ASCENT
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# Delta R Wireless Cyclocomputer


## INTRODUCTION

Thank you for purchasing an Ascent Wireless computer. Packed with all the features that a professional rider needs to keep track of a workout, the Delta R is a perfect training tool for any cyclist. The added convenience of wireless transmission makes installation simple.

## BATTERY INSTALLATION

To simplify installation, the Delta R computer and transmitter are shipped with batteries installed. Replacement batteries are available at most camera and electronic shops. Under normal usage batteries should last approximately one year. Note: Most problems that occur with cyclocomputers are caused by dead or weak batteries. If you are having problems with your computer's operation, check and replace the batteries first.

### COMPUTER/RECEIVER

The Delta R computer uses a common 3V CR2032 button cell battery. See Figure 1.

*STEP 1:* To install or replace the battery, remove the battery cover from the bottom of the computer using a small coin. Remove the old battery and dispose of properly.

*STEP 2:* Install the new battery with the positive (+) pole facing the battery cover. Be careful when installing the battery not to damage the battery contact.

*STEP 3:* Reinstall the battery cover and tighten firmly, making sure the rubber O-ring does not get pinched or distorted, as this will compromise the unit's watertight seal.

**Note:** During a battery change programmed settings and odometer mileage will be erased. Make note of your current wheel size setting and cumulative odometer mileage before replacing the battery so you can reprogram these values after the battery change (see "Programming Wheel Size" and "Setting the Odometer").

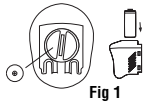


Fig 1

*STEP 4:* If for some reason the screen is blank or shows an irregular display after a battery change, remove the battery and install again. This will reset the computer's microprocessor.

### TRANSMITTER

The Delta R transmitter uses a 12V VR22 / L1028 / A23 battery.

*STEP 1:* To install or replace the battery, remove the battery cover from the top of the transmitter case using a small coin. Remove the old battery and dispose of properly.

*STEP 2:* Install a new battery with the positive (+) pole facing the cover. Reinstall the battery cover and tighten firmly, making sure that the rubber O-ring does not get pinched or distorted, as this will compromise the unit's watertight seal.

## COMPUTER FUNCTIONS

### CURRENT SPEED

Displays current speed up to 99.9 M/hr or KM/hr. Accurate to 0.1M/hr or KM/hr. Always displayed on top line.

### SPEED BAR

Illuminated LCD segments on the screen align with speed scale on computer bezel to indicate current speed.


### SPEED COMPARISON (+/-)

Compares current speed to average speed. As you ride, a (+) or (-) will appear to the right of current speed to indicate whether your current speed is above (+) or below (-) your average speed. This function is automatic, requires no programming and cannot be disabled.

### CLOCK

Displays time of day in 12 hour or 24 hour format.

### ODOMETER (ODO)

Displays cumulative ride distance, up to 9,999.9 miles or kilometers.


### TRIP DISTANCE (DST)

Displays distance traveled during current ride up to 999.99 miles or kilometers.


### MAXIMUM SPEED (MXS)

Displays fastest speed attained during a ride, up to 99.9 M/hr or KM/hr. Accurate to 0.1 M/hr or KM/hr.

### AVERAGE SPEED (AVS)

Displays average speed up to 99.9 M/hr or KM/hr. Accurate to 0.1 M/hr or KM/hr. Calculated using ride time (TM) and trip distance (DST).


### AUTOMATIC RIDE TIMER (TM)

Auto start/stop timer records actual ride time up to 9:59:59. Activated by front wheel movement.


### CAL

Calculates calories burned (up to 1000 calories) during a ride.


### FAT

Calculates grams of fat burned (up to 1000 grams) during a ride.


### SCAN

Allows hands free viewing of display screens. When activated, the scan feature scrolls through all display screens (except ODO and CLOCK) on a continuous loop, displaying the screens for four seconds each. To enter scan mode, press the RIGHT button until "SCAN" appears in the upper left corner of the display. Press the RIGHT button again to exit scan mode.


### MAINTENANCE INTERVAL REMINDER

A reminder to perform periodic maintenance at programmed distance intervals. At the appointed distance intervals a wrench icon will flash in the display screen. When the icon appears, press the LEFT button to turn it off until the next maintenance interval is due.

### AUTO SLEEP

To prolong battery life, the Delta R will automatically enter "sleep" mode after 5 minutes of non-use. The computer will automatically restart when it receives input from the speed sensor, or when any button is pressed.

## PROGRAMMING THE COMPUTER

Before using your Delta R computer, you must program wheel size, select a speed scale (Miles or Kilometers), input your age and weight, select a clock mode (12H or 24H) and set the clock and maintenance reminder. The first step is to determine wheel size.

