**Vertech Page 1**

**FUNCTION BUTTON**
ADVANCES THROUGH THE FOUR PRIMARY FUNCTIONS
Used after Adjust Button to move between setup steps in the same display

**OPTION BUTTON**
SELECTS OPTIONS OF PRIMARY FUNCTIONS
Used after Adjust Button for setup–advances numbers
Selects ascent or descent arrow for altitude accumulation in
Daily Vertical Feet reset display
Used after Start / Stop Button to create splits in Split / Lap Timing display
Advances through splits in Split Time Recall display

**ADJUST BUTTON**
ACCESS ES AND EXITS SETUP OF DISPLAYED FUNCTION
Resets timers and puts displayed split / lap group into memory
Resets all groups if held 3 seconds when Split / Lap Group Selection option is displayed

**START / STOP BUTTON**
STARTS AND STOPS ACCUMULATION OF VERTICAL FEET AND STARTS AND STOPS TIMERS
Selects 12 or 24 hour clock in Clock Set display
Selects English or Metric units in Altitude Adjust display
Turns alarm on and off in Date / Alarm Adjust display
Resets Barometric Trend when Barometer function is displayed
Resets Maximum Altitude, Daily and Total Vertical Feet, Descent Rates, and Runs in their adjust displays
Selects groups in Split / Lap Group display

**DISPLAY IDENTIFICATION**
The icon below the bar at the bottom of each display identifies the function displayed. Adjust and reset displays are reached by pressing the adjust button when the desired function or option is displayed. When digits blink, they can be adjusted or reset.

**ENGLISH AND METRIC UNITS**
The instrument displays in either English or Metric units. When units are changed, displayed and stored information is converted. Feet go to meters, Fahrenheit temperatures to Celsius temperatures, and inches of mercury to millibars.
VERTICAL SPORTS
Records daily vertical feet skied or hiked, number of runs skied, and current vertical rate in feet per minute or feet per hour. Options include total vertical feet, maximum vertical rate of descent, and the average rate for a timed interval.

WEATHER
Displays sea level barometric pressure in inches of mercury or millibars (adjustable for atmospheric change), temperature, and barometric trend since last reset.

TIMING
Stopwatch records split and lap times and allows recorded split/lap groups to be selected then recalled from memory.
### ALTIMETER INFORMATION

**How the Altimeter Works.** The Avocet Vertech measures altitude by detecting differences in air pressure and displaying this information as altitude above sea level. The Vertech works the same way an aircraft altimeter does.

**Effects of Atmospheric Pressure Changes.** A change in atmospheric pressure will make the displayed altitude different from the known altitude of a landmark. The Vertech can be adjusted so that it displays the same altitude as the landmark. On a typical day, minor atmospheric pressure changes may cause the displayed altitude to vary from the actual altitude by 50 feet. With the arrival or departure of a weather front, displayed altitude can change 50 to 150 feet, and a storm can cause a change of more than 200 feet. Wind, rain, snow, and humidity do not affect altimeter readings. Atmospheric pressure changes during a day's hiking or skiing will affect the accumulated vertical feet very little—about 1% at most.

When you adjust altitude, you may want to adjust the barometer at the same time. The barometer can be adjusted by setting the displayed altitude to the actual altitude in the barometer adjust display. Since altitude adjustment in the altitude function and in the weather function are not linked, they must be done separately.

**Accumulating Vertical Feet.** The Vertech is designed to disregard vertical irregularities of less than 30 feet on a slope. Because of this feature, when you start skiing or climbing, accumulation will begin at 30 vertical feet. After that, vertical feet will be accumulated in 10 foot increments.

**Frequency of Display Updates.** Altitude, Accumulated Vertical Feet, and Rate displays are updated every second if a button has been pressed within the last 7 minutes, or if there has been more than 100 feet of vertical change in the past 24 seconds. Otherwise, the unit goes into sleep mode and updates displays every 8 seconds.

**Thermometer Accuracy**

Body heat will affect thermometer accuracy when the Vertech is worn directly against the wrist. The most accurate readings are displayed when the unit is worn over a jacket or when it is off the wrist. In the temperature range 32-122°F the thermometer is accurate to ±4°F. It reads 4°F high for each 10°F below 32°F.

