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USER'S GUIDE - LapTimer 4003A/4503A

Congratulations on your new LapTimer 4003A/4503A

Please read before use to gain maximum benefit from your new LapTimer.

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1. Installation

RECEIVERThe receiver [6] is to be mounted at the side of the vehicle that faces the transmitter

Mounting height:

For standard- & formula cars as well as MCs it is recommended to mount the receiver at a height of approx. 800-900 mm above ground level

Specially regarding standard & formula cars

IMPORTANT! The receiver must be mounted so that it points **horizontally** out of the window

Specially regarding MCs

IMPORTANT! The receiver must be mounted **horizontally** on the rear seat cover tale so that it is positioned at right angles to the MC. Be careful that no wires are jammed between the seat and the tank.

TRANSMITTERThe transmitter is to be placed at the same height as the receiver or preferably 100-200 mm higher and as close to the finishing line as possible

The range of the system is 3-50 metres

<p>WARNING!!If other types of infrared transmitters are placed on the track at the same time as a UNIPRO RACING LAPTIMER, the individual distance between the transmitters should be 3 times the distance between the transmitter and the vehicles with the LapTimers</p>
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DISPLAY UNITTo be placed in the most suitable place for the driver

2. Operating the LapTimer before driving

MODE 1

Mode 1 is the most used mode (see MODE 2 + 3 under ALTERNATIVE MODES).

Mode 1 has a **trig time of 20,05 sec.** meaning that the receiver doesn't register a new signal until 20,05 sec. after the previous one.

Switch on the LapTimer by pressing the POWER key [5].

When the POWER key is released, all digits in the display are turned on, one by one, until six 8's are displayed

Shortly after the display will show.....
and the LapTimer is ready to receive signals from the transmitter.

The first time you pass the transmitter the display will show
The stop watch is now activated and the display will now show lap number **0** and time **0.00**.

The next time you pass the transmitter, the display shows e.g.
which means that you completed lap number 1 in 1 minute 37
seconds and 83/100 of a second.

After another lap the display may show.....
Which means that you completed lap number 2 in 1 minute 35
seconds and 21/100 of a second.

After lap 10 the display may show.....

From lap 10 to lap 40 only the last digit of the lap number will be displayed. If you exceed 40 laps without deleting data in the memory, the lap number will be replaced by - in the display. This means that data from these laps will not be stored in the memory, but the lap times shown in the display are still correct.

3. Operating the LapTimer after driving

After the race/test session you can go through your lap times once again by pressing the MODE key [2]. *The LapTimer is now in PIT-MODE.*

The display will show lap 1 and the lap time, e.g.

1.1.3 7.8 3

With the two arrow keys [3][4] you can flip through the stored lap times. It is possible to "spool" fast by constantly pressing one of the arrow keys.

To increase battery life the LapTimer will automatically be switched off when the LapTimer is in PIT-MODE and no key is activated for 1½ minutes. The information will remain in the memory - even after several weeks. Therefore: *Always leave the LapTimer in PIT-MODE when you are in the pit or go home after driving.* Next time you want to switch on the LapTimer do as described in section 5.

4. The memory of the LapTimer

If you wish to retain the lap times in the memory, the LapTimer should be set to PIT-MODE as described in section 3 in which mode the LapTimer will switch off automatically.

You can delete all the data in the memory in any of the following ways.

A The LapTimer is in PIT-MODE and the display is still on. Press the POWER key [5] once.

B The LapTimer is in PIT-MODE but the display is turned off. Press the POWER key [5] twice.

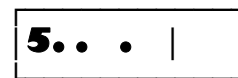
5. Operating the LapTimer after a pit-stop

When you start driving again after a pit-stop - brief or long - the further operating of the LapTimer is subject to the state in which the LapTimer is:

A. The LapTimer is in PIT-MODE and the display is still switched on

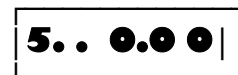
If you wish to retain the data in the memory, you should flip to the number of laps that you want to retain, e.g. lap number 15. Use one of the arrow keys [3][4]. Please remember that from lap 10-40 only the last digit of the lap number is displayed in mode 1 and 3 (see section 2 and 6).

When the display shows the wanted lap number, press the MODE key [2] and the display will show.....
The LapTimer is now ready to receive signals from the transmitter again.



5 . . |

The first time you pass the transmitter, the display will show...



5 . . ● ● ● |

B. The LapTimer is in PIT-MODE but the display is turned off

To switch on the display press the POWER key [5] **once**. Then proceed as described above in section A, i.e. go to the number of laps that you want to retain in the memory by pressing the arrow \blacktriangle key [3]. Then press the MODE key [2] so that only the lap number is shown in the display when you start driving again. The LapTimer is now ready to receive further signals from the transmitter.

If you want to retain the data in the memory, do not press the POWER key when figures are shown in the display as this will delete the data in the memory.

