User Manual

ULTRAK L20

Multi-Lane Timer
With Integrated Printer

WWW.CEI-ULTRAK.COM

E75 Lane Timer Manual

Features

1) 8000 Memories
2) Built-in PRINTER
3) Up to 10 Lane Buttons
4) PC Upload Function
5) 12/24Hr User-selectable Clock
6) 4-Digit Bib Number
7) 4-Digit Place Counter
8) 2-Digit Lap Counter
9) Auto Print Out
10) Print Final Result Function
11) Pre-Entry of Bib Numbers in Track Races
12) Single and Multi Start Times for Road Races
13) Maximum 10 Waves
14) Race Recall Function
15) Memory Clear Function
16) Printing Pause Function
17) Key Operation Sound
18) Rechargeable by standard USB Charger with 5V USB 2A or 3A output (Not included), with the USB/type C cable provided.

Battery Charging:

The Multi-lane timer uses a built-in rechargeable battery for the printer and a separate rechargeable battery for circuit running and memory back up.

You can use the enclosed-standard USB-Type C charging cable for charging, through standard USB 2A or USB 3A outputs in standard chargers.

The charging port is on the right side of the Multi-lane timer, as shown in Fig.1.

When charging, a red light next to the charging port will turn on. When fully charged, the red light turns off.

If the Multi-lane timer is not working properly, try pressing the reset hole with a small pin to do a hard reset. It might correct the problem. (Fig 1.1)

During reset or powered up, all display segments will be turn on for 2 seconds.

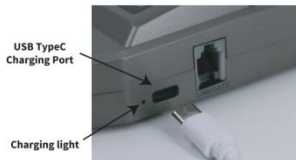The timer will then switch to clock mode automatically.

Fig. 1

Fig. 1.1

USB TypeC Charging Port

Charging light

Reset hold

Clock Mode:

Press [MODE] key to switch to clock mode as shown in Fig. 2.

Week date Date Month Year

MON 11 NOV 02

9:5847 ᴬᴹ

Hour Minute Second AM/PM

Fig. 2 Clock display

3

Clock setting:

1. Press [SET/RESULT] in clock mode to enter clock setting mode.
2. Press [1] to select 12hr clock display format or [2] for 24hr format.
3. After 12/24 hr selection, the display will flash for entering date, month, year, hour, minute, second and AM /PM (if 12hr format was selected). Enter 2 digits for all settings, for example, to set date press '01'for 1st day of the month while it is blinking. The blinking digits will move automatically to the next digits i.e.'month'. To go back, press [<=] or [=>] key to skip to the next setting. If 12hr clock display format is selected, press any numerical key to switch between AM/PM while it is blinking. The Timer will return to clock mode after AM /PM selection or press [MODE] key anytime during settings.

The Timer will return to Clock mode automatically if left for 1 minute.

Linkgate unit connection:

The Linkgate unit is designed for interconnecting the Lane Timer and lane buttons. To connect the Linkgate unit to the timer, insert one end of the Linkgate cable into the terminal marked with 'LINKGATE' on the Lane Timer and the other end to the terminal marked with 'LINKGATE' on the Linkgate unit, as Fig. 3 and Fig.4.

Fig. 3

Fig. 4

The numbers on the top of the Linkgate unit represent the lane number on the track. Insert lane buttons into their respective positions, as shown in Fig. 5. The connections should look like Fig. 6.

Fig. 5

Fig. 6

**The display is always on powered by the separate back-up battery, which is recharged together with the printer battery every time the Multi-lane timer is recharged. Although

each full charge can allow as many as 5000 lap records (3-4 rolls of paper) to be printed, it is always a good practice to fully recharge the unit before timing events.
As an emergency back-up the Multi-lane timer can be recharged by standard power banks.
**: Always disconnect the LINKGATE unit from the timer when not in use to conserve battery power.