### VERTECH SPECIFICATIONS

<table>
<thead>
<tr>
<th>Dimension</th>
<th>1.6&quot; wide x 2.05&quot; high x .6&quot; thick</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>.9 oz without band; 1.3 oz with ski band</td>
</tr>
<tr>
<td>Display</td>
<td>Triple: upper .2&quot; high, middle .1&quot; high, lower .15&quot; high</td>
</tr>
<tr>
<td>Operational Temperature Range</td>
<td>-0°F to +122°F</td>
</tr>
<tr>
<td>Water Resistance</td>
<td>Water resistant to 10 feet. Detergents will permanently damage the altimeter sensor</td>
</tr>
<tr>
<td>Country of Manufacture</td>
<td>Made in USA</td>
</tr>
<tr>
<td>Altitude</td>
<td>Current Altitude: -4,000 to +40,000 feet in 10 foot increments</td>
</tr>
<tr>
<td></td>
<td>Maximum Altitude: -4,000 to +40,000 feet in 10 foot increments</td>
</tr>
<tr>
<td><strong>Vertical Accumulation</strong></td>
<td>Daily Vertical Feet: To 299,990 feet in ten foot increments (resettable; accumulates only when turned on)</td>
</tr>
<tr>
<td></td>
<td>Total Vertical Feet: To 299,990 feet in ten foot increments (resettable; accumulates only when turned on)</td>
</tr>
<tr>
<td><strong>Ski Mode</strong></td>
<td>Current Descent Rate: 0 to 7,600 ft. per min. in 50 foot per min. increments</td>
</tr>
<tr>
<td></td>
<td>Maximum Descent Rate: 0 to 7,600 feet per minute in 50 foot per minute increments; resettable</td>
</tr>
<tr>
<td></td>
<td>Average Descent Rate: From 0 to 7,600 feet per minute in 10 foot per minute increments over a period up to 18 hours; resettable</td>
</tr>
<tr>
<td></td>
<td>Runs Skied: To 199 then stops; run counter is tripped by a 150 foot descent</td>
</tr>
<tr>
<td><strong>Alpin Mode</strong></td>
<td>Current Ascent Rate: 0 to 28,000 ft. per hour in 100 foot per hour increments</td>
</tr>
<tr>
<td></td>
<td>Maximum Ascent Rate: 0 to 28,000 feet per hour in 100 foot per hour increments; resettable</td>
</tr>
<tr>
<td></td>
<td>Average Ascent Rate: From 0 to 28,000 feet per hour in 10 foot per hour increments over a period up to 18 hours</td>
</tr>
<tr>
<td><strong>Weather</strong></td>
<td>Sea Level Barometer: 28.84 to 31.00 inches of mercury with .01 resolution</td>
</tr>
<tr>
<td></td>
<td>Barometric Trend: -9.99 to +9.99 inches of mercury with .01 resolution</td>
</tr>
<tr>
<td></td>
<td>Temperature: 0°F to 122°F in 1°F increments; accuracy 4°F above freezing, +4° for each 10°F below freezing (32°F)</td>
</tr>
<tr>
<td><strong>Clock</strong></td>
<td>Time of Day: 12 or 24 hour format; to 1 second</td>
</tr>
<tr>
<td></td>
<td>Alarm To one minute</td>
</tr>
<tr>
<td></td>
<td>Countdown Timer: To 23:59:00</td>
</tr>
<tr>
<td><strong>Timing</strong></td>
<td>Splits Resolution: .25 second to 59.99, 1 second 1.00.00 to 23:59:59</td>
</tr>
<tr>
<td></td>
<td>Laps Resolution: .05 second to 59.99, 1 second 1.00.00 to 23:59:59</td>
</tr>
<tr>
<td></td>
<td>Splits and Splits / Lap Groups: Up to 20</td>
</tr>
<tr>
<td><strong>Accessories</strong></td>
<td>Vertech Alpine and Ski wrist bands are available separately</td>
</tr>
<tr>
<td><strong>Battery</strong></td>
<td>CR2032 Lithium; approximately two year life</td>
</tr>
</tbody>
</table>
### ALTIMETER/CLOCK

#### Adjusting Altitude
After pressing the adjust button, the altitude digits blink. Adjust displayed altitude so that it matches a known altitude such as that of lake, a mountain top, a mountain pass, a landmark on a topographic map, or sea level. Altitude adjustment compensates for changes in barometric pressure caused by weather. Press option button to change altitude in 10 foot increments. Altitude increases or decreases according to the direction of the arrow at the left of the screen that alternates up and down. To switch between English and metric units, press the start/stop button. After adjusting altitude press the adjust button to exit, or the function button to go to clock set.