### DETERMINING WHEEL SIZE

The Delta R uses wheel circumference (measured in millimeters) to calculate speed and distance. Note that while your computer can be programmed to +/-1mm for total accuracy, discrepancies of as much as 50mm will not have a significant effect on accuracy in most situations. There are three methods for determining wheel circumference:

1. Select size from chart below (least accurate)
2. Measure wheel diameter (more accurate)
3. Perform roll-out test (most accurate)

1. Chart: Use the chart to find the circumference for your tire size, and enter this value in the computer (see "Programming Wheel Size"). The chart lists circumferences for some of the most popular tire sizes currently in use. These numbers are only estimates which may not precisely match the circumference of your wheel, due to variations in tire size between brands and models.

| Tire Size | Circ.(mm) | Tire Size | Circ.(mm) | Tire Size | Circ.(mm) |
|---|---|---|---|---|---|
| 26x1.5 | 2030 | 700x20 | 2095 | 700x28 | 2135 |
| 26x1.75 | 2045 | 700x23 | 2110 | 700x32 | 2155 |
| 26x2.0 | 2115 | 700x25 | 2125 | 27x11/4 | 2155 |

2. Measure: Measure your wheel diameter (including wheel and tire) in millimeters (1 inch = 25.4mm) and multiply by 3.1416. Enter this value in the computer (see "Programming Wheel Size").

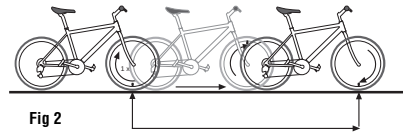


Fig 2

3. Roll-out Test: See Figure 2.

*STEP 1:* Stand your bicycle upright. With your tire inflated to its proper pressure, rotate your front wheel so that the valve is located at the bottom (6 o'clock position). Make a mark on the floor to indicate the valve location.

*STEP 2:* Roll the bicycle forward in a straight line for one complete wheel revolution, until the valve is again at the bottom (ideally, you should be on the bike). Make a mark on the floor to indicate the valve location.

*STEP 3:* Measure the distance between the marks in millimeters (1 inch = 25.4mm). This value is your wheel circumference. Enter this value in the computer (see "Programming Wheel Size")

### PROGRAMMING WHEEL SIZE

After determining wheel circumference by one of the three methods above, enter the value in the computer. The default wheel size setting is 2124mm.

*STEP 1:* In any display screen press and hold both buttons (LEFT and RIGHT) for three seconds to access the wheel size programming screen.

*STEP 2:* The digit at the right of the screen will flash. Press the RIGHT button to adjust the value. Then press the LEFT button to advance to the next flashing digit.

*STEP 3:* Repeat this process until all digits have been set to the appropriate value.

*STEP 4:* Press the LEFT button to confirm the value and proceed to the speed scale selection screen.

### SELECTING MILES OR KILOMETERS

The Delta R is capable of displaying speed and distance information in either miles or kilometers.

*STEP 1:* After programming wheel size (above), the computer will automatically proceed to the speed scale selection screen, and "KM" will flash at the top of the screen.

*STEP 2:* Press the RIGHT button to select miles (M) or kilometers (KM).

*STEP 3:* Press the LEFT button to confirm your selection and proceed to the age input screen.

### INPUT AGE

The Delta R uses your age and weight to measure calories and fat burned.

*STEP 1:* After selecting speed scale (above), the computer will automatically proceed to the age input screen. The left digit will flash. Press the RIGHT button to adjust the value. Then press the LEFT button to advance to the next flashing digit.

*STEP 2:* Press the RIGHT button to adjust the value. Then press the LEFT button to confirm the value and proceed to the weight input screen.

### INPUT WEIGHT

The Delta R uses your weight and age to measure calories and fat burned.

*STEP 1:* After inputting age (above), the computer will automatically proceed to the weight input screen. The left digit will flash. Press the RIGHT button to adjust the value. Then press the LEFT button to advance to the next flashing digit.

*STEP 2:* Repeat this process until you have entered your correct weight. Then press the LEFT button to confirm the value and proceed to the clock mode selection screen.

## SETTING THE CLOCK

The Delta R is equipped with a digital clock that displays time of day in a 12 hour or 24 hour format.
*STEP 1:* After inputting weight (above), the computer will automatically proceed to the clock mode selection screen.
*STEP 2:* "24" will flash at the bottom of the display. Press the RIGHT button to select the 12 hour or 24 hour mode. Press the LEFT button to confirm your selection and advance to the hours setting.
*STEP 3:* Press the RIGHT button (or press and hold) to set the hours. Press the LEFT button to advance to the minutes setting.
*STEP 4:* Press the RIGHT button (or press and hold) to set the minutes. Once the minutes are set, press the LEFT button to advance to the maintenance interval selection screen.

## SETTING MAINTENANCE REMINDER

The maintenance reminder is intended to remind you to perform periodic maintenance at preset mileage intervals. For example, if you select a maintenance interval of 400 miles (or kilometers), the maintenance icon will appear when total distance (ODO) reaches 400, 800, 1200, 1600 miles (or kilometers), and so on. When the wrench icon appears, press the LEFT button to turn it off until the next maintenance interval is due.

