.