#### Clock Set
The hour digits blink. Advance them with the option button. At the correct hour press the function button. The minutes blink. Advance them with the option button. At the correct minute press the function button. The seconds blink. Press the option button to zero them. The seconds advance continually because the clock runs in the adjust display. To switch between 12 and 24 hour clock press the start/stop button. After setting the clock, press the adjust button to exit.

### DATE/ALARM

#### Setting Alarm Time
After the adjust button is pressed, the hour digits blink. Advance them by pressing the option button. In 12-hour clock format a "P" above the time indicates PM. At the desired hour press the function button. Then minute digits blink. Advance them with the option button. At the desired minute press adjust button to exit or set the time.

#### Setting the Date
The month digits blink. Advance months with the option button. At the correct month press the function button. The day digits blink. Advance them with the option button. At the correct day press the function button. The year digits blink. Advance the years with the option button. At the correct year press the adjust button to exit.

### MAXIMUM ALTITUDE/COUNTDOWN TIMER

#### Setting the Countdown Timer
The hour digits blink. Advance them with the option button. At the correct hour press the function button. Then minute digits blink. Advance them with the option button. At the desired minute press adjust button to exit.
### VERTICAL SPORTS

#### Daily Vertical Feet / Current Descent Rate Function

Accumulates to 299,990 vertical feet in the upper display with 10 feet resolution. Start or stop accumulation by pressing start / stop button. When function is turned on, the arrow at the left of the display blinks. In Ski mode it counts number of runs skied in middle display. A run is added after an altitude gain of 150 feet or more is followed by a 150 foot loss. The bottom display shows the current vertical rate in feet per minute with 50 feet per minute resolution. A minus sign to the left of the display indicates that you are descending; a plus sign that you are ascending. Current rate is calculated from a moving average weighted toward data from the last 30 seconds.

Reseting Daily Vertical Feet and Runs:
- Press the adjust button. Daily vertical feet digits blink. Press the start / stop button to reset them to zero, then press the adjust button to exit, or press the function button to go to runs reset. The runs digits blink. Press the start / stop button to reset runs to zero. Press the adjust button to exit.

Selecting Descent or Ascent:
- When the daily vertical feet digits are blinking, you can choose whether descent or ascent will accumulate. Press the option button to select descent (down arrow) or ascent (up arrow).

Converting from Ski mode to Alpin mode:
- In the daily vertical feet display, press the adjust button, then press the function button twice. If the letter "S" appears your unit is set up as a Ski and will display vertical rates in feet per minute. Press the start / stop button to change the "S" to an "H". The H indicates that the unit is now set up in Alpin mode and will display rates in feet per hour. Press the adjust button to exit.

#### Total Vertical Feet / Maximum Descent Rate

Accumulates to 299,990 vertical feet in upper display with 10 feet resolution. Start or stop accumulation by pressing start / stop button. Daily vertical feet and total vertical feet accumulators start and stop together, but they can be reset independently. Most skiers use them to record the vertical feet skied daily and weekly. In Ski mode the number of runs skied is shown in the middle display. The bottom display shows the maximum vertical rate of ascent or descent since the last reset. If the unit is measuring descent, only maximum descent rate is recorded, not ascent.

Reseting Total Vertical Feet and Maximum Rate:
- Press the adjust button. Total vertical feet digits blink. Press the adjust button to exit, or press the function button to go to maximum rate reset. When the maximum rate digits blink, press the adjust button to exit. Runs are reset in the daily vertical feet display.

#### Ascent or Descent Timer / Average Descent Rate

Press the start / stop button to start the timer in the upper display. It times ascents or descents up to 18 hours. The lower display shows the average rate over the timed interval. Reset time and rate by pressing the adjust button. Runs are shown in the middle display when in Ski mode.

#### Alpin and Ski Displays

When the Vertech is set up as an Alpin, it will show ascent or descent rates in feet per hour and will not record runs. Resolutions are 100 feet per hour for current and maximum rate and 10 feet per hour for average rate. The Alpin does not display an average rate for the first 2 minutes. Current rate is calculated from a moving average weighted toward data from the last 10 minutes.