Race Mode:

Press the [MODE] key until the display as shown in Fig. 7. Press [1] to select Track Race or [2] for Road Race.
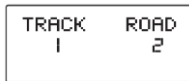
```
TRACK   ROAD
  1       2
```

Fig. 7 Race mode

Track Races:

Track race is designed for the races that have athletes start at the same time and finish in their own lanes. Maximum 10 athletes in 10 lanes can be timed in the same time base by using this timer.

Button Test:

It is possible to test each button before the race. In Race Mode, press [1] to choose Track Race as in Fig.7. Then, 3 options can be chosen as in Fig.8. Press [3] for button testing.
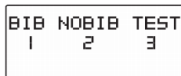

Fig. 8

Fig.9 lane button # 6 is pressed

In the button test mode, the display will show the corresponding lane number when that button is held down (Fig.9). This is to help to make sure that the right button is used for each lane and that it is well connected. These lane numbers will disappear when the lane buttons are released. Press [MODE] key to exit button test mode. The display will return to Fig.8.

Bib number Entry in Track Race:

Choosing [1] (BIB) in Fig.8 to enable the Bib number entry. The display will show available memories for 2 seconds.

Fig. 10 shows the track race display. The top row displays the race number for Track Race, the bottom displays LAP number and time.

Fig. 10

The timer allows entering the athletes' bib numbers before starting a track race. Press [EDIT] key at Fig.10 will go to bib number entering mode, as shown in Fig.11. Key-in the corresponding bib number for the lane, and press [ENTER] to enter the bib number for the next lane. To skip entry for a certain lane, press [=>] to go to the lane you like to enter. To go back to previous lanes press [<=]. To return to track race (Fig.10), press [MODE].

To start a race, press any lane button or [START/LAP]. (In case of the starting signal, it allows three persons (maximum) pressed the lane buttons simultaneously within one second on Track & Road race. The timer will take the average time automatically for the overall starting time.) To record finish time for a particular lane, press the corresponding lane button. Press [START/LAP] will only record time for lane number 1.

If [START/LAP] or any lane button is pressed, the display will change to Fig.12. If the bib number is not yet entered, the bib number can be entered now and press [ENTER] to confirm. If no Bib number is needed, leave it as is.

The timer will memorize the entered bib numbers for any particular lane. Pressing the same lane button again, the bib number entered previously will automatically appear under the bib column in Fig.12, instead of blinking dashes.
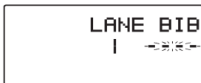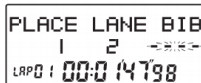
8

Fig. 11	Fig. 12

If other lane buttons were pressed during bib number entry process, those records will be memorized. The last record will be displayed when [ENTER] is pressed.

Pressing [STOP/RESET] during a race will stop the timer, pressing [START/LAP] will start it again. To reset, press [STOP/RESET] while the timer is stopping.

The timer also allows correcting the bib number or assigning a new bib number, as follows:
1. When the race is stopped, press [EDIT] to enter edit mode and use [<=] or [=>] to scroll to the desired lane. Press [MODE] when finished editing.
2. Recall the race from memory, press [=>] to go to the records and [EDIT]when the lane number for bib number entering appears. Press [MODE] when finished editing.

Omission of the Bib number in Track race:

Choosing [2] (NOBIB) in Fig. 8 can skip the Bib number entry. To start a race, press any lane button or [START/LAP] at the track race display. To record finish time for a particular lane, press the corresponding lane button. Press [START/LAP] will only record time for lane number 1.

Pressing [STOP/RESET] during a race will stop the timer, pressing [START/LAP] will start it again. To reset, press [STOP/RESET] while the timer is stopping.

**Throughout the whole process & recall mode, it is not allowed to enter any Bib number.

Road Races:

The Road race mode is designed for races with single or multi lanes. Each road race can have up to 10 different start times (waves). The difference between single and multi-lane road race is that single lane road race has no lane number and multi lane road races could count up to 10 different lanes.

Bib number entry in Road Race

For both Single and Multi-Lane Road Race, the Bib number can be entered either before or after the athletes crossing the finish line.

