



MADE IN USA

ALTIMETER 50

- Displays current altitude within 10 feet/4 meters.
- Records trip and total climb or descent (pat. pending).
- Measures 12 different performance factors for precise training.
- Posi-Click buttons & large display.
- Instant speed updates.

AVOCET

FUNCTIONS

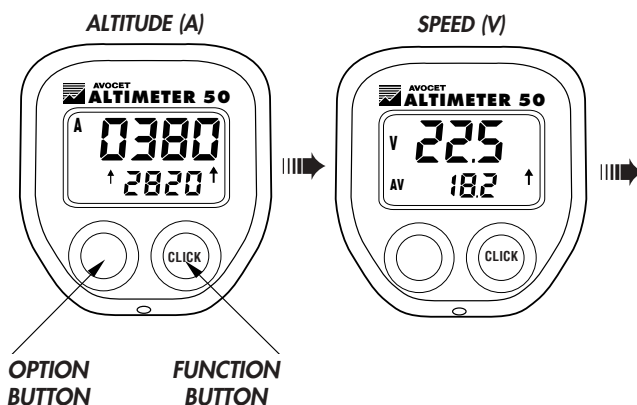
BUTTONS

Function button is on the right. Press it to move in a loop sequence from one basic function to another.

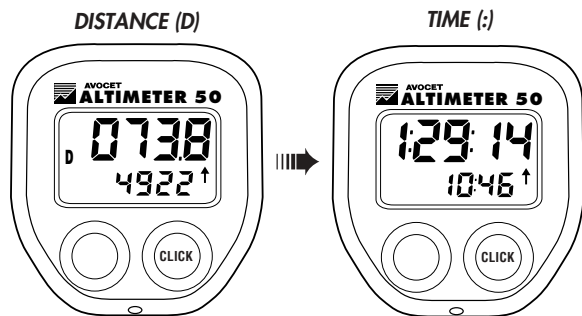
Option button is on the left. It selects available options in the lower display.

Reset the function displayed to zero by pressing both buttons at the same time. Average speed, maximum speed, trip distance, stopwatch, and trip climb are resettable separately.

Global Reset. Press and hold both buttons until all display segments show (3-5 seconds) to reset all resettable functions.



FUNCTIONS



FUNCTION & OPTIONS

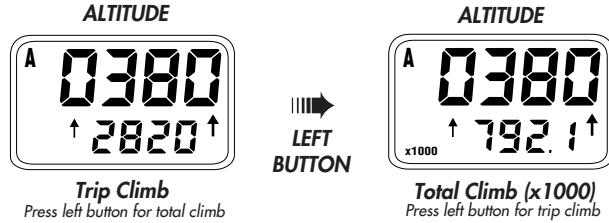
Altitude (A). Altitude is shown in the upper numbers. Press the option (left) button to show Trip Climb/Descent or Total Climb/Descent (x1000) in the lower numbers.

Speed (V). Current Speed is shown in the upper numbers. Press the option (left) button to select Average Speed (AV), Maximum Speed (MX), or Cadence (RPM) in the lower numbers.

Distance (D). Trip Distance is shown in upper numbers and Total Distance in the lower numbers.

Time (:). Stopwatch in upper numbers and Clock in lower numbers. Press option (left) button to start and stop stopwatch.

ALTITUDE



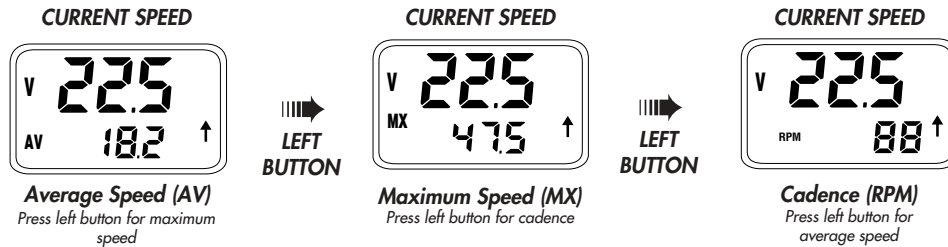
ALTITUDE (A) shows altitude above and below sea level in 10 foot or 4 meter increments in the upper numbers.

Trip Climb/Descent shows altitude gain or loss up to 19,990 feet or meters in 10 foot or 4 meter increments in the lower numbers. The arrow to the left of the display indicates whether climb or descent is being accumulated. (Note: Right arrow indicates average speed.) Choose

climb or descent in the setup sequence. Reset by pressing both buttons.