Normally Alpin mode will be set up to accumulate ascent, and Ski mode to accumulate descent. When you switch between Ski and Alpin, rate information will be reset, but accumulated vertical feet will be retained. Reset the two vertical feet displays if you don't want to mix vertical feet accumulated in the Ski and Alpin modes.
WEATHER

Barometer & Barometric Trend

The upper display shows the sea level barometer in inches of mercury established at the last adjustment. The middle display is temperature, and the lower display, barometric trend. A plus sign (+) indicates an increasing trend, and a minus (-) sign a decreasing trend. Altitude change affects the trend, so trend information is only accurate when read at the altitude of the last trend reset. To reset the trend to zero, press the start / stop button.

Setting the Sea Level Barometer. To find your current sea level barometer, you must know your altitude. Sea level barometer does not change until you set it, and setting it has no effect on altitude functions. To set, press the adjust button. Both upper and lower displays blink. Use the option button to adjust the altitude in the lower display to your present altitude. This updates sea level barometer in the upper display. A sea level barometer above 29.92 inches is generally associated with stable weather, and one below 29.92 with unstable weather. If you don’t know your altitude, you can set sea level barometer from a TV weather report or by phoning a local airport to get the current barometer reading. In this case, adjust the upper display until it matches the reported reading. The lower display then shows your current altitude. Exit by pressing the adjust button.

Long Term Barometer/Temperature Adjust. Warning: If this adjustment is done incorrectly, barometer information will be inaccurate. This adjustment may be needed after 1-2 years to correct minor barometer drift. After setting the correct altitude in the barometer adjust display, call a local airport to get the current sea level barometer. If the reported and displayed barometers agree, no adjustment is necessary. If there is a discrepancy, note whether your barometer reads high or low and by how much. Press and hold the adjust button for 3 seconds. The upper digits blink. Adjust them up if your barometer reads low or down if it reads high. Adjust with the option button by the amount of the discrepancy previously noted. Press the adjust button to exit. Now set sea level barometer as described above. You can reach the long-term temperature adjust from long-term barometer adjust by pressing the function button.

TIMING

Split / Lap Timer

Start and stop the timer by pressing the start / stop button. Splits and laps of up to 23:59:59 can be recorded. At 23:59:59 the display resets to zero and stops. Resolution is to .05 second to 59:59.95, then in seconds. Lap time appears in the lower display.

Resetting. Press the adjust button to reset both timers to zero.

Creating Splits. To create splits, press the option button while the timer is running. The display will freeze for 6 seconds then time for the new split will appear in the upper display. To record the last split, press the option button—you must start a new split to record the previous one. The split number is in the middle display. You can continue to create split / laps up to 20 total.

Creating Split / Lap Groups. After creating a number of splits / laps you can put the group into memory by pressing the adjust button. When the split / lap group is in memory, you can recall it later with the split / lap recall option. To reach the split / lap recall option, press the option button when the timer is stopped.

Split / Lap Group Selection and Recall

After pressing the option button when the timer is stopped, the middle display will show the number of the last split / lap group recorded. Press the start / stop button to scroll through the different groups until you reach the group that you want to recall. Press the option button to view splits / laps in the selected group.

Resetting Groups. To reset you must be in the split / lap group display. To reset all the groups in memory, press and hold down the adjust button for 5 seconds. A beep indicates that the groups have been reset. Note that groups cannot be reset individually. Press the function button to return to the timer function.

Viewing Split / Lap Groups in Memory. You can view each split / lap of a group by pressing the option button. The middle display shows the number of the selected split / lap. The ‘M’ icon indicates that you are viewing information from memory. If you want to recall another group, press the function button to return to the timer function, then press the option button to go to the group selection display.

SEA LEVEL BAROMETER

Temperature

Barometric Trend

(Sea Level Barometer only changes when updated by the user)

The upper display shows the sea level barometer in inches of mercury established at the last adjustment. The middle display is temperature, and the lower display, barometric trend. A plus sign (+) indicates an increasing trend, and a minus (-) sign a decreasing trend. Altitude change affects the trend, so trend information is only accurate when read at the altitude of the last trend reset. To reset the trend to zero, press the start / stop button.