C. The LapTimer has been switched off by the POWER key

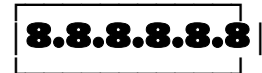
All data in the memory have been deleted and you start the LapTimer as described in section 2 alternatively section 6.

6. Alternative modes

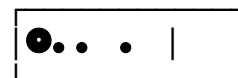
MODE 2

Mode 2 has a trig time of 1,18 sec. In this mode the lap number is displayed with 2 digits, ie. from lap 10 to 40.

This mode can only be activated when the LapTimer has been turned off by the POWER key [5]. Press the arrow ▼ key [4] and keep it down while pressing the POWER key [5]. When the POWER key is released, the display will show six 8's simultaneously

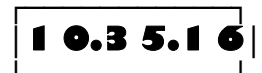


After about 1 second the display then changes to

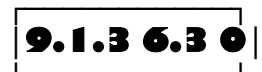


The LapTimer functions as described in chapter 2-5. The LapTimer stays in this mode until it is turned off by the POWER key [5].

From lap 10 to 40 the minute digit is not displayed! If e.g. lap 10 took 1 minute 35 seconds and 16/100 of a second, the display will show



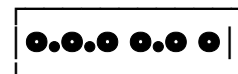
The first 2 digits in the display means lap 10, and the last 4 digits show the seconds of the lap. If e.g. lap 9 takes 1 minute 36 seconds and 30/100 of a second, the display would show



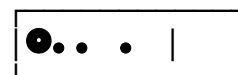
MODE 3

Mode 3 has a trig time of 1,18 sec. Otherwise it functions exactly as mode 1. This mode is mostly used for sector timing (i.e. if you are interested in measuring your time at a special section of the track).

This mode can only be activated when the LapTimer has been turned off by the POWER key. Press the arrow ▲ key [3] and keep it down while pressing the POWER key [5]. When the POWER key is released, all 6 digits in the display are turned on, one by one, until six o's are displayed



After about 1 second the display then changes to



The LapTimer functions as described in chapter 2-5. The LapTimer stays in this mode until it is turned off by the POWER key [5].

NOTE: If you want to make sector-timing, i.e. more transmitters are mounted in different places on the track, you MUST agree this with the other drivers as the LapTimers will be triggered every time you pass a transmitter. If all drivers don't agree, it is recommended to mount only 1 transmitter as usual.

7.Inserting/changing battery

A 9V battery type 6LF22 or the like should be used. It is recommended to use alkaline batteries which have a working time of 20-25 hours or re-chargeable batteries.

Take off the back plate of the display box [1]. Connect the battery to the battery clip. It may be necessary to bend the ends slightly in order to ensure perfect contact. Insert the battery and re-assemble the box. Take care that no cables are jammed. To avoid oxidation it is recommended to add a drop of acid-free oil to each of the four screws.

The LapTimer has a built-in low battery warning, i.e. "**LO BAT**" will flash in the display when the LapTimer is in PIT-MODE. If so, change the battery to ensure that the LapTimer functions correctly.

It is recommended to remove the battery if the LapTimer is not to be used for some time as the battery might leak and cause damage.

8.Maintenance

The LapTimer can be used in all weathers. However, if you have been driving in rainy weather, the LapTimer should be dismantled after driving. Remove the back plate of the display box [1] and the receiver [6] and place all parts in a warm place for 24 hours. Then all parts can be re-assembled and re-installed. If the joint surfaces are oxidized they should be cleaned with a piece of emery cloth or the like, but make sure that these surfaces *are absolutely free from oil.*

9.Fault-finding

If the LapTimer is switched on but receives no signals, check the following:

- A. Is the transmitter switched on?
- B. Is the receiver [6] placed horizontally and at the correct height - see section 1.
- C. Is the distance between the transmitter and the receiver too short - should minimum be 2-3 metres.
- D. Is the battery power sufficient - see section 7.
- E. The connection between the battery and the battery clip - see section 7.
- F. Is there moisture inside the receiver [6] and the display box [1] - see section 8.
- G. **For MCs only** - Receiver [6] and transmitter lenses - dirt on the lenses may cause problems
- H. Does the sun shine direct into the receiver [6]. If so the receiver will automatically turn down the receipt power which could mean that signals are not registered.

If the LapTimer receives more signals during one lap, check the following:

- A. Is there more than one transmitter on the track.
- B. Are other types of infra-red transmitters being used.
- C. Do the transmitter and the receiver [6] "see" each other more than once during a lap.

Does the LapTimer use too much power:

The reason for this is often that the MODE key [2] is pressed after examination of the lap times during a pit-stop. This turns the LapTimer into DRIVING-MODE and the power is switched on. The LapTimer should instead stay in PIT-MODE and should not be switched on until you are about to drive again - see section 5. (The LapTimer will automatically be switched off when the LapTimer is in PIT-MODE and no key is activated for 1½ minutes - see section 3).