

Welcome to Digatron

This manual covers the operation of your DT-30K instrument. Both racers and recreational riders can use this instrument. Racers may be interested in recording lap times with the optional infrared beacon transmitter and receiver or with the manual store switch.

This book provides the information you need to quickly set up and use your instrument. It is a great reference guide.

If you are interested in learning more about how Digatron instruments can help you analyze your engine functions and driving techniques, please visit our website, www.digatronusa.com, or phone (509) 467-3128.

Table of Contents

Instrument Functions	3
Battery Installation.....	4
Setting Limits and Warning Lights	4
About Delay Time	5
Tach Calibration Number	5
Recording.....	5
Moisture	5
Erratic Readings.....	6
Button Functions.....	6
Designators Defined	7
Repairs and Warranty	7

Congratulations on your purchase of a brand new Digatron data acquisition system! We would like to hear from you regarding this instrument. Please call, mail, fax or email us with comments, questions, suggestions or improvements.



Digatron LLC
120 N. Wall St Ste 300
Spokane, WA 99201
1-866-DIGATRON
(509) 467-2952 Fax
info@digatronusa.com
www.digatronusa.com

Instrument Functions






A. Power/Record

Start Vehicle. Instrument turns on automatically. If you are using the optional infrared beacon transmitter and receiver, the instrument starts recording lap times automatically when a transmitter signal is received.




B. Overall Maximums

1.  Press & hold to view maximums and best lap time.
 2.  Press & release to cycle through up to three sets of data.
 3. Repeat steps 1 & 2 as desired.
-



C. Lap Times & Maximums per Lap (optional)

1.  Shows lap time for the first lap of the last Event. (Button press is ignored if instrument is receiving a tach signal.)
 2.  OR  Changes lap backward or forward one. Displays flash when best lap is shown. Displays E#, when changing to a different Event. Hold to jump between Events.
 3.  Changes the functions being displayed. Maximums for the current lap are displayed.
 4.  Return to monitor / record mode.
-

D. Reset (clear memory)

1.  AND  Press and release at same time.
 2.  Press when display flashes. Canceled if not pressed within 10 seconds.
-

E. Power Off

1.  AND  Turns instrument off, if it's not recording or receiving a tach signal.
OR
The instrument will turn off automatically if it does not receive any button presses or a tach signal.
-

Battery Installation

Two AAA batteries power the DT-30K. These allow the instrument to run for 40 hours with the backlight on and 150 hours with the backlight off. The instrument will display $\text{!} \square \text{!}$, signaling that the batteries are low, several hours before the functions becomes inaccurate.






To replace the batteries, remove the screw from the battery door on the back of the instrument. Replace the two batteries, observing battery polarity.

If your instrument is stored for a long period of time, remove the batteries.

Setting Limits and Warning Lights

Limits and warning lights warn you of conditions that could be harmful to your vehicle's engine. They should be set at levels that allow you to react to the visual warnings before engine damage occurs.

Setting the Engine Limits and Delay Time

-  From monitor/record, instrument enters Set Up mode. Delay time will be the first limit, see next page for explanation.
 -  O  R Press either button to change the number being displayed. Hold the button to change the number faster.
 -  Press to set next limit. Repeat steps 2 & 3 until all limits and calibration numbers are set.
 -  Press to return to monitor/ record mode.
-

Function limits are set in the following order: Delay Time, Temp1 (C1), Temp2 (C2), Tach (RPM) and Tach calibration number. Also, if you are not using a function on your instrument, use a shorting plug and set that function's limit to any number greater than 200.

About Delay Time (Optional, for Racing)

Some sanctioning bodies do not allow racers to use infrared beacon transmitters and receivers. If this is true for you, set your delay time to .1 seconds.

The delay time allows your instrument to ignore extra beacon signals at the track. Delay time is the time, in tenths of a second, that your instrument ignores beacon signals after receiving a signal. The delay time must be less than your best possible time between beacons, or the instrument will miss your beacon signal. Delay time is set in Set Up mode.

For example, if it takes you approximately 14 seconds to complete a run, set your delay number for 12 seconds. After your instrument receives its first beacon signal, it will ignore all signals for 12 seconds.

*Note: If you are not a racer, set your delay time to .1 seconds.

Tach Calibration Number

The Tach limit requires two separate parameters. The first is the maximum revolutions per minute (RPM) for safe engine operation. The second number, the Tach calibration, allows the instrument to display the correct RPM for your engine. The instrument divides the Tach input signal by the Tach calibration number. This number can be between .5 and 31.