Total Climb/Descent (x1000). Each .1 is 100 feet or meters of accumulated elevation; each whole increment is 1000 feet or meters. Accumulates total climb or descent up to 1,999,900 feet or meters. Does not reset unless batteries are removed. Accumulates total and trip climb only when the bicycle is moving.

SPEED



CURRENT SPEED (V) displays current speed up to 128 mph or 206 km/h.

Average Speed (AV) calculates average speed in .1 mph or km/h increments only while the bicycle is moving. Average speed can be recorded up to 290 hours. After 290 hours updating freezes. Reset by pressing both buttons.

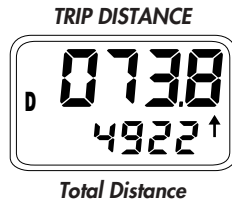
Pace Arrow (Average Speed Arrow, pat. pending). When current speed exceeds average speed the arrow to

the right of the lower numbers points upward; when it is below average speed the arrow points downward. The arrow is displayed in all functions if the bicycle is moving.

Maximum Speed (MX) records maximum speeds up to 128 mph or 206 km/h. Reset by pressing both buttons.

Cadence (RPM) shows crank RPM from 15 to 240. Requires the cadence accessory kit.

DISTANCE



TRIP DISTANCE (D). Displays Trip Distances up to 1999.9 miles or km in .1 increments in the upper numbers. Reset by pressing both buttons.

Total Distance. Shows total distance in whole mi or km up to 19,999 in the lower numbers. Does not reset unless batteries are removed. (Note: Removing batteries erases setup data.)

TIME




STOPWATCH. Upper numbers show elapsed time. Press the left button to start or stop. Shows times up to 1 hour, 59 min, 59 sec, then resets and resumes counting. Reset by pressing both buttons.

Clock. Lower numbers show time of day.


SETUP SEQUENCE

Setup. When the batteries are installed all display segments show briefly, then the unit goes through a 10-second countdown before going into the setup sequence. Setup can also be reached from any function by holding both buttons down more than eight seconds.


1. ENGLISH OR METRIC




2. WHEEL SIZE CALIBRATION




3. CLIMB OR DESCENT



4. CADENCE ON/OFF



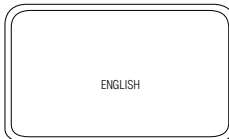
5. CLOCK SET



Press the right button to move from one setup function to the next.

SETUP SEQUENCE

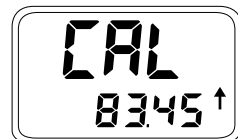
ENGLISH OR METRIC



Left button selects English or Metric

1. English/Metric Setup. The display first shows ENGLISH (feet/miles). Choose METRIC (meters/kilometers) by pressing the left button. Return to English units by pressing the left button again. Press the right button to go to wheel size calibration.

WHEEL SIZE CALIBRATION



Left button increments calibration numbers up or down depending on arrow direction

2. Wheel Size Calibration. The wheel size calibration default of 83.45 (English) or 2120 (metric) shows, and an arrow to the right of the numbers points up then down. Pressing the left button increases the numbers one at a time when the arrow points up and decreases them when the arrow points down. Holding down the left button increments rapidly through the numbers. Calibration numbers equal tire circumference in either inches or mm. Choose a calibration number from the table or measure tire circumference.

SETUP SEQUENCE

Calibration Numbers					
Tire Size	Number		Tire Size	Number	
	English	Metric		English	Metric
20 x 1.75	60.13 in	1528 mm	700C tubular	82.12 in	2083 mm
24 x 1	69.00	1753	700 x 20	81.02	2058
24 tubular	69.25	1759	700 x 25	82.13	2086
26 tubular	75.93	1929	700 x 28	82.52	2096
26 x 1	75.31	1913	700 x 32	83.23	2114
26 x 1.25	77.44	1967	700 x 35	84.21	2139
26 x 1.5	77.71	1974	27 x 7/8	81.77	2077
26 x 1.9/1.95	80.62	2048	27 x 1	82.92	2105
26 x 2.125/2.2	81.65	2074	27 x 1 1/8	83.58	2123
26 x 1 3/8 (3-speed)	81.42	2068	27 x 1 1/4	84.33	2142

Note: Tire sizes are molded into tire sidewalls. This table is based on popular tire brands and assumes recommended inflation pressure and a rider weight of 150 lbs. (68 kg). If your tire size is not included, or if you want to account for your particular combination of weight, tire pressure, and tire brand, measure your tire circumference according to the precise calibration method. Lowering tire pressure in a 26 x 1.9 mountain bike tire from 80 psi to 40 psi reduces in-use tire circumference by approximately 1 inch or 25 mm.

