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INTRODUCTION

Congratulations on your purchase of a new Blackburn Delphi Cycle Computer. Blackburn Delphi computers are among the most advanced cycle computers available in the market today. Designed to meet the needs of serious cyclists, Delphi cycle computers offer a wide range of advanced features including wireless operation, ECG accurate wireless heart rate and ultra-accurate altimeter functionality. Blackburn has gone to great expense to assure these are the finest cycle computers you can buy. We are so sure of this, each unit we make is covered by a limited LIFETIME WARRANTY against any defects in materials or workmanship. See Page 54 for a complete description of the Bell Sports Limited Warranty

This manual is an integral part of your Blackburn cycle computer. Please read it carefully and use it while performing the initial programming and operating of the unit. After you are fully familiar with all of the features and functions of your Blackburn cycle computer, put this manual in a safe location for future reference.

WARNINGS AND CAUTIONS

ENGLISH

⚠ **WARNING**—Blackburn cycle computers and heart rate monitors are training and fitness tools. Before beginning any exercise program, consult your doctor to discuss your exercise plans.

⚠ **WARNING**—Blackburn cycle computers featuring an altimeter sensor are NOT designed to be used as a PRIMARY altitude instrument for flying, skydiving, hang gliding or other sports where sudden major changes in altitude may occur or when there is a need for industrial precision.

⚠ **WARNING**—Do Not divert your attention from the road ahead to operate yo\ur cycle computer at any time. We also strongly suggest you wear a Bell or Giro helmet any time you ride your bike.

⚠ **WARNING TO PEOPLE THAT WEAR PACEMAKERS**—While your heart rate monitor should have no direct effect on your pacemaker, we strongly recommend that you consult your physician or cardiologist before using this product or embarking on an exercise program.

CAUTION—Blackburn cycle computers are sophisticated electronic instruments. Blackburn recommends this unit only be installed by a qualified Blackburn retailer. Failure to read the instructions may result in damaged caused by improper installation and may void the warranty. If you are unsure about how to properly perform any aspect of the assembly, installation or operation of your Blackburn cycle computer, please contact your local Blackburn retailer.

CAUTION—This unit is designed to be water resistant under normal riding conditions. It should not be immersed in water. It should not be left attached to the bike if the bike is being transported on an automobile.

CARE AND MAINTENANCE

Blackburn cycle computers contain many delicate electronic components which may be damaged by excessive exposure to heat, shock or general abuse. Treated with care, your cycle computer is capable of delivering many years of reliable service. Improper care and handling, or damage caused by abuse or neglect, will void you Blackburn Warranty.

NEVER—Leave your computer in your car on hot days.

NEVER—Store your Blackburn cycle computer in a plastic or other non-breathable container.

HOW THIS PRODUCT WORKS

HOW A WIRELESS CYCLE COMPUTER WORKS

Your new Blackburn Delphi cycle computer is equipped with a wireless radio system for the transmission of speed and distance. Wheel rotation data is sent from the fork to the computer unit on the handlebars where it is processed to display speed and distance traveled. To reduce the chances of cross communication with other wireless cycle computers the system is designed to be both directional and short range. Because of the short range of the radio system, it is best to install the fork transmitter on the top half of the fork blade. Mounting the unit at the bottom of the fork or on the back of the fork blade may result in the computer being unable to pick up the signal.

AUTO START/STOP—Unlike wired units, wireless computers are incapable of having a true automatic start/stop system because there is no hard wired circuit to close and activate the computer. Because of this, wireless cycle computers must, at some point, turn off their radio system in order to conserve battery life. Your Blackburn wireless computer is programmed with the most sophisticated Start/Stop algorithm available in a cycle computer. While in SLEEP mode, the Delphi unit looks for new speed or heart rate information every two minutes for a period of two hours. Even if you stop riding and do not start again for 2 hours, the largest segment of ride data you will lose will be 2-minutes.

HOW THIS PRODUCT WORKS

WIRELESS HEART RATE MONITORS DELPHI 5.0 AND 6.0

Your new Blackburn cycle computer may be equipped with a wireless heart rate monitor. The heart monitor system is a sophisticated athletic training tool which is capable of measuring your heart rate with the accuracy of a hospital ECG system. Heart rate monitors use a chest strap to pick up the electrical signal emitted by the contractions of the heart and transmit the information to the computer. Every time the heart beats, a short radio signal is sent from the chest transmitter to the computer. The computer measures the time between the incoming signals, filters and averages them and displays a heart rate number on screen. To achieve the most accurate heart rate reading possible, it is important to be aware of circumstances that can cause false signals to enter the system and cause your heart rate measurement to be inaccurate.

1. The chest strap should be worn as tightly as possible without being uncomfortable. If the chest strap is not tight enough, movement between it and your body can cause false signals to be generated, which may be seen as heart beats by the watch. This is especially true during high impact activities, such as running.
2. Environmental factors such as high-tension power lines, home security systems and radio towers may interfere with the ability of the watch to receive a signal from the transmitter. A loss of the heart rate signal and the heart rate display showing zero, will usually indicate this. This problem is usually transient in nature, and will stop once you have passed out of the area of interference.
3. Occasionally, when you are using your heart rate monitor watch in close proximity to other heart rate monitors, it is possible for your watch unit to pick up the signal from the other transmitters. This is called cross-talk. When you are experiencing cross-talk, you will see a very high heart rate or a heart rate of zero. If this happens, simply allow a bit more space between you and the other users.
4. While riding, the flow of air over your body may cause your jersey or shirt to flutter and tap against the heart rate transmitter. This tapping can result in false signals being generated causing inaccurate readings. If you find this happening, try wearing the transmitter backward so that the transmitter and electrodes are against your back with the elastic strap across the front of your chest.

HOW THIS PRODUCT WORKS

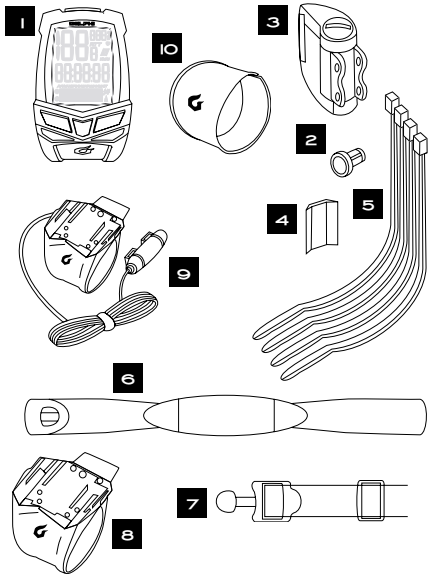
ENGLISH

PRESSURE SENSING ALTIMETERS DELPHI 6.0

Because the altimeter system in the Blackburn Delphi 6.0 relies on Barometric Pressure for its measurements, it is critical that you regularly calibrate the unit to a known altitude. Generally, the small pressure changes experienced during a day of use will have only a minor effect on the accuracy of the unit. However, the arrival or departure of a weather front can change the current altitude display by several hundred feet or more.

