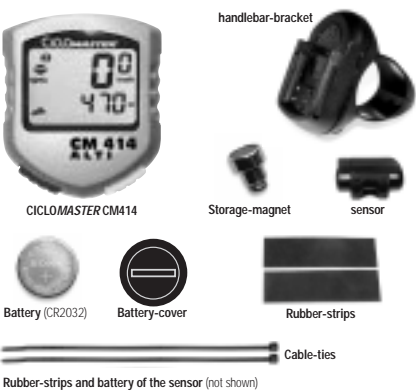


Package-content



Dear **CICLOMASTER-Owner**, congratulations, the **CICLOMASTER CM 414** is an extremely efficient bicycle-computer, which will offer you valuable information during and about every training sequence. The **CICLOMASTER CM 414** possesses the most modern electronics and is absolutely waterproof, so that you can use it in all types of weather. Furthermore the **CICLOMASTER CM 414** is convincing because of its long lifespan, since our team has developed it with the highest amount of precision possible and has manufactured in best quality.

1. CICLOMASTER CM 414 Altimeter

- 14 functions**
- Actual speed (up to 160 km/hrs)
 - Average speed
 - Maximum speed
 - Controlling the speed
 - Daily amount of kilometers (up to 999.99 km)
 - Total amount of kilometers (up to 9999.99 km)
 - Adjustable total/daily amount of kilometers
 - Time (24-Display), date, year
 - Daily-/total amount of training time
 - Automatic start / stop function
 - Temperature (min, max)
 - Altitude Measurement (barometric)
 - Actual altitude
 - Saving home altitude measurement
 - Daily-/total altitudes (accumulated ▲)
 - Maximum altitude
 - Ascent-/descent speed in m/hr (0, maximum)
 - Ascent- / descent display in % (act., 0, maximum)
 - Performance in watts – (0, maximum)
 - Two in One system (multi-function)
 - Measurement of pedaling frequency (accessories)

- **CICLOMASTER 414 MEMORY**
 - 64 hours memory
 - Interface and Software for evaluation of the tours made

2. Two in One system

The first special feature of the **CICLOMASTER CM 414** is the Two in One system. That means that alternatively you can use it with two different bicycles, for example with your Mountainbike and with your racing bike. The **CICLOMASTER CM 414** shows you the values for each wheel separately or also summed up as a total.

3. Adjustable day - and total amount of kilometers

The second special feature of your **CICLOMASTER CM 414** is the adjustable amount of daily kilometers. While other devices made by other manufacturers start at zero, you have the option, to set each and any value at the beginning of a tour. This is especially useful, if you use a printed tourguide, or when a tour is not started at the pre-determined start-point but at another point of the route. Even if you get lost, you can re-set the daily amount of kilometers again, as soon as you are on the right route. Of course, this distance will be added normally to the total amount of kilometers. Also the total amount of kilometers can be set by you individually. If you switch from an old computer to the innovative **CICLOMASTER CM 414** for example and don't want to lose the amount of kilometers already absolved up to this point in time.

4. Precision altimeter

The third special feature of your **CICLOMASTER CM 414** is the altimeter. It is at the top of the present technology. The ultramodern pressure-probe measures so precisely that it even measures a 25 centimeter difference in altitude, although your display shows only each meter-step. Try it out: Adjust the altitude in your present location to the height of your chest. Put your **CICLOMASTER CM 414** on the ground or hold up it over your head. You will see that it already has measured this small altitude-difference of plus / minus one meter. Of course, you can use your **CICLOMASTER CM 414** separately without your bicycle as a pure altitude-measurement device, for example while hiking or mountain-climbing. A bracelet-adaptor has been developed and is available for this purpose (as of 3/99).

5. Performance

As fourth special feature, the **CICLOMASTER CM 414** offers a performance feature: The **CICLOMASTER CM 414** calculates while ascending from previously inputted total-weight, from speed and precisely measured difference in altitude your performance. Such a performance feature was only possible in the past with complicated and very costly technology mounted on a bicycle. And even on a level path, this means even if the altimeter is recording no changes, the **CICLOMASTER CM 414** measures your performance. A specific pre-programmed formula considers all wind resistance and calculates your performance in watts at your present speed.