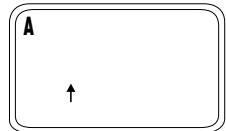
Precise Calibration. To take full advantage of the unit's precision, measure the front tire's "rolling circumference" by the following method.

Mark the ground under the valve stem when the stem is at its lowest point. Get on the bicycle and have a helper push you in your normal riding position until the valve stem returns to its lowest point. Mark below the stem again, and measure the distance between the marks. This measurement is the rolling circumference of the tire and also the precise calibration number.

Enter this calibration number, then press the right button to go to the climb or descent setup.

SETUP SEQUENCE

CLIMB OR DESCENT



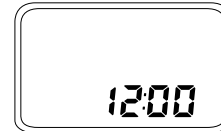
Left button selects whether altitude gain or loss will be recorded

CADENCE ON/OFF



Left button activates and deactivates the cadence option

CLOCK SET



Left button first advances hours, then minutes

3. Climb or Descent. "A" shows and an arrow pointing upward indicates climb will be accumulated. To accumulate altitude lost on descents, press the left button to make the arrow point downward. Return to the climb option by pressing the left button again. Press the right button to go to cadence on/off.

4. Cadence On/Off. RPM shows. If the optional cadence kit is installed, press the left button to activate the cadence option in the speed function. "CA d" on the

display indicates that cadence is activated. If cadence is activated without the kit, no reading will appear in the cadence option of the speed function. Press right button to go to clock set.

5. Clock Set. The default of 12:00 shows and the hour digits flash. Press left button to advance hours. At the correct hour, press the right button. The minute digits flash. Press or hold the left button to advance minutes. Press the right button to complete setup.

ALTITUDE ADJUSTMENT

10

ALTITUDE ADJUSTMENT



Left button increases altitude when arrow points up and decreases it when arrow points down

Altitude Adjustment. The altitude function of the Altimeter 50 uses a barometer to measure atmospheric pressure. Altimeters are shipped from the factory precalibrated, and will show approximate altitude without adjustment. However, weather changes can affect readings by as much as 200 feet or 68 meters during the passage of storms.

For accurate altitude information, adjust at a known

altitude before riding. Determine altitude of your home from a topographic map, a local weather service, or a library. Mountain passes are a good place to adjust because their altitudes usually appear on maps and on road signs. The altitude shown on a city limit sign is of the town's city hall, not the sign.

To adjust, go to the altitude function and hold the right button down for more than 2 seconds. Only altitude and an arrow will show. The arrow points alternately upward and downward. If the altitude is too high, subtract in 10 foot (4 meter) increments by pressing the left button when the arrow points down. Add to it when the arrow points up. Pressing the right button returns to the altitude function.

Measuring Altitude off the Bicycle. To conserve power the Altimeter "goes to sleep" when it is off the bicycle. When measuring altitude on hikes or in a car, press either button to "wake up" the Altimeter and eliminate delays in displaying new altitudes. It remains awake for one hour after a button is pressed.

11

ABOUT THE ALTIMETER

How the Altimeter 50 Works. The Avocet Altimeter 50 measures altitude by detecting differences in air pressure and displaying this information as altitude above sea level. For example, air pressure is 25% less at 7,000 feet than at sea level. The Avocet Altimeter 50 works the same way an aircraft altimeter does.

Adjusting the Altimeter 50 for Air Pressure Changes. Atmospheric pressure is relatively stable except during major weather changes. On a typical day, minor atmospheric pressure changes may cause the displayed altitude to change by 50 feet. When a weather front arrives or departs, altitude can change 50 to 150 feet over a day or two. During severe storms, changes over 150 feet can occur.

The Altimeter 50 can be adjusted to account for atmospheric pressure changes caused by the weather. Adjustment is made by changing the altitude reading until it matches your current altitude. If you learn the altitude of your home, and adjust before you start your ride, the

altitude readings will match the altitude of landmarks along your route. Adjusting altitude is described in the section "Altitude Adjustment".

The Altitude Display. Current altitude is displayed in the upper numbers. Accumulated altitude change is displayed by the lower numbers. You can choose whether you will accumulate altitude gained (climb) or lost (descent) in the setup sequence. If you switch between climb and descent, the two will be added together. There are two accumulated altitude displays: resettable trip change (called TRIP CLIMB) and total change (called TOTAL CLIMB). Adjusting the altitude does not affect accumulated change, either trip or total.

The altitude display is updated every second while the wheel is turning, otherwise updates are every 10 seconds. If the Altimeter 50 is used off the bicycle, you can get 1 second updates by pressing either button. An hour after pressing a button the unit returns to 10 second updates. Accumulated altitude changes will not be added when the

ABOUT THE ALTIMETER

bicycle is transported. The wheel must be turning before the Altimeter 50 will accumulate altitude.