To simplify the calibration process the Blackburn Delphi 6.0 allows you to store your home altitude to memory and calibrate the unit to this altitude at any time using a **PRESS & HOLD** of the OPTION key while in the CURRENT ALTITUDE screen.

PARTS OF YOUR BLACKBURN DELPHI CYCLE COMPUTER

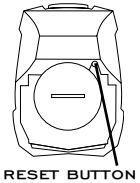


1. FACE OF COMPUTER
2. WHEEL MAGNET
3. WIRELESS FORK TRANSMITTER
4. WIRELESS FORK TRANSMITTER MOUNTING PAD
5. ZIP- TIES
6. BLACKBURN INDEPAD™ HEART RATE TRANSMITTER
7. HEART RATE TRANSMITTER ELASTIC STRAP
8. WIRELESS BRACKET
9. WIRELESS BRACKET WITH CADENCE SENSOR
10. BRACKET SLEEVE

RESETTING THE COMPUTER TO ITS DEFAULT SETTINGS

On the bottom of the computer unit, to the upper right of the battery door is a small hidden RESET key. Pressing this key with a toothpick or other small pointed object will reset all programmed values to their default values and resets the microprocessor. This may also be accomplished by removing and reinstalling the units' battery.

CAUTION—Pressing the RESET key will automatically clear any information from the units' memory.



SHIPPING AND SLEEP MODES

SHIPPING MODE—Your new Blackburn Delphi computer comes to the dealer in SHIPPING MODE. In this mode the LCD display is totally blank. This is done to extend the battery life. Press any key to wake the unit up and advance to the default display mode.

NOTE: It is possible the unit will not come to you in SHIPPING MODE if it has been previously activated. This should not have an adverse impact on the life of the battery.

SLEEP MODE—When the receiver circuit of the computer unit shuts down, the unit goes into its SLEEP MODE. In SLEEP MODE the display will show the current Time of Day, Chronograph (RT or TT) and Units (Miles or Kilometers) settings.

CHANGING THE BATTERY IN THE BLACKBURN DELPHI CYCLE COMPUTER

Blackburn Delphi computers are powered by a CR2032 3v Lithium Battery. Under normal conditions, this battery should last approximately one year.

REPLACING THE COMPUTER BATTERY

1. Using a coin, turn the battery door counter clockwise until the door comes free.
2. Take care not to damage the O-ring seal for the battery compartment and carefully remove the old battery.
3. Place a new battery in the battery compartment with the positive (+) side toward the battery door. Be extremely careful not to bend the battery contact when inserting a new battery.
4. Place the battery door over the opening and tighten it down by using a coin and turning in a clockwise direction.
5. If the O-ring has been damaged, replace it before reinstalling the battery door.

CAUTION—Extreme care should be taken when replacing the battery to ensure the unit remains fully water resistant. Failure to properly replace the battery and correctly seal the unit may cause the unit to become damaged and may void the warranty.

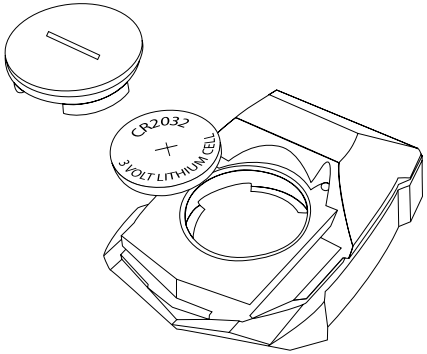
CAUTION—Use of the backlight system an average of more than twice per day may result in shortened battery life.

ALWAYS—Check the batteries if you are experiencing problems with your computer. Most problems experienced with the operation of this unit are the result of dead or dying batteries.

CHANGING THE BATTERY IN THE BLACKBURN DELPHI CYCLE COMPUTER

ENGLISH

REPLACING THE COMPUTER BATTERY

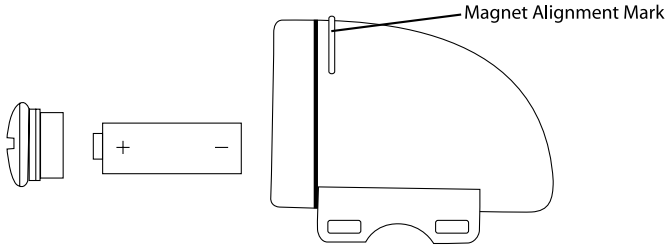


CHANGING THE BATTERY IN THE WIRELESS SPEED TRANSMITTER

The Wireless Speed Transmitter uses a 23A 12v Alkaline battery. Under normal conditions, this battery should last approximately one year.

1. Using a coin, turn the battery door counter clockwise until the door comes free.
2. Take care not to damage the O-ring seal for the battery compartment and carefully remove the old battery.
3. Place a new battery in the transmitter positive (+) side toward the battery door.
4. Place the battery door over the opening and tighten it down by using a coin and turning in a clockwise direction.
5. If the O-ring has been damaged, replace it before reinstalling the battery door.

NOTE: Extreme care should be taken when replacing the battery to ensure the unit remains fully water resistant. Failure to properly replace the battery and correctly seal the unit may cause the unit to become damaged and may void the warranty.

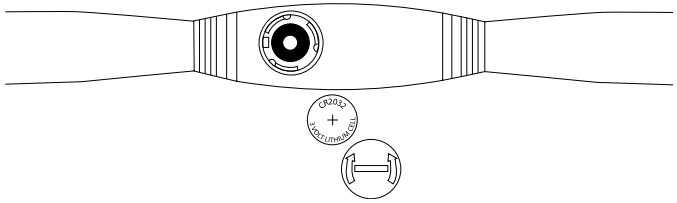


CHANGING THE BATTERY IN THE INDEPAD™ TRANSMITTER BELT

The Blackburn Delphi 5.0 and 6.0 units feature a wireless heart rate transmitter, powered by a CR2032 3v Lithium battery. Under normal conditions you can expect to get approximately 700-800 hours of heart rate transmitter use with a fresh battery.

1. Using a coin, turn the battery door counter clockwise until the door comes free of the watch.
2. Take care not to damage the O-ring seal for the battery compartment and carefully remove the old battery.
3. Place a new battery in the battery compartment with the positive (+) side toward the battery door.
4. Place the battery door over the opening and tighten it down by using a coin and turning in a clockwise direction.
5. If the O-ring has been damaged, replace it before reinstalling the battery door. Most jewelers and watch shops should have replacement O-ring seals.

NOTE: Extreme care should be taken when replacing the battery to ensure the unit remains fully water resistant. Failure to properly replace the battery and correctly seal the unit may cause the unit to become damaged and may void the warranty.

