



4LW WIRELESS CYCLOCOMPUTER

INTRODUCTION

Congratulations on your purchase of the Ascent® 4LW Wireless cycle computer. Packed with all the features that a professional rider needs to keep track of a workout, the 4LW Wireless is a perfect training tool for any cyclist. The added convenience of wireless transmission makes installation simple.

BATTERY INSTALLATION

To help get you started quickly, the 4LW receiver and transmitter batteries have been installed at the factory. 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 HEAD/RECEIVER

The Ascent® 4LW computer head uses a common 3V CR2032 button cell battery. See Figure 1.

STEP 1

To replace the battery, remove the battery cap from the bottom of the computer using a small coin.

Remove the old battery and dispose of properly.

STEP 2

Install the battery in the battery compartment with the positive (+) pole facing the battery cap. Be careful when installing the battery not to damage the battery contact.

STEP 3

Reinstall the battery cap 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 a 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").

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, which will restart the computer's microprocessor.

TRANSMITTER

The 4LW transmitter uses a 12V A23 battery.

STEP 1

To replace the battery, remove the battery cap 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 cap. Reinstall the battery cap 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.

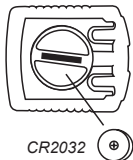


FIGURE 1



BUTTON FUNCTION

LEFT BUTTON

Press and hold the left button to reset the Display Screens.

RIGHT BUTTON

Press the right button to toggle between the two Display Screens.

COMPUTER FUNCTIONS

SPEEDOMETER (SPD)

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

DISPLAY SCREEN 1

AVERAGE SPEED (AVS)

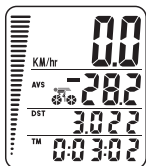
Displays average speed up to 99.9 M/hr or KM/hr. Accurate to 0.1 M/hr or KM/hr. Calculated using ride time (TM) and trip distance (DST).

TRIP DISTANCE (DST)

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

AUTOMATIC RIDE TIMER (TM)

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



DISPLAY
SCREEN 1

DISPLAY SCREEN 2

MAXIMUM SPEED (MXS)

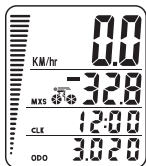
Displays the fastest speed attained during a ride, up to 99.9 M/hr or KM/hr. Accurate to 0.1 M/hr or KM/hr.

CLOCK (CLK)

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

ODOMETER (ODO)

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



DISPLAY
SCREEN 2

OTHER FUNCTIONS

SPEED COMPARISON (+/-)

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

SPEED TENDENCY ICON

The wheels on the bicycle icon roll forward to indicate acceleration and backward to indicate deceleration.

AUTO SLEEP

To prolong battery life, the 4LW 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 Ascent® 4LW cyclocomputer, you must program wheel size, select a speed scale (Miles or Kilometers), select a clock mode (12H or 24H) and set the clock. The first step is to determine wheel size.

DETERMINING WHEEL SIZE

The Ascent® 4LW 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 the accuracy of the unit for most normal rides. The following chart lists the programming sizes for some of the most popular tire sizes currently in use. These numbers are estimations 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)
24 x 1.75	1888	650c	2073
26 x 1.4	1995	700 x 25	2124
26 x 1.5	2030	700 x 28	2136
26 x 1.75	2045	700 x 32	2155
26 x 2	2099		

WHEEL SIZE CALCULATION

If your specific tire size is not listed in the chart, follow these steps to measure wheel circumference. 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").

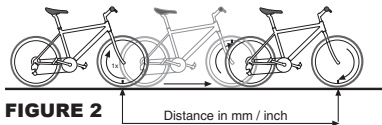


FIGURE 2

PROGRAMMING WHEEL SIZE

The default wheel size setting is 2124mm. After determining your wheel size as described above, enter the value in the computer.

STEP 1

In either display screen press and hold both buttons (LEFT and RIGHT) for 3 seconds to access the wheel size programming screen. The digit at the right of the screen will flash. Use the RIGHT button to adjust the value.

STEP 2

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 values.

STEP 4

Press the LEFT button to confirm the wheel size setting and advance to the speed scale selection screen.

SELECTING MILES OR KILOMETERS

The Ascent® 4LW 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.

STEP 2

"KM" will flash at the top of the screen. 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 clock mode selection screen.

SETTING THE CLOCK

The Ascent® 4LW cyclocomputer is equipped with a digital clock that displays time of day in a 12 hour or 24 hour format.

STEP 1

After selecting speed scale (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 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 confirm the setting and return to Display Screen 1.

SETTING THE ODOMETER

The 4LW odometer can be programmed so that cumulative mileage can be restored after a battery change or transferred from another computer.

STEP 1

Press the RIGHT button to access Display Screen 2. Then press and hold the LEFT button for five seconds until the digit at the bottom right of the screen begins to flash. Note: This will also reset Display Screen 2.

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 values.

STEP 4

Once the last digit has been set, press the LEFT button to return to Display Screen 2.

RESET DISPLAY SCREENS

In Display Screen 1, press and hold the LEFT button for three seconds to reset AVS, DST and TM.

In Display Screen 2, press and hold the LEFT button for three seconds to reset MXS.

To reset both Display Screens AND reset all programmed settings (including CLK, ODO and wheel size settings), press and hold both buttons (LEFT and RIGHT) for three seconds.

INSTALLATION

Since the 4LW is wireless, installation is simple and straight forward. 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 wide range 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 swap it with the larger ring. See Figure 3.

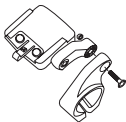


FIGURE 3

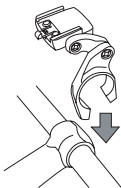
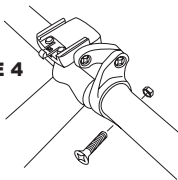


FIGURE 4



STEP 2

Clamp the bracket to the handlebar and tighten in place. Do not over tighten the bracket as this may result in breakage. The bracket needs to be tightened only enough to prevent rotation on the handlebar during normal riding. See Figure 4.

STEP 3

Attach the computer head to the bracket. Slide the comput-

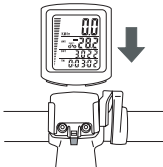


FIGURE 5

er head into the bracket from front to back. You should hear an audible 'CLICK' indicating that the unit is locked firmly in place. See Figure 5. Use the two bracket pivots to adjust the viewing angle as desired.

STEP 4

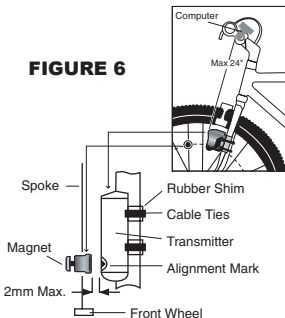
To remove the computer head from the bracket, press down on the release tab at the rear of the bracket and slide the computer head forward.

WHEEL MAGNET AND TRANSMITTER INSTALLATION

STEP 1

Using the included rubber shim (which should be already attached to the transmitter) and zip-ties, loosely mount the transmitter (so that you can slide it around) to the leading edge of the left fork blade. The 4LW wireless transmission range is 24" (60cm). The transmitter must be mounted no further than 24" from the receiver (computer head) in order for the receiver to pick up the signal. The transmitter battery cap should face up. See Figure 6.

FIGURE 6



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 6. 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.

STEP 3

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

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.