Please read through this descriptive and easily comprehensible instruction manual carefully. We are sure that you will then have a great amount of enjoyment and pleasure with your new **CICLOMASTER CM 414**.

Yours Sincerely,
The CicloMaster team

6. Mounting

Put the **holder** where you would like to attach it on the handle-bars so that the lock button of the holder points towards the saddle. If necessary, put the plastic bands underneath the holder. Carefully screw the handle-bar holder tight.

Attach the **transmitter** by using the plastic bands and the cable-ties to the front side of the right shaft or the back side of the link shaft (the flat side of the transmitter must face towards the inside) no further than 60 cm away from the computer. Do not yet pull the cable-ties tight. Make sure that the transmitter's battery cap is facing up and that the transmitter and computer are both attached to the same side of the bicycle.

Attach the **magnet** to the spokes directly across from the transmitter so that the marking on the magnet point directly to the flat side of the transmitter. Be careful not to overwind the screw for attaching the magnet.
Turn the transmitter so that the distance between the transmitter and the magnet is not more than 3 mm.

If necessary, put something underneath the sensor. To check if the computer has been attached correctly, please turn the wheel a couple of times to see if it receives a signal. Last, but not least, pull the cable-ties tight and cut off what is too long. Push the **CICLOMASTER CM 414** in arrow-direction on the holder, until it locks. It can be taken out easily by means of applying light pressure in saddle-direction.

7. Starting

Putting in the battery

Screw off cap on the rear to the left of the computer with help of a coin. Put in a 3V-Lithium-Batterie Type CR 2032 with the plus-pole pointing upward. Screw cap back on.

If nothing or incomprehensible signs appear in the display, press the AC-Knopf on the rear of the computer with help of a ballpoint pen or a similar object.
The **CICLOMASTER CM 414** is now in the "No Bike" mode.

8. General Information

When a **Ⓞ** appears in the display on the upper left, the indicated values refer to bike 1. In order to show the values for bike 2, press both buttons simultaneously shortly (switching is only possible, if the speed = 0). In the display appears on the upper left a **Ⓢ**. If both buttons are pressed shortly simultaneously again, the **Ⓢ** vanishes and the speed display and the **CICLOMASTER CM 414** are in the so-called "No Bike" mode. This means it now shows only the bicycle-independent values (height-values, temperature, time). By means of pressing both buttons shortly again, **Ⓞ** appears in the upper left of the display again and the values displayed are valid for bike 1.

The daily amounts can be put back to 0 by means of pressing both buttons 5 sec. long simultaneously (best directly before beginning a new tour).

9. Basic Settings

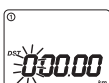
If the **CICLOMASTER CM 414** is to be used with 2 bicycles, the first three settings must be entered separately for each bicycle. Therefore once if **Ⓞ** is being displayed and once with **Ⓢ**.

The following is valid for all settings: The blinking value can be changed with the right button, the value is stored by shortly pressing the left button and the next value blinks or the next value appears on the display. By means of pressing the left button for 3 seconds, the setting mode can be turned off immediately. All settings and values always refer to the corresponding bicycle (**Ⓞ** or **Ⓢ** is displayed). Press both buttons as many times necessary, simultaneously until left above **Ⓞ** appears.

Press the right button as many times as necessary, until the following appears in the display.



Press the left button for 3 seconds, and this now appears in the display:



Daily amount of kilometers 1 as well as 2 setting

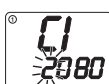
Setting with right or left button
Start setting = 0 km
Setting Range min = 0.00 km
Setting Range max = 999.99 km



Here, the daily amount of kilometers can be set, for example the time of starting a trip when using a printed tour-guide.

Circumference of the wheel: Bike 1 as well as 2

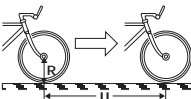
Setting with right or left button
Start setting = 2080 mm
Setting Range min = 0 mm
Setting Range max = 9999.99 mm



The circumference of the wheel be can taken from the following chart or measured yourself.

Tire-size	Circumference of the Wheel (mm)
26 x 1.75	2050
26 x 2.0	2080
26 x 1.25	2030
650 x 20C	1950
700 x 20C	2070
700 x 25C	2090
700 x 38	2170

Measuring the circumference of the wheel (for a more precise setting):
Put a marking at the front-tire and on the ground (e.g. with chalk). Ride straight ahead exactly one turn of a tire (for a very exact measurement, check your tire-pressure before getting on your bike) and mark this position on the ground. Now measure the exact circumference of the wheel between the two markings at the ground (in mm).