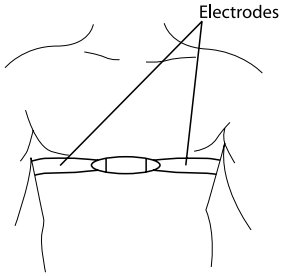


WEARING THE BLACKBURN INDEPAD™ TRANSMITTER BELT

To ensure a proper heart rate display, the chest transmitter must be moistened and properly adjusted. Wet the electrodes (located to the right and left of the main transmitter case) with saliva or ECG conductive gel. Do not use water, moisturizing creams or suntan oil, as these are insulators and may interfere with the heart rate signal. Snap the plastic tabs at the end of the elastic belt into the holes at the end of the transmitter, and adjust the strap so that the transmitter fits tightly below the pectoral muscles, as shown in the drawing.

NOTE: Users with significant chest hair may have a problem obtaining contact between the transmitter electrodes and their skin, resulting in poor performance. It may be necessary for these individuals to shave the area of their chest beneath the transmitter.

NOTE: In dry and cold climates it may take a few minutes of use for the electrodes to soften, and a layer of perspiration to form between the contact and the skin for good performance. Moistening the electrodes with saliva or ECG conductive gel can speed up this process.

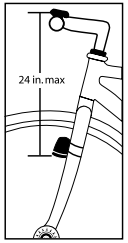


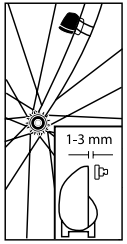
INSTALLING THE COMPUTER ON YOUR BIKE

INSTALLING THE WIRELESS FORK TRANSMITTER

The Delphi 4.0, 5.0 and 6.0 receive speed and distance from a wireless transmitter mounted to the front fork.

1. Attach the wireless front wheel sensor and rubber mounting pad to the front of the left fork blade using the zip-ties provided so the battery cap is pointing downward. Snug up the zip-ties but do not fully tighten them. The sensor should be mounted as high on the fork blade as possible. The range of the transmitter is approximately 18in (46cm). Mounting it high on the fork will assure good signal reception. Other mounting locations may work, but we feel this is the best location for most applications.
2. Attach the spoke magnet to a spoke on the same side of the wheel as the sensor. Tighten the attachment screw just enough to hold the magnet in place but loose enough so that it is still movable.
3. Adjust the position of the sensor and magnet so they are in proper alignment as shown. The magnet should pass by the sensor adjacent to the molded plastic line at a distance of 1-3mm.
4. Once everything is in alignment, fully tighten the spoke magnet in place and tighten the zip-ties holding the sensor to the fork.





INSTALLING THE COMPUTER ON YOUR BIKE

INSTALLING THE CADENCE TRANSMITTER AND BRACKET

Activation of the cadence functions of the Delphi 4.0, 5.0 and 6.0 units requires the installation of the bracket with the wired cadence sensor.

1. Attach the cadence sensor to the LEFT chain stay near where the crank/pedal pass the stay using the zip-ties provided. Snug up the zip-ties but do not fully tighten them. It is recommended the cadence sensor be mounted on the top of the chainstay.

NOTE: The wire exiting the sensor should be pointing toward the front of the bike.

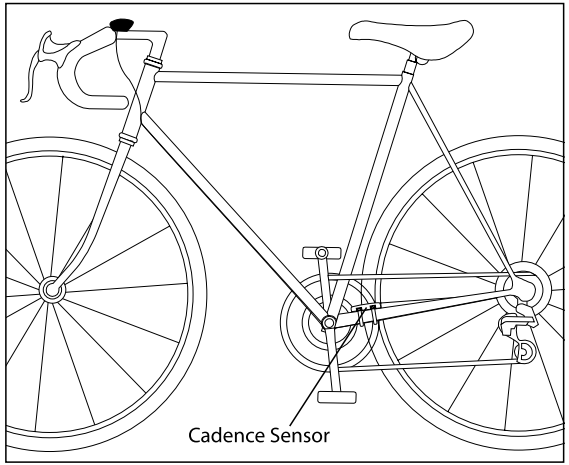
2. Attach the cadence magnet to the back side of the LEFT crank arm using the zip-tie provided. The cadence magnet should be attached as closely to the pedal spindle as possible.
3. Adjust and position the sensor so the magnet passes within 1-3mm. Fully tighten the zip-ties once you have everything properly aligned.
4. Route the sensor wire forward and under the bottom bracket and along the bottom of the down tube securing it occasionally with tape. Once you are near the head tube, the sensor wire should be wrapped around the front or rear derailleur cable housing and the front brake cable housing.
5. Attach the bracket to the handlebars and tighten the mounting screw.

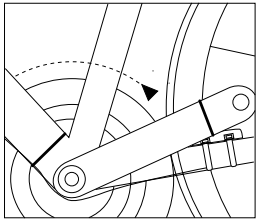
CAUTION—Make sure you leave enough slack in the sensor wire so the handle bars can turn fully from side to side without creating any stress.

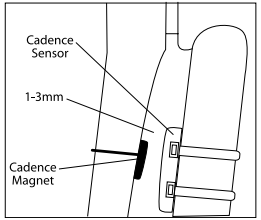
INSTALLING THE COMPUTER ON YOUR BIKE

ENGLISH

INSTALLING THE CADENCE TRANSMITTER AND BRACKET







INSTALLING THE COMPUTER ON YOUR BIKE

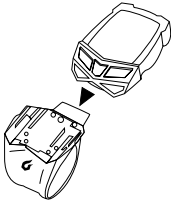
INSTALLING THE WIRELESS HANDLEBAR BRACKET

Attach the wireless handlebar bracket to the handlebars. It is best to place the computer on the left side of the bars so it is located directly above the transmitter. However, this is not absolutely necessary and the unit should work mounted on either side of the bars.

NOTE: There are two molded plastic shims supplied with the Delphi computer brackets. The THIN shim allows the bracket to fit Oversized 31.8 mm handlebars. The THICK shim allows the bracket to fit standard 26.0mm handlebars.

ATTACHING THE COMPUTER HEAD TO THE HANDLEBAR BRACKET AND TESTING

When the bracket and sensors are completely installed on the bike slide the Delphi computer unit into the bracket. The computer should LOCK into the bracket with an AUDIBLE "CLICK". If you do not hear a click or if the Delphi computer body is not flush with the back edge of the bracket the computer is not locked in place and may come out.



Once everything is assembled spin the wheel and turn the crank and make sure speed and cadence are being displayed on the screen. If you are not receiving one or both pieces of information, check the magnet and sensor alignment and make sure the magnets are passing the proper point on the sensor and that they are within 1-3mm. If they are closer to 3mm than to 1mm try reducing the gap and test the system again.

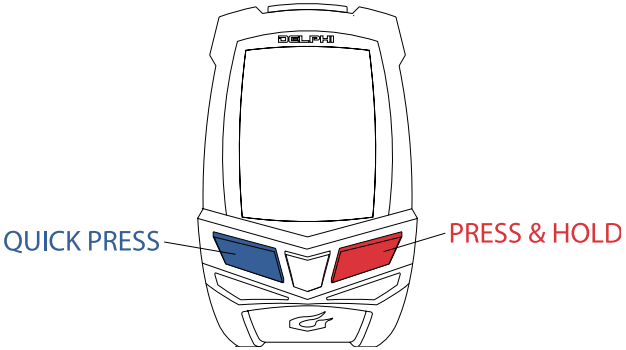
KEYS AND THEIR FUNCTIONS

QUICK PRESS VS. PRESS & HOLD

There are two key actions used to program and operate the Delphi computer.