The most frequently used numbers are:

- 1 - for single cylinder 2 cycle and most 4 cycle motors
- 2 - for 2 cylinder 2 cycle and 4 cylinder 4 cycle motors

If you are unsure of the exact Tach calibration number for your engine, experiment. If your calibration number is currently set at 1 and the RPM displayed is double what it should be, set the calibration number to 2.

Recording

The instrument records in sessions called Events (shown by an **E**), which start each time the instrument begins recording. Within Events, time segments (Laps, **L** on the display) are created with infrared beacon receivers and transmitters or with a store switch. To end an Event your engine must be turned off, the **Exit** button must be pressed, or the Tach must go below 200 RPM (this value can be changed on your PC).

Moisture

Your instrument is designed to be water resistant. We recommend keeping it as dry as possible. Please cover or remove your instrument before washing your vehicle. Digatron offers tach bags to help keep the instrument dry. If moisture does get inside the instrument, remove one endcap and let the instrument air out in a dry environment. A hairdryer, on low power, can accelerate drying.

Erratic Readings

If the instrument encounters excessive electrical interference it will display ERR on the left side of the top display. The stored data might be invalid, and may need to be erased. To erase your stored data, see Reset on page 2.

The ERR enunciator can also indicate an incorrect instrument or sensor installation. If your instrument is doing strange things, put it in Set Limits and check to see that the limits and calibration number(s) are still where you set them (see page 4).

Installing a resistance plug boot can normally solve electrical interference problems. We recommend using an NGK boot, # LB05EMH.

To avoid erratic readings:

- Keep your temperature and Tach leads separated by at least 3".
- Route the leads as far away from the coil as possible.
- Install the Tach lead on the plug wire at least 2" back from the plug boot. If you still have a problem, try a different location on the plug wire.
- Make sure your tach sensor ground wire is attached to bare metal.
- Replacing one or all of your sensors often solves this problem.

Please contact Digatron if your problem continues.

Button Functions

Max / Mode (3) functions

- A. Turns the instrument on.
- B. Press to view different functions.
- C. Press and hold to view maximums and best lap times.

↓ / Light (2) functions

- A. Press and hold to dim warning lights, and turn backlight on and off.
- B. Decreases values in Set Up.

↑ / Set Up (2) functions

- A. Enter Set Up.
- B. Increases values in Set Up.

Review / Exit (2) functions

- A. Press for lap times and lap maximums.
- B. Exit Review and Set Up.

Reset Instrument Erases recorded data and for troubleshooting.

- A. Press **Review / Exit** and **↑ / Set Up** at the same time.
- B. Press **↑ / Set Up** before 10 seconds passes.

Designator Definitions

The following is a list of designators that can appear in the main part of your display:

- SEt displayed when entering Set Up mode
- nONE displayed if the **Review** button is pressed and there is no recorded data
- CL displayed when setting the Tach calibration number
- LoB displayed when your batteries are low
- PrES UP during a reset of memory, press the ↑ button to proceed
- CL displayed if a reset of memory was successful
- nO CL displayed if a reset of memory is not successful
- LLP last lap time
- CLP current lap time
- b best lap time
- rEC displayed when recording lap times and the **Review** button is held
- ErUN displayed if the engine is on when trying to enter Review
- CL1 CL2 when setting limits, displayed for temp1 and temp2 respectively
- when shown on the top of a display, the function is over ranging. when shown on the bottom of a display, the function is under ranging

The following is a list of enunciators that can appear on the side of your displays. These show what function is in the display:

- RPM tach
- EGT exhaust gas temp
- MEM memory
- ERR error
- CHT cylinder head or water temperature

Repairs and Warranty Information

If you have any questions about the operation of your instrument, please call. One of our technicians will be happy to help you. Please have your instrument nearby to help while troubleshooting with the technician.

With the exception of physical damage and normal wear, there will be no charge for service required on internal parts for two years from date of purchase and for external parts for one year. Be sure to fill out and return your warranty card for our records. If we do not have a card on file for your instrument, you will be charged for repairs unless you can provide us with a proof of purchase date.

When returning an instrument for repair, please use the repair form found on our website or enclose a note indicating your return address, phone number and a detailed description of the problem. Send your instrument and sensors so that we can check the complete system.

Send repairs to:

Digatron LLC

120 N. Wall St. Ste 300

Spokane, WA 99201

www.digatronusa.com

Phone: (509) 467-3128 Fax: (509) 467-2952

5/7/2008