Non-Climb Altitude Changes. The Altimeter 50 is designed to disregard dips in the road of 30 feet or less. When you start a ride, the first gain will not be recorded until you exceed 30 feet; then subsequent gains will be added in 10 foot increments. If the trip and total climb displays accumulated every small change in altitude, their information would not be meaningful. Minor rises and depressions in the road, and atmospheric variations, would add to the trip and total climb readings and obscure the true altitude gain.

Accuracy. Although the Altimeter 50 is temperature compensated, large, rapid temperature changes can affect the altitude reading by up to 70 feet. Within a few minutes the altimeter will stabilize variations such as those caused by taking the unit outside from a heated room in winter. Wind, rain, and humidity do not affect altimeter accuracy. Atmospheric pressure changes during a ride will affect the dis-

played altitude by less than 50 feet and the amount of accumulated altitude change by less than 1%.

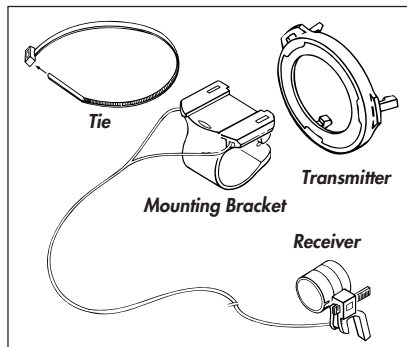
Climb accumulated on a steady grade will have less than a 1% error. Two riders covering identical rolling courses may note up to a 4% difference in accumulated climb—one Altimeter may just detect a dip that another misses because it started measuring from a different point.

What You Will See. When you measure a familiar climb or descent, the actual gain or loss will usually be what you expect. On hilly rides you may be surprised at the amount of climbing you have done. On flat rides, even if there are highway underpasses and undulations in the road, you will record very little climb. While you ride, if you compare altitude with another Altimeter, the readings will track each other within 50 feet.

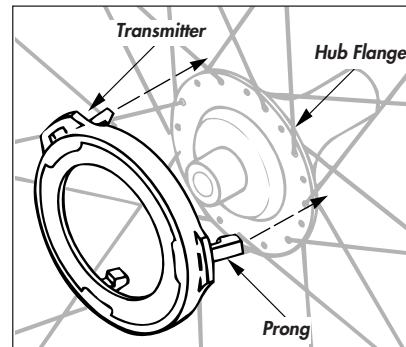
Using the Altimeter 50 as a Barometer. When the Altimeter 50 is kept in one location, an altitude gain indicates lower barometric pressure; an altitude loss indicates higher pressure. Each 10 foot change on the Altimeter equals .01 inches of mercury on the barometer.

13

INSTALLATION



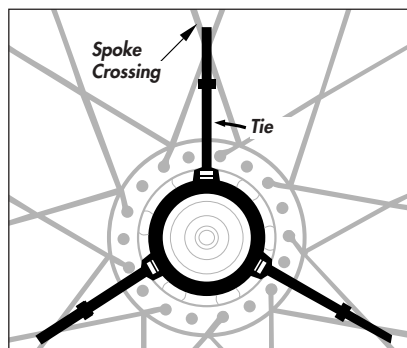
Tools. A small screwdriver, scissors, and a wrench to remove the front wheel if it does not have a quick release hub.



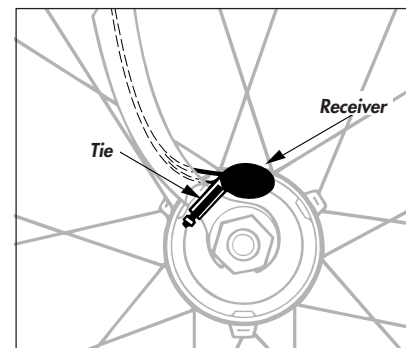
Transmitter. Remove the front wheel. The three-prong transmitter ring supplied snaps on the right hub flange of most 36 spoke wheels. For 32 spoke wheels, use a 4-prong transmitter available separately, or attach with ties (see next section). Reinstall the wheel.

14

INSTALLATION

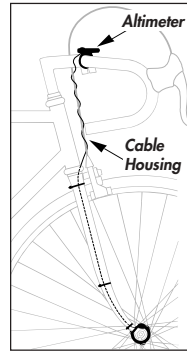


Transmitter-Cable Tie Method. If the ring does not snap on the hub flange, cut off its prongs. Attach it to the three nearest spoke crossings with cable ties. Center the ring while gradually tightening the ties. Trim the tie ends and reinstall the wheel. A rear wheel transmitter kit is also available separately.