QUICK PRESS—The key is pressed quickly and then immediately released. This is the most common key action and is used for most operations. Throughout this manual, **QUICK PRESS** will be indicated in **BLUE**.

PRESS & HOLD—The key is pressed and held for a period of 2-seconds until the desired action takes place. This key action is generally used to enter a programming sequence or to clear information from the display. Throughout this manual, **PRESS & HOLD** will be indicated in **RED**.



KEYS AND THEIR FUNCTIONS

UPPER DISPLAY/EL KEY

Primary Function

- **PRESS & HOLD** to Change the Upper Display Window view.

Secondary Function

- **QUICK PRESS** to Activate the display light.

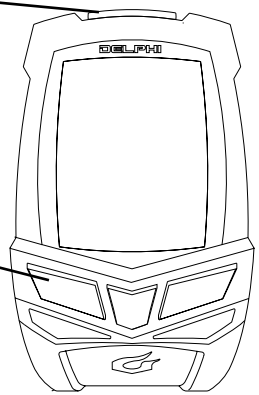
OPTION KEY

Primary Function

- **QUICK PRESS** to change between OPTIONS.within MODES

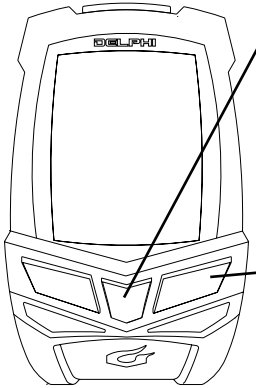
Secondary Functions

- **QUICK PRESS** to Change a Variable in a Setting Sequence Upward. HOLD for FAST ADVANCE
- **PRESS & HOLD** in Main Altimeter Display to calibrate to stored home altitude.



KEYS AND THEIR FUNCTIONS

ENGLISH



START/STOP KEY

Primary Function

- **QUICK PRESS** to Start/Stop TT Chronograph.
- **QUICK PRESS** to Start and Stop LAP Chronograph.
- **PRESS & HOLD** to Clear ALL Ride Data.

Secondary Functions

- **QUICK PRESS** to Change a Variable in a Setting Sequence Downward. HOLD for FAST ADVANCE
- **PRESS & HOLD** to Clear Maximum Speed or Maximum Cadence when in those Screens.

MODE KEY

Primary Function

- **QUICK PRESS** to change between MODES.

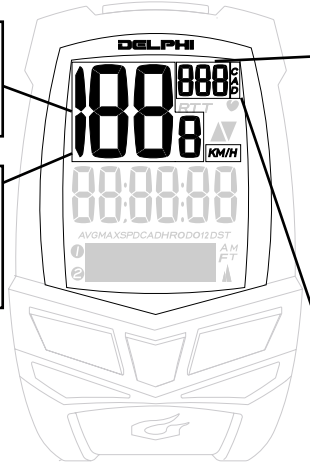
Secondary Functions

- **PRESS & HOLD** to Enter Setting Sequences.
- **QUICK PRESS** to Select a Variable in a Setting Sequence.

SECTIONS OF LCD DISPLAY

SPEED WINDOW
Current Speed is always visible in the upper left corner of the LCD display.

KM/H AND M/H
These icons indicate if the unit is programmed to display speed and distance in Miles or Kilometers.



UPPER DATA WINDOW
The Upper Data Window located at the top right corner of the LCD Display is one of the unique features of Blackburn Delphi computers. You can choose to display Current Cadence, Current Heart Rate (5.0 and 6.0) or leave this window blank.

CAD
This icon indicates Cadence is currently being shown in the Upper Data Window.

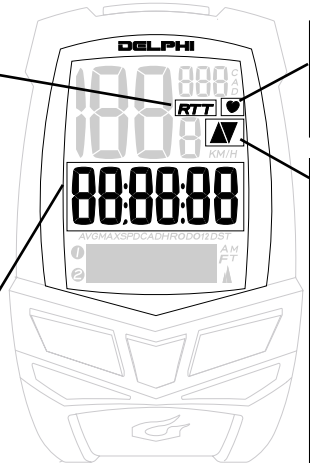
NOTE: Cadence displays only function if the Delphi unit is attached to a cadence bracket.

SECTIONS OF LCD DISPLAY

ENGLISH

RT/TT
These icons indicate if the primary chronograph is programmed to display Ride Time (RT) with the chronograph starting and stopping with the turning of the wheel. Or Total Time (TT) with the chronograph running continually.

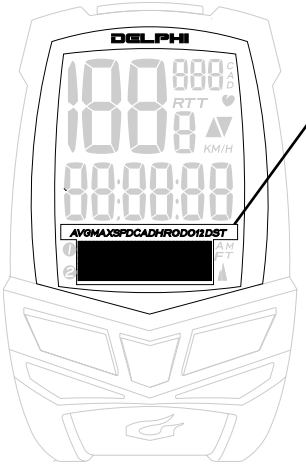
CHRONOGRAPH WINDOW
The center line of the LCD display shows the primary chronograph for the unit. The center line always shows the primary chronograph with one exception. When viewing Heart Rate Dynamic Memory in the Lower Data Window, time accumulated in each heart rate zone will be displayed in the Chronograph Window.



HEART RATE SYMBOL
This icon indicates Heart Rate is currently being shown in the Upper Data Window.

COMPARISON ARROWS
These icons work in two ways. If Heart Rate is being displayed in the Upper Data Window, the arrows will show if you are above, below or in your programmed heart rate training zone. If the Upper Data Window is blank or displaying Cadence, the arrows will indicate if your current speed is above, below or equal to your current average speed.

SECTIONS OF LCD DISPLAY



LOWER DATA WINDOW

The Lower Data Window shows a wide range of secondary functions. This window is controlled by the MODE and OPTION keys. Pressing the MODE key scrolls through the following information:

- Speed Information
- Distance Information
- LAP Chronograph Information
- Cadence Information (If Active)
- Heart Rate Information
- Altitude Information
- Time of Day (If Active)

Pressing the OPTION key scrolls through the sub functions in each category.

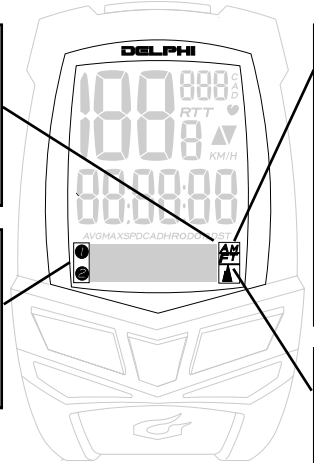
SECTIONS OF LCD DISPLAY

AM

This icon is located to the right of the Lower Data Window and indicates when the 12-hr clock is showing AM time. PM and 24-hr clock time are indicated by the lack of any icon.