*STEP 1:* After setting the clock (above), the computer will automatically proceed to the maintenance interval selection screen.
*STEP 2:* "600" miles (or kilometers) will flash in the display screen. Press the RIGHT button to select a maintenance interval of 200, 400, 600 or 800 miles (or kilometers).
*STEP 3:* Press the LEFT button to confirm your selection and return to the speed and clock display screen.

## SETTING THE ODOMETER

The Delta R odometer can be programmed so that cumulative mileage can be restored after a battery change or transferred from another computer.

*STEP 1:* In the ODO display screen, press and hold the LEFT button for five seconds until the digit at the bottom right of the screen begins to flash.
*STEP 2:* Use the RIGHT button to adjust the value. Press the LEFT button to confirm the value and advance to the next flashing digit.
*STEP 3:* Repeat this process until all digits have been set to the appropriate value.
*STEP 4:* Once the last digit has been set, press the LEFT button to return to the ODO display screen.

## RESET DISPLAY SCREENS

The DST, AVS and TM display screens are reset simultaneously. In the DST display screen, press and hold the LEFT button for three seconds to reset all three display screens to zero.

The MXS, CAL and FAT display screens are each reset separately. In each of these display screens, press and hold the LEFT button for three seconds to reset the display.

To reset all display screens AND reset all programmed settings (including wheel size, age, weight, clock, maintenance interval and odometer), press and hold both buttons (LEFT and RIGHT) for three seconds.

# INSTALLATION

Since the Delta R is wireless, installation is simple and straightforward. Begin by attaching the computer mounting bracket to the handlebar.

## BRACKET AND COMPUTER INSTALLATION

*STEP 1:* Select the proper size mounting ring for your handlebar. Two mounting bracket rings and three rubber shims are included to accommodate a variety of handlebar diameters. The smaller ring (already fitted to the bracket) fits standard 25.4mm—26.4mm diameter handlebars. The larger ring fits 31.8mm oversize bars. If necessary, remove the smaller ring from the bracket and replace it with the larger ring. See Figure 3.
*STEP 2:* Clamp the bracket to the handlebar and tighten in place. See Figure 3. Do not over-tighten the bracket. The bracket needs to be tightened only enough to prevent rotation on the handlebar during normal riding.
*STEP 3:* Attach the computer to the bracket. Slide the computer into the bracket from front to back. See Figure 3. You should hear an audible 'CLICK' indicating that the unit is locked firmly in place. Use the two bracket pivot points to adjust the viewing angle as desired.
*STEP 4:* To remove the computer from the bracket, press down on the release tab at the rear of the bracket and slide the computer head forward.

## WHEEL MAGNET AND TRANSMITTER

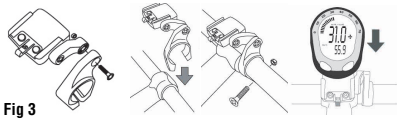
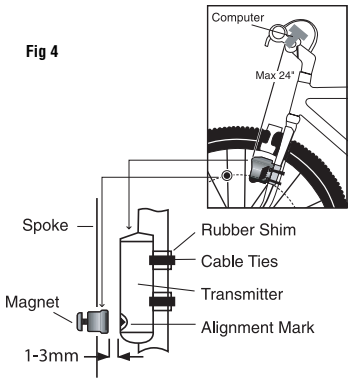



**Fig 3**

## INSTALLATION

*STEP 1:* Using the included zip-ties, loosely mount the transmitter (so that you can slide it around) to the leading edge of the left fork blade with the transmitter battery cap facing up. See Figure 4. The Delta R wireless transmission range is 24" (60cm). The transmitter must be mounted no further than 24" from the receiver (computer head) to properly transmit the signal.
*STEP 2:* Attach the wheel magnet loosely to one of the spokes on the same side of the wheel as the transmitter. Adjust the position of the magnet and transmitter by sliding both pieces up or down until the magnet passes the alignment mark on the transmitter with a clearance of 1-3mm (1mm is about the thickness of a penny). See Figure 4. If the magnet and transmitter are not close enough, computer readings will be inconsistent, erratic or completely absent. Most problems that occur when installing a new computer are related to magnet and sensor alignment and spacing.

**Fig 4**




*STEP 3:* Once the transmitter and wheel magnet are aligned properly, tighten both in place securely.

## TEST OF INSTALLATION

Once the installation procedure is complete, test the unit to make sure everything is adjusted and working properly.
*STEP 1:* Pick up the front end of the bicycle and spin the front wheel. The computer should register a speed reading within 1-2 seconds. If it does not, check the alignment of the wheel magnet and transmitter, and make sure that the space between the magnet and transmitter is 3mm or less. Adjust as necessary and re-test. Note: Wireless cyclocomputers are occasionally affected by electromagnetic interference. Common sources of electromagnetic signals include high voltage power lines, motor driven equipment and other wireless devices (such as heart rate monitors). If you experience unusually high speed readings, check your surroundings for possible sources of electromagnetic signals and move away from the source.

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