If you want to enter the Bib number before the athletes crossing the finish line, you can press the [EDIT] button after starting the waves. The timer will ask you to enter the Bib number as in Fig 13. Then enter the Bib number and press [ENTER] to confirm. When the athlete passes the finish line, press [START/LAP] or any lane buttons to record the time.

If you want to enter the Bib number afterward, you can just press [START/LAP] or any lane buttons after starting all the waves. The timer will show your place and ask you to enter the Bib number as in Fig. 14. After entering the Bib number, press [ENTER] to confirm.
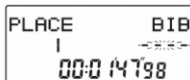

Fig. 13

Fig. 14

Single Lane Road Race:

When Road race is selected by pressing [2] in Race mode (Fig.7), wave number can be set as in Fig.15. Enter the desired wave number (maximum 10 waves) and press [ENTER] to confirm. The display will be as shown in Fig.16. Press [1] to select Single or [2] to select Multi lane road races. Press [1] to skip, or press [2] for button test. Fig. 17 shows the single lane road race display. The first row shows the race number for Single Lane Road Race.
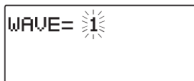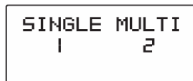
| WAVE= 1 | SINGLE MULTI |
| | 1   2 |

Fig. 15 | Fig. 16

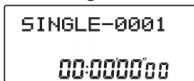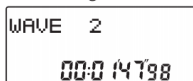| SINGLE-0001 | WAVE 2 |
| 00:0000'00 | 00:014'98 |

Fig. 17 | Fig. 18

Press [START/LAP] or any lane button will start the race if the Linkgate unit is connected to the timer.

If the race is started, the first row of the display will show the current wave. The second row displays the split time. Press [START/LAP] or any lane button will start the next wave (i.e wave 2 etc.) shown in Fig.18.

Once all the waves have been started, press any lane button or [START/LAP] will record the time the 1st place. In single lane road race mode, no lane number will be displayed in Fig.14.

**We still can use the Linkgate and lane buttons to record the race. For example, use lane button number 1, 2 and 3 for Place 1,2 and 3 respectively; use lane number 4 for all other Places.

Multi Lane Road Race:

1

Press [2] in Fig. 16 to enter the Multi lane road race mode. Key in the required wave number (max.10) and press [ENTER] to confirm. The display will be as shown in Fig.19. The first row shows the race number format for Multi Lane Road Race.
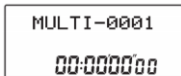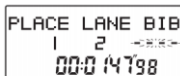

Fig. 19

Fig. 20

Press [START/LAP] or any lane button to start. After all waves have been started, press any lane button to record the time for that corresponding lane or press [START/LAP] to record the time for lane number 1 shown in Fig. 20.

Recall Mode:

Recall mode can be entered only when there is a minimum of 1 race record in the memory. Press [MODE] until the display shows a race number on the first row, as in Fig.21.
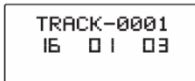

Fig. 21

The first row of the display shows the race type i.e. TRACK, SINGLE or MULTI followed by a race number such as 0001,0002 etc. The second row shows the date the race was created. For example, '16 01 03' for 16th January 2003. Press [<=] or [=>] to select other races. To view the race, press [ENTER] when that race record is displayed. Use [<=] or [=>] again to display records in that race. To exit, press [MODE].

** For fast advance hold down [<=] or [=>] for 2 seconds

Memory:
The 'MEMORY LOW' indicator on the top left corner will be turned on when only 100 memories are left and started blinking when less than 50 memories left.
IMPORTANT: RACE WILL AUTOMATICALLY STOP IF NO MEMORY IS LEFT. When this happens, the display will show 'MEMORY FULL' and the 'MEMORY' indicator on the top left corner will start blinking, as in Fig. 22.
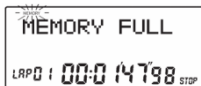

Fig. 22

No new race can be started unless some memories are released. See Delete Race paragraph below for releasing memories.