BIKE 1/BIKE 2

To the left of the Lower Data Window are the Bike 1 and Bike 2 Icons. **PRESS & HOLD** both the MODE and OPTION key to change the Bike Settings at any time.



FT / M

These icons indicate if altitude is being shown in Feet (FT) or Meters (M).

NOTE: The altimeter setting is independent of the Miles/Kilometers settings. You may choose to display speed in Miles per Hour and Altitude in Meters.

ALTIMETER

To the right of the Lower Data Line there is a mountain icon which is active when altimeter functions are being displayed.

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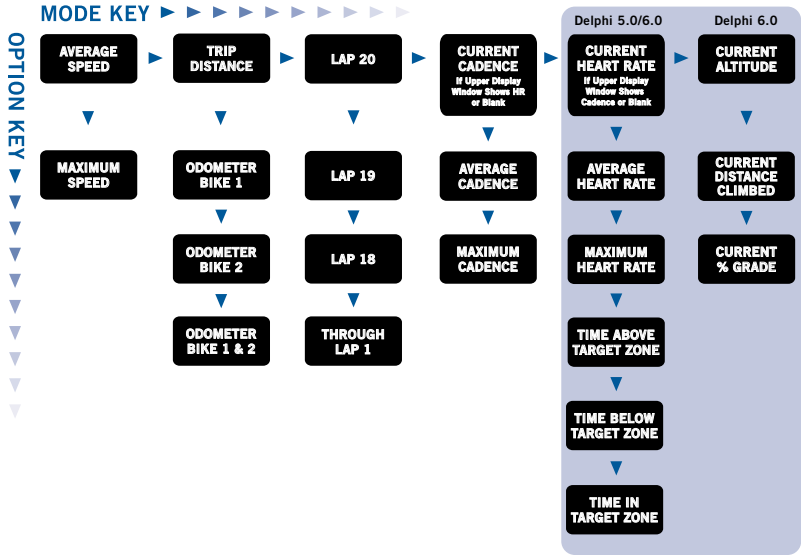
MODE AND OPTION FLOW SEQUENCES

This diagram shows the information which is displayed in the Lower Data Window in response to **QUICK PRESSES** of the MODE and OPTION keys.

MODE AND OPTION FLOW SEQUENCES



BASIC OPERATION

UPPER DATA WINDOW FLOW SEQUENCES

This diagram shows the information which is displayed in the Upper Data Window. You may choose to show Blank, Cadence or Heart Rate in this line.

AVERAGE SPEED COMPARISON

If the Upper Data Window is BLANK or showing CADENCE, the Comparison Arrows function as a Speed Comparator indicating if you current speed is above (▲), below (▼) or equal (no arrow) to your current average speed.

If the Upper Data Window is showing HEART RATE, the Comparison Arrows indicate if you are above (▲), below (▼) or within (no arrow) your Target Heart Rate Zone.

STEP BY STEP—CHANGING THE UPPER DATA WINDOW INFORMATION

1. By Default the Upper Data Window is Blank (no display data) when you install a new battery.
   a. Any time a Delphi unit is attached to a cadence bracket, CADENCE can be displayed in the Upper Data Window.
   b. On the Delphi 5.0 and 6.0 units which are equipped with a wireless heart rate system. Heart rate may be displayed in the Upper Data Window.
2. To change the Upper Data Window **PRESS & HOLD** the Upper Display/EL key for approximately 2-seconds until the value changes.
3. Release the key and repeat step #2 until the information you want is showing.

NOTE: If Heart Rate or Cadence is displayed in the Upper Data Window, it is not shown in the Heart Rate or Cadence sequences of the Lower Data Window.

BIKE ONE/BIKE TWO SETTING

Blackburn Delphi Computers allow you to program two separate bike functions. Most functions are totally independent. For example, you can program Bike One for Ride Time in Miles and Bike Two for Total Time in Kilometers.

NOTE: Before you can program any computer settings, the primary chronograph must be cleared to zero using a 2-second **PRESS & HOLD** of the S/S key while in the Ride Distance (DST) screen.

CHANGE BIKE 1/BIKE 2 SETTING

PRESS & HOLD both the MODE and OPTION keys at the same time. When Bike 1-2 icon changes, release the keys.

PROGRAM WHEEL SIZE, UNITS AND CHRONOGRAPH

Blackburn Delphi Computers use the rolling circumference of your wheel and tire combination to determine speed and distance. The more accurate this setting, the more accurate your ride information will be. However, variations of less than 30mm from the actual circumference will have very little impact on the overall accuracy of the unit.

PRESET WHEEL SIZES

For easy setup, Blackburn Delphi Computers come with 11 of the most popular wheel/tire sizes pre-programmed into the unit. Simply select the size of your tire as you scroll through the list in the programming sequence and you are done.

The following are the pre-set wheel sizes programmed into the unit. Follow the steps on Page 33 to enter a preset wheel size into the Delphi unit.

Preset Wheel Sizes	Wheel Circumference
700 x 23c	2096mm
700 x 20c	2086mm
700 x 25c	2 105mm
700 x 28c	2 136mm
700 x 32c	2 155mm
700 x 38c	2 180mm
650 x 20c	1945mm
650 x 23c	1990mm
26 x 1.9	2050mm
26 x 2.0	2055mm
26 x 2.1	2068mm

PROGRAM WHEEL SIZE, UNITS AND CHRONOGRAPH

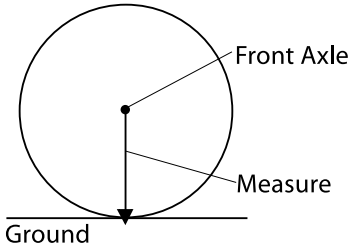
MEASURED WHEEL SIZE

If your wheel/tire size is not one of the pre-programmed sizes, or if you desire absolute accuracy, you may enter an exact wheel circumference into the system. Use one of the two following methods for measuring the circumference of your wheel/tire combination.

MEASURING WHEEL SIZE USING RADIUS METHOD

The wheel radius method is quick, easy and very accurate.

1. With your bike standing vertically on a flat surface, measure the distance in millimeters from the center of the front axle or quick release to the floor. If your measurement is in inches, multiply by 25.4 to convert to millimeters.
2. Multiply the measurement in millimeters by 6.28 and enter the resulting number into your computer using the steps on Page 35.



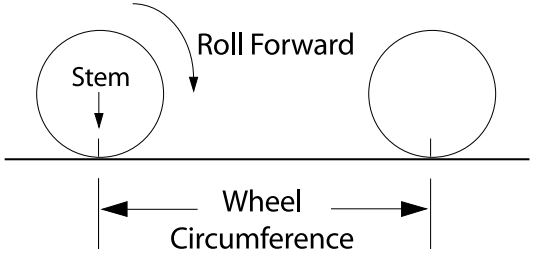
PROGRAM WHEEL SIZE, UNITS AND CHRONOGRAPH

ENGLISH

MEASURING WHEEL SIZE USING ROLLOUT METHOD

The roll-out method is the most accurate method for determining the circumference of your wheel/tire combination.