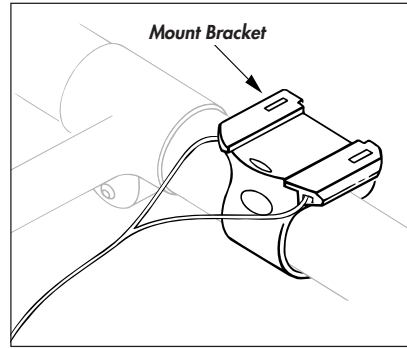


Receiver. With the receiver in front of the fork, slip its jaw over the narrowest part of the fork tip. Adjust the receiver so that it is as close as possible to the transmitter. Thread a cable tie through the hole in the mounting jaw and around the fork. Pull it very tight and trim the excess.

INSTALLATION

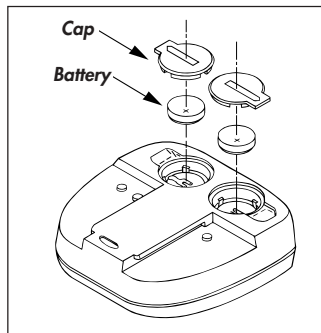


Receiver Wire. Secure the wire with ties or tape starting at the receiver. Attach the wire only to parts that rotate when the bicycle is steered—the fork, the handlebar stem, or the front brake cable. Do not attach the wire to the head tube. Wrap excess wire around the front brake cable housing.

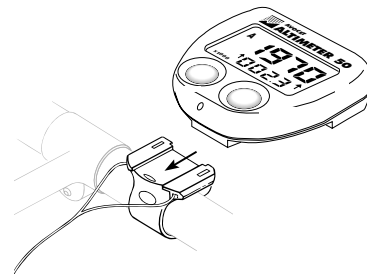


Mount Bracket. Remove the clamp screw and place the mount bracket on the handlebar near the right side of the stem. Insert the clamp screw and tighten it until the bracket does not move when the Altimeter is inserted or removed. Small diameter handlebars may require taping beneath the clamp for a tight fit.

INSTALLATION



Batteries. Install the batteries in their compartments on the back of the Altimeter with their positive (+) sides toward the caps. Press in the caps with your thumb. To remove the batteries, pry the caps up with a screwdriver. Note: Removing the batteries erases setup data. After installing batteries complete the setup procedure. Warning: Use only Altimeter 50 batteries—see specifications.



Altimeter 50 Installation. Slide the Altimeter into the mount bracket from front to rear until it snaps on. Advance the Altimeter to the speed function. Spin the front wheel and watch for a speed reading. If the display remains at zero, check the wire connection plugs at the receiver, and make sure that the receiver and transmitter are aligned and nearly touching.

ALTIMETER 50 SPECIFICATIONS

Dimensions: 2¹/₈" X 2¹/₄" X 3³/₈"

Weight: 1¹/₄ oz

Display: Dual; UPPER NUMBERS 5⁵/₁₆" high, lower numbers 3³/₁₆" high

Operational Temperature Range: 0° F to 150°F

Wheel Sizes: Calibration for wheels from 9.6" diameter to 41.7" diameter in .04" increments

Data:

Altitude display updated every second when wheel is turning or when a button has been pressed within the last hour, every ten seconds otherwise

Speed display updated every second

Water Resistance: Waterproof

Batteries:

Two 1.5 v, 1.5–2 year life.

Use Avocet Altimeter 50 batteries or these equivalents—Ray-O-Vac RW44, Duracell D386, Panasonic SR43W, Eveready 386

Altitude Functions:

CURRENT ALTITUDE: -990 ft to +19,990 ft in 10 ft increments, adjustable for barometric change

Trip Climb/Descent: To 19,990 ft in 10 ft increments (accumulated only while wheel is turning)

Total Climb/Descent: To 1,999,900 ft in 100 ft

increments (accumulated only while wheel is turning)

Speed Functions:

CURRENT SPEED: To 128 MPH in .5 MPH increments

Average Speed: To 128 MPH in .1 MPH increments (calculated only while wheel is turning; averages up to 290 hrs without resetting)

Maximum Speed: To 128 MPH in .5 MPH increments

Cadence: 15 to 240 crank RPM (requires kit)

Distance Functions:

TRIP DISTANCE: To 1,999.9 mi in .1 mi increments

Total Distance: To 19,999 in 1 mi increments

Time Functions:

STOPWATCH: Elapsed time to 1:59:59

Clock: 12 hour