1

Battery low indication:

The battery low indicator will be turned on (Fig. 23) when the back-up battery voltage drops below 2.6V. Battery charging is needed.
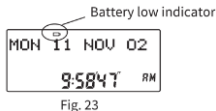

Fig. 23

Delete Races:

Select the race (as in Fig. 21), press and hold [STOP/RESET] for 1 second, the display will show 'DELETE?', keep holding the key for another 2 seconds, the display will show 'DELETED' (Fig. 24). At this point the selected race is completely erased. If [STOP/RESET] is continuously held down, 'DELETEALL?' will be displayed. If [STOP/RESET] is still held down for 2 more seconds, 'ALL DELETED' will be displayed. At this point all races in the memory are completely erased (Fig. 25).
Approximately 1 minute is required for the deleting 8000 memories.

**When selecting races to delete, always note the date information of the race since the timer will rearrange the sequence number when a race(s) has been deleted.

DELETED

Fig. 24

ALL DELETED

Fig. 25

Loading of Paper:

1. Use thermal paper roll size: Width 57mm x Diameter 30mm max
2. Pull out the paper cover by pressing both side of the cover slightly, as shown in Fig.26.
3. Take out the paper roll, pull out a portion, and place the paper roll in the slot as shown in Fig.27.

PRINTER WILL NOT WORK IF PAPER IS INSERTED REVERSED.

4. Close the paper cover as shown in Fig. 28.
5. Switch on the printer by sliding the PRINT ON switch as shown in Fig.29.
6. Now the printer is available.

Fig. 26

Fig. 27

PRINT ON switch

Fig. 28   Fig. 29

** Do not pull paper out from the printer, this will cause damage to the printer. For replacing the paper roll before it is used up, pull up the paper cover and replace a new one directly.
** Do not touch the surface of the paper as it may cause poor printing.
** Always store the paper rolls in a cool, dry place and keep away from direct sunlight.

Print / Upload race:

Once the printer switch is slide to 'ON', the printer is ready for printing.
The Lane Timer can print and upload data to the PC computer at the same time. To upload data to computer, the computer must have the 'Multi Lane Upload' Software installed (please see Multilane upload program manual).

Follow the steps below to connect the computer and the timer:
1. Shut down the computer.
2. Plug the USB upload cable into the USB socket of the computer.

3.Insert the telephone plug end of the connector cable into the left-hand side of the timer labeled 'PC' (Fig.30)

4. Plug the jack end of the connector cable into the socket of the upload cable (Fig.31).

Fig. 30

Fig. 31

Print race record in memory:

Switch to recall mode by pressing [MODE] and use [<=] or [=>] to select race to print. Press [PRINT/UPLOAD] will display two options (Fig. 32); press [1] to print all race records in the memory or press [2] to print the selected race record only.


```
ALL    SELECT
  1       2
```

Fig. 32

'PRINTING' will be shown on the display while printing data and 'FINISHED' when printing is finished.

After completing the printing of the current segment, press [ENTER] to push out the printing paper for 4 lines.

The timer can also print or upload the final result in the order of places. Just select the race and press [SET/RESULT].