1. On a flat open surface make a mark on your tire and the floor exactly where they meet.
2. Roll your bike forward one full revolution of the front wheel and mark the point on the floor where the revolution is complete. For maximum accuracy be sitting on the bike while someone rolls you and the bike forward.
3. Measure the distance from the first mark to the second in millimeters and enter the resulting number into your computer using the steps on Page 35.



PROGRAM WHEEL SIZE, UNITS AND CHRONOGRAPH

STEP BY STEP—ENTER A PRE-PROGRAMMED WHEEL SIZE

1. Choose Bike 1 or Bike 2. (Page 29)
2. Starting in the Distance (DST) screen of the Lower Display Window.
3. **PRESS & HOLD** the MODE key for approximately 2- seconds.
4. **QUICK PRESS** the OPTION or START/STOP keys to scroll through the 11 pre-programmed wheel sizes. "WHEEL" will be shown in the lower line of the display with the pre-programmed wheel size shown in the center line of the display.
5. Select your choice using a **QUICK PRESS** of the MODE key and advance to the SET Speed and Distance units display (Page 36).

STEPS 2 & 3

STEP 4

STEP 5

PROGRAM WHEEL SIZE, UNITS AND CHRONOGRAPH

STEP BY STEP—ENTER AN EXACT WHEEL SIZE

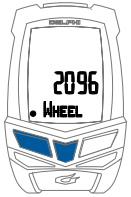
1. Choose Bike 1 or Bike 2. (Page 29)
2. Starting in the Distance (DST) screen of the Lower Display Window.
3. **PRESS & HOLD** the MODE key for approximately 2- seconds.
4. **QUICK PRESS** the OPTION or START/STOP keys until the display shows 2096 flashing in the center line of the display.
5. **QUICK PRESS** the MODE key once. The ones digit will begin to flash.
6. Adjust the digit using **QUICK PRESSES** of the OPTION and START/STOP keys and enter your choice into memory using a **QUICK PRESS** of the MODE key.
7. Repeat until all digits are entered
8. A final **QUICK PRESS** of the MODE key will exit the Wheel Size setting sequence and advance to the SET Speed and Distance units Display (Page 36).

NOTE: Before you can program any computer settings, the primary chronograph must be cleared to zero using a 2-second **PRESS & HOLD** of the S/S key while in the Ride Distance (DST) screen.

PROGRAM WHEEL SIZE, UNITS AND CHRONOGRAPH

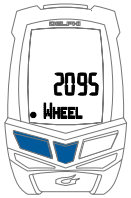
STEP BY STEP—ENTER AN EXACT WHEEL SIZE

STEPS 2 & 3



STEP 4

STEP 5



STEP 6

STEPS 7 & 8

PROGRAM WHEEL SIZE, UNITS AND CHRONOGRAPH

ENGLISH

STEP BY STEP—SET SPEED AND DISTANCE UNITS

1. Upon entering the SET Speed and Distance units display, M/H (Miles per Hour) or KM/H (Kilometers per Hour) will flash in the upper right hand corner of the display.
2. **QUICK PRESS** the OPTION key to cycle between M/H and KM/H settings.
3. Select your choice using a **QUICK PRESS** of the MODE key and advance to the SET Chronograph function display.

STEPS 1 & 2
(SPEED/DISTANCE)

STEP BY STEP—SET CHRONOGRAPH FUNCTION

1. Upon entering the SET Chronograph function display, RT (Ride Time) or TT (Total Time) will flash in the upper right hand corner of the display.
2. **QUICK PRESS** the OPTION key to cycle between RT and TT (Total Time) settings.
3. Select your choice using a **QUICK PRESS** of the MODE key and exit the setting sequence.

STEPS 1 & 2
(CHRONOGRAPH)

RIDE TIME (RT)—When RT is selected the Delphi's Chronograph will start and stop with the motion of the wheel. This setting tracks the actual time you are riding your bike.

TOTAL TIME (TT)—When TT is selected the Delphi's Chronograph will initially start with the first rotation of the wheel. However, it will continue to run from that point, until the timing is stopped, using a **QUICK PRESS** of the START/STOP key.

PROGRAM ODOMETERS

Blackburn Delphi Computers are equipped with Separate Odometers for Bike 1 and Bike 2 and a Combined Odometer showing the total for both bikes. Bike 1 and Bike 2 Odometers may be reprogrammed with an existing mileage following a battery change.

NOTE: Make sure you write down your mileage for each Odometer prior to removing the battery if you wish to reprogram the odometers.

NOTE: If Odometer 1 and Odometer 2 are set for different units (Miles or Kilometers) as defined by the Speed and Distance Units settings for Bike 1 and Bike 2, the Combined Odometer (ODO 1/2) will display in the units set for Bike 1.

NOTE: If the total capacity of any odometer is exceeded, the Lower Data Window will display 5-dashes.

STEP BY STEP—SETTING THE PROGRAMMABLE ODOMETERS

1. Starting in ANY Odometer screen (Odo 1, Odo 2 or Odo 1/2) in either Bike 1 or Bike 2.
2. **PRESS & HOLD** the MODE key for approximately 2-seconds.
3. ODO 1 will appear in the Lower Data Window with "00,000" in the Center Display Line.
4. Adjust the Odometer 1 setting using **QUICK PRESSES** of the OPTION and START/STOP keys. Fast advance using a **PRESS & HOLD**.
5. When Odo 1 is set to the desired value, **QUICK PRESS** the MODE key to enter the value and Advance to setting Odo 2.
6. Repeat steps 3 and 4.
7. **QUICK PRESS** the MODE key to enter the Odo 2 value and exit the setting sequence.

STEPS 3 & 4

STEPS 5 & 7

PROGRAM TIME OF DAY

Blackburn Delphi Computers are equipped with a clock which shows time of day in either 12 or 24 hour formats. There is also a programming option which allows you to turn the clock off so it does not show up in the normal operation sequence, reducing the number of key strokes needed to move through the displays.

STEP BY STEP—SETTING THE TIME OF DAY

1. Starting in the Time of Day display in the Lower Data Window if Time of Day is Active; or Starting in the Average or Maximum Speed displays if Time of Day is Inactive.
2. **PRESS & HOLD** the MODE key for approximately 2-seconds.
3. VIEW will appear in the Lower Data Window with ON or OFF in the Center Display Line.
4. Select ON or OFF using **QUICK PRESSES** of the OPTION key. **QUICK PRESS** the MODE key to enter the value and advance to 12/24 Hour setting.
   a. Select ON if you wish Time of Day to be part of the display sequence in the Lower Display Window.
   b. Select OFF if you do not wish to view Time of Day on the display.
5. Repeat steps 3 and 4 to Set Hours and Minutes and **QUICK PRESS** the MODE key to exit the Time of Day programming sequence.

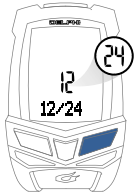
NOTE: Before you can program any computer settings, the primary chronograph must be cleared to zero using a 2-second **PRESS & HOLD** of the S/S key while in the Ride Distance (DST) screen.

PROGRAM TIME OF DAY

STEP BY STEP—SETTING THE TIME OF DAY

STEPS 1 & 2

STEPS 3 & 4



STEP 4

STEP 5

PROGRAM HEART RATE ZONE UPPER AND LOWER LIMITS

The Delphi 5.0 and 6.0 models are equipped with an ECG accurate heart rate monitor. This system includes a 3-zone memory system which may be programmed to any values you desire. For the 3-zone system to operate properly you must first program the upper and lower limits of Zone 2. Once Zone 2 is established any heart rates below the lower limit will be captured in the Zone 1 memory and any heart rates above the upper limit will be captured in the Zone 3 memory. The heart rate monitor system will also track and store your average and maximum heart rates for the workout.

PROGRAM HEART RATE ZONE UPPER AND LOWER LIMITS

STEP BY STEP—SETTING THE HEART RATE ZONE

1. Starting in the Heart Rate Display in the Lower Data Window.
2. **PRESS & HOLD** the MODE key for approximately 2-seconds
3. Upper Limit will appear in the Lower Data Window with 160 in the Center Display Line indicating the upper heart rate limit of Zone 2.
4. Adjust up and down using **QUICK PRESSES** of the OPTION and START/STOP keys. **QUICK PRESS** the MODE key to enter the value and advance to Lower Limit setting for Zone 2.
5. Repeat step 4 to adjust and Set the Lower limit for Zone 2. **QUICK PRESS** the MODE key to exit the Heart Rate Zone 2 programming sequence.

STEPS 1 & 2

STEPS 3 & 4

STEP 5

OPERATING THE HEART MONITOR

Once you are wearing the heart rate transmitter, the operation of the Heart Rate Monitor system is automatic. When the heart rate display is selected in the Upper or Lower Data Window your heart rate reading will automatically be displayed.

REVIEW HEART RATE DYNAMIC MEMORY

The Delphi 5.0 and 6.0 units are equipped with an exclusive feature called DYNAMIC MEMORY™. Unlike most heart rate monitor systems which only allow you to review your heart rate memory information after your workout is completed, the DYNAMIC MEMORY™ system of the Blackburn Delphi units allows you to review all aspects of your workout in real time. This unique feature will help you to get the most out of your workouts.

Using **QUICK PRESSES** of the OPTION key the Lower Data Window will scroll through the following information:

1. Average Heart Rate—The cumulative average heart rate for your entire ride.
2. Maximum Heart Rate—The current highest heart rate you have achieved during your ride.
3. Time Above Zone 2 Upper Limit—This shows time accumulated in Zone 3 in the Chronograph Window, with the Upper Limit for Zone 2 in the Lower Data window.
4. Time Below Zone 2 Lower Limit—This shows the time accumulated in Zone 1 in the Chronograph Window, with the Lower Limit for Zone 2 in the Lower Data Window
5. Time In Zone 2—This shows the time accumulated in Zone 2 in the Chronograph Window, with IN ZONE in the Lower Data Window.

OPERATING THE HEART MONITOR

REVIEW HEART RATE DYNAMIC MEMORY (CONTINUED)

NOTE: We have programmed a filtering algorithm into the system which tries to block artificially high heart rates caused by interference. However, if the interference is particularly strong or long lasting the algorithm may not be effective. Additionally, as the filtering algorithm requires several readings of the same heart rate to establish a maximum reading, it is possible the occasional high heart rate readings may be filtered as well.

NOTE: When the CHRONOGRAPH DISPLAY is showing time accumulated in each zone, the RT/TT Chronograph displays is temporarily hidden, but remains working in the background.

PROGRAM ALTIMETER

The Delphi 6.0 is equipped with an extremely sensitive pressure sensing altimeter with a resolution of 3' or 1m. The altimeter system in the Delphi 6.0 will display your current altitude as well as your distance climbed and your current % Grade. The Delphi 6.0 is also equipped with a home altitude memory which allows quick and easy one-key calibration at your home location.

STEP BY STEP—CALIBRATE AND STORE HOME ALTITUDE TO MEMORY

1. Starting in the Altitude Display in the Lower Data Window.
2. **PRESS & HOLD** the MODE key for approximately 2-seconds.
3. UNITS will appear in the Lower Data Window with the Feet (FT) or Meter (M) Icon flashing to the right.
4. Choose FT (Feet) or M (Meters) using **QUICK PRESSES** of the OPTION key. **QUICK PRESS** the MODE key to enter the value and advance to adjusting the Current Altitude.

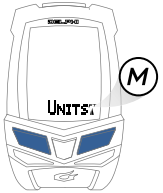
STEP BY STEP—CALIBRATE AND STORE HOME ALTITUDE TO MEMORY (CONTINUED)

5. Adjust the Current Altitude up and down using **QUICK PRESSES** of the OPTION and START/STOP keys.
6. When you have adjusted the Current Altitude to the desired value you have two options.

   CALIBRATE THE CURRENT ALTITUDE WITHOUT STORING IT—To do this **QUICK PRESS** the MODE key. The display will revert to the main display screen, with the corrected altitude reading in the Lower Data Window.

   CALIBRATE THE CURRENT ALTITUDE AND STORE IT AS YOUR HOME ALTITUDE—To do this **PRESS & HOLD** the MODE key for approximately 2-seconds. STORED will appear in the Lower Data Window for approximately 1-second. The display will then revert to the main display screen, with the corrected altitude reading in the Lower Data Window AND the value will be stored in the unit's memory as your Home Altitude. Once you have stored a Home Altitude value you will be able to quickly calibrate the unit to that value in a single step.

STEPS 1 & 2



STEPS 3 & 4

STEPS 5 & 6

STEP BY STEP—CALIBRATE THE DELPHI TO THE STORED HOME ALTITUDE VALUE

1. Starting in the Altitude Display in the Lower Data Window.
2. **PRESS & HOLD** the OPTION key for 2-seconds.
3. The altitude will automatically change to the stored Home Altitude value.

STEP 2

NOTE: It is important for your computer to be calibrated as closely as possible to your actual starting altitude. If your altimeter is calibrated to an altitude significantly different from your actual starting altitude, your distance climbed and % grade readings may be inaccurate.

NOTE: You may notice on some days, due to changes in local barometric pressure, that your ending altitude is different from your starting altitude. This is a normal response to pressure changes over time. These changes, because they happen so slowly will not generally be recorded in your distance climbed reading.

NOTE: The Delphi 6.0 calculates % grade using the distance data from the trip odometer and the changes in altitude measured by the altimeter. The grade display is updated once every 5 seconds using the distance and altimeter data from the previous 20-seconds. Because of this is it normal for the % Grade indication to lag behind the actual changes, especially if transitioning from one slope to another.