In case of running out of paper, the printer can be paused by pressing [PRINT/ UPLOAD], the display is as shown in Fig. 33. Press the same key again will start printing again without losing any data.
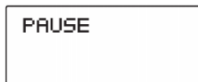
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PAUSE


```

Fig. 33

MultiLane UPLOAD PROGRAM MANUAL
A) MultiLane program & driver installation
B) Program Functions
C) Program uninstallation
****

A) MultiLane program & driver installation:
1) Install MultiLane program [MultiLane Setup.exe].
2) Follow the on-screen instructions to install the driver [PL23XX Driver.exe] to the PC.
3) Restart
4) After restart, plug in the USB upload cable with the Lane timer connected.
5) Take note from the display the COM port no. through which the driver is connected to the PC.
[Note: In case the Com port no. assigned is not within 1 to 4, go to the control panel to adjust. You can view the port number by first clicking the 'Control Panel' and choose 'System'. Then, click the 'Hardware' in the System Properties and choose 'Device Manager'. The port number can be found in the 'USB to Serial Bridge Controller' inside the Ports (COM&LPT). The port number can be changed by right clicking the 'USB to Serial Bridge Controller' and choose 'Properties'. The Communication Port properties window will pop up, choose 'Port Settings' and click 'Advanced'. Then,you can choose another port (COM1-COM4) in the Com port number.]
6) Double click the 'MultiLane' icon on the desktop
7) From the program pull down menu, click 'SETTING' and select 'PORT'. A list of COM port no.(COM1-COM4) will be displayed Match this COM port no. to the one noted in A5 and click 'OK' to accept. If an incorrect port number is selected, nothing will be transferred to the computer.

8) Continue function. This function located in the 'SETTING' pull down menu. Click 'Continue' for either enable or disable. This function affects the way of saving race record into file. A 'tick' symbol appearing next to 'Continue' means it is enabled. All race records will be saved in one file, each time executing 'Download' function. MultiLane program will not prompt the user to save file unless start download new record or exit program. If tick symbol is not appearing(disabled). MultiLane will prompt the user to save each race record into a file before next race record start transferring to the computer. For example, if user transfers 3 race records to the computer, MultiLane program will prompt the user to save the first and second record. The user must save the last record by clicking. 'Save' or 'Save as' in the pull-down menu, or the computer will prompt to save the last record until the user start transfer new race record or exit the MultiLane program.

B) Program Functions:

1) Download memorized race records from the Lane timer:

At the main screen of the Multilane program click 'FILE' from the pull down menu and then select 'Download'. Switch the timer to recall mode. Use [<=] or [=>] to select the desired race record for upload. Press the [PRINT/ UPLOAD] key on the timer to display the 2 options (as in Fig 32). Press [1] to upload all race records in memory to the computer or[2]to upload the selected race record to computer. The timer will display 'PRINTING' while transferring data and 'FINISHED' for finishing upload. Click 'Disconnect' then 'Back' to return to the main screen.

2) Real time Download:

User can transfer data to the computer when operating the timer in racing mode. Please note that the record number in the Multilane program always starts from 0001 every time in this mode. Therefore, the race record number can be different in the Multilane program

and the Lane timer. The Multilane program allows the user to record a maximum of 8000 laps from the Lane timer. Laps exceeding 8000 will not be saved.

3) Enter athlete name and bib number:

The Multilane upload program allows entering athlete names and bib numbers. When the program is not in the upload mode, double click any cell under the 'athlete Name' column or 'Bib' to enter name, any bib number for the selected row.

4) Saving files:

When saving files to computer, default file name format will be suggested by the Lane timer,e.g. file name TRACK-0001, will be suggested for track race and 0001 is the number of the record. The user can change the file name if needed.

5) Deleting records:

To delete records, first select an unwanted race record by clicking the down arrow button next to it in 'Record Cell'. Click 'DELETE RECORD' then click 'OK' to accept the delete record dialog.

6) Exporting files:

The Multilane program allows the user to export files in the text format. Select 'EXPORT' then click 'TEXT' from the 'FILE' pull down menu. 'SAVE AS WINDOWS' will be displayed; user can save the file to another file name and path in your computer. Because the exported file is in text format, it can be opened by Windows note pad, Microsoft WORD or EXCEL programs for further processing.

7) Print Setup/Print:

Select the printer and print orientation in 'PRINT SETUP' of the 'FILE' pull down menu. Click 'PRINT' in the 'FILE' pull down menu to print the current race file immediately.

C) Program uninstallation:

To remove MultiLane program, go to CONTROL PANEL, double click ADD and REMOVE, select 'MultiLane version 1.1' then click REMOVE. This will completely remove the MultiLane program from the computer.

For uninstalling the PL23XX Driver, go to CONTROL PANEL, double click ADD and REMOVE, select 'PL23XX USB-to-Serial', then click REMOVE. The PL23XX Driver will then be removed from the computer.

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