OPERATING THE RIDE TIME AND TOTAL TIME CHRONOGRAPHS

All data acquisition is controlled by the primary Ride Time or Total Time Chronograph. Ride data such as Average and Maximum values and Memory Information are only tracked if the primary chronograph is running. At any time, clearing the Ride Time or Total Time chronograph will also clear ALL data and memory values.

NOTE: Before you can program any computer settings, the primary chronograph must be cleared to zero using a 2-second **PRESS & HOLD** of the S/S key while in the Ride Distance (DST) screen.

STARTING AND STOPPING THE RIDE TIME CHRONOGRAPH

The operation of the Ride Time Chronograph is totally automatic and is controlled by speed input. If the unit is receiving a speed input, the Ride Time Chronograph will run, if the speed stops, the Ride Time Chronograph will stop.

STARTING AND STOPPING THE TOTAL TIME CHRONOGRAPH

From an initial reading of zero, the Total Time Chronograph starts automatically as soon as it sees a speed input or is manually started using a **QUICK PRESS** of the START/STOP key. Once it has started the Total Time Chronograph will continue to run until it is Stopped using a **QUICK PRESS** of the START/STOP key.

STARTING STOPPING AND CLEARING THE CHRONOGRAPH AND MEMORY

CLEARING ALL RIDE DATA

To clear the chronograph and all data and memories to zero **PRESS & HOLD** the START/STOP key for approximately 2-seconds in the Ride Distance (DST) screen until the chronograph line shows all zeros.

NOTE: While in the LAP Chronograph Display the START/STOP key is dedicated to controlling this function and cannot be used to control the Total Time Chronograph.

CLEARING MAXIMUM SPEED OR MAXIMUM CADENCE ONLY

The Delphi computers allow you to clear the Maximum Speed and Cadence values independently of all other information. This feature is helpful if you are doing sprint workouts and wish to review your maximum values for each sprint. To clear Maximum Speed and Maximum Cadence, **PRESS & HOLD** the START/STOP key while in either of these two displays.

OPERATING THE LAP CHRONOGRAPH

The Delphi 4.0, 5.0 and 6.0 units are equipped with a second stopwatch system which allows you to capture time and data relating to 20 individual segments of time during a ride. This system will allow you to track intervals, climbs, a race or any other segment of ride time you are interested in.

STARTING AND STOPPING THE LAP CHRONOGRAPH

1. Starting in the LAP Chronograph screen you will see LAP 1 and 0:00:00 alternating on the display every second. The LAP Chronograph screen follows the Distance/Odometer screens in the MODE sequence
2. **QUICK PRESS** the START/STOP key to begin timing LAP 1.
3. Stop timing LAP 1 and automatically advance to LAP 2 by **QUICK PRESSING** the START/STOP key again. You will see LAP 2 and 0:00:00 alternating on the display every second.
4. **QUICK PRESS** the START/STOP key to begin timing LAP 2.
5. Repeat for each additional LAP up to #20.

NOTE: When in the LAP Chronograph display, the START/STOP key cannot be used to START or STOP the Total Time Chronograph.

NOTE: The maximum time for any LAP is 9h 59m 59s. When the time limit for any lap is reached the LAP Chronograph will stop timing and wait for further action from the user.

OPERATING THE LAP CHRONOGRAPH

ENGLISH

REVIEWING LAP CHRONOGRAPH MEMORY

1. Once you have timed a LAP you may review it and the stored information for the segment.
2. From the LAP Chronograph display, **QUICK PRESS** the OPTION key to advance through the stored LAPs starting with the most recently timed LAP.
3. When you advance to a stored LAP, the Lower Data Window will show the LAP #, followed by the following information scrolling automatically at 2-second intervals: LAP Time, LAP Distance, LAP Average Speed, LAP Average Heart Rate and LAP Distance Climbed.

AUTOMATIC AT 2-SECOND INTERVALS ► ► ► ► ► ► ► ► ► ►

LAP # ► **LAP TIME** ► **LAP DISTANCE** ► **LAP AVERAGE SPEED** ► **LAP AVERAGE HEART RATE** ► **LAP DISTANCE CLIMBED**

CLEARING LAP CHRONOGRAPH MEMORY

The Lap Chronograph Memory is automatically cleared to zero and LAP 1 any time you clear the Ride Time or Total Time Chronograph to zero.

OPERATING THE BACKLIGHT SYSTEM

The Delphi 4.0, 5.0 and 6.0 units are equipped with Blackburn's exclusive UltraNightglow™ electroluminescent backlight system for use when operating the unit is low light conditions.

When activated, the UltraNightglow™ system automatically remains lit for a period of 10-seconds. Pressing any key while the UltraNightglow™ system is activated, automatically resets the timer for an additonal 5-seconds. This feature allows you to view several functions without having to reach up and re-activate the system.

CAUTION—The backlight system places a high load on the battery in the computer. Excessive use of the backlight system WILL result in shortened battery life.

To activate the UltraNightglow™ backlight system, **QUICK PRESS** the Upper Display/EL key.

TECHNICAL DATA

BATTERIES

Computer Battery—CR 2032 3v Lithium
Wireless Transmitter Battery—A23 12v Alkaline
Heart Rate Transmitter Battery—CR 2032 3v Lithium

FUNCTIONS AND OPERATIONAL RANGES

Bike Functions

Speed—0-199.9 Miles or Kilometers/Hr—0.1 Mi or Km/Hr
Average Speed—same
Maximum Speed—same

Trip Distance—0-999.99 Miles or Kilometers—0.01 Mi or Km
Odometer 1—0-99,999 Miles or Kilometers—1.0 Mi or Km
Odometer 2—same
Odometer 1+2—same

Cadence—0-250 rpm—1rpm
Average Cadence—same
Maximum Cadence—same

Chronograph Functions

Ride Time Chronograph—0-99h59m59s-1.0 Sec
Total Time Chronograph—same

LAP Chronograph Functions

LAP Time—20 LAPs—0-9h59m59s each—1.0 Sec
LAP Distance—0-999.99 Miles or Kilometers—0.01 Mi or Km
LAP Average Speed—0-199.9 Miles or Kilometers/Hr—0.1 Mi or Km/Hr
LAP Average Heart Rate—30-240BPM-1BPM
LAP Distance Climbed—0-999,999Ft or Mt—5' or 3m

TECHNICAL DATA

FUNCTIONS AND OPERATIONAL RANGES (CONTINUED)

Heart Rate Functions (Delphi 5.0 & 6.0)

Current Heart Rate—30-240BPM—1BPM
Average Heart Rate—same
Maximum Heart Rate—same
Target Heart Rate Zone
Target Heart Rate Zone Memory

Altimeter Functions (Delphi 6.0)

Current Altitude—1,250 to 30,180Ft or -381 to 9,200M-3' or 1m
Total Distance Climbed—0-999,999Ft or M—5' or 3m
Current % Grade—60 to +60%—1%

Other Functions

Auto Start/Stop
12/24 Time of Day
11 Pre-programmed Wheel Sizes
Backlight

WARRANTY AND REPAIR

If you are having problems with your Blackburn Delphi computer please visit www.blackburndesign.com/support for instructions.