Total-kilometers 1 as well as 2 setting

Setting with right or left button
Start setting = 0 km
Setting Range max = 99999 km

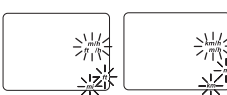


The total amount of kilometers ridden can be put in, for example after a battery-change.

The following settings are valid for bike 1 and 2:

Unit of measurement kilometers / meter or miles / foot

switch with right button

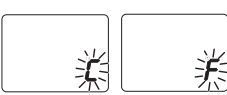


Here, one puts in, whether in kilometers (distance) or meters (height) or in miles and foot should be measured and displayed.

Temperature-setting

°Celsius or °Fahrenheit

Setting Range min = -19°C as well as -2°F
Setting Range maximum = +60°C as well as +140°F
switch with right button

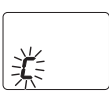


Here, one puts in, whether the temperature-setting should take shown in "Celsius" or "Fahrenheit".

Pedaling-frequency-measurement (optional)

On or Off

switch with right button



Here, the setting of the pedaling-frequency-measurement can be switched on. A blinking "C" means in the display means that the pedaling-frequency-measurement is off. If the "C" doesn't blink, it is on. After 4 minutes (or pressing of the left button) the display returns to the original display (daily amount of kilometers).

To put in the altitude-values, press the right button as many times necessary until the following appears in the display.



This display now appears by means of pressing the left button for 3 seconds.

Changing the actual altitude

Setting with right or left button
Setting Range: -9999 m to +9999 m



The current altitude can be changed here. For example if it is determined during a tour, that the **CICLOMASTER CM 414** deviates from the actual altitude (can occur through atmospheric pressure-fluctuations). A change of the current altitude has no influence on the other altitude-functions (e.g. total-altitude in meters). Only the function maximum altitude alters its value, if the inputted altitude exceeds the highest altitude reached up to this point in time.

Beginning value for the altitude-measurement (home)

Setting with right and left button
Start setting = "----"
Setting Range min = "----"
Setting Range max = 9999 m



The **CICLOMASTER CM 414** possesses a barometric altitude-measurement that adapts itself to temperature-fluctuations automatically, however through atmospheric pressure-alterations (e.g. during the night) display fluctuations can occur. In order to avoid these fluctuations as much as possible, a beginning altitude can be inputted (e.g. that of the home town, if most trips are started from there). Each time the daily values are put back they are put back to the home value. This value should be changed when you are using the **CICLOMASTER CM 414** in another place for a longer period of time (e.g. when on vacation).

No value is declared here (altitude 00000 → ad "----"), the **CICLOMASTER CM 414** takes the current altitude-value which is shown in the display.

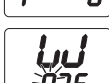
After 4 minutes (or by means of pressing of the left button), the original display appears.

Setting the weight (necessary for the performance-evaluation).

Press the right button as many times as necessary until the following display appears:



This display now appears by means of pressing the left button for 3 seconds:



Weight inputs

Setting with right and left button
Start setting = 75 kg
Setting Range min = 0 kg
Setting Range max = 199 kg

The total-weight of the rider with material (e.g. luggage and bicycle is required to calculate the performance and is put in here). After 4 minutes (or by means of pressing the left button) the original display returns.

Setting the time and the date: Press the right button as many times necessary until the following display appears:



This display now appears by means of pressing the left button for 3 seconds.

Setting the Time

Setting with right and left button
Setting Range = 00:00 - 23:59 or 00:00 - 12:59; when AM, the colon blinks



Here, the current time is set in the 24-hour form. If you later choose to use the 12-hour form, the **CICLOMASTER CM 414** converts the time automatically.

Month / day setting

Setting with right and left button
Setting Range day = 1 - 31
Setting Range month = 1 - 12
The current date is put in here.



Year setting

Setting with right and left button
Setting Range = 1990 - 2100
The current year is put in here.



Time-display - 24-hour or 12-hour (AM / PM)

switch with right button



If the 12-hour-setting is chosen, the colon blinks during AM-time between the hours and minutes. It doesn't blink during PM-time. After 4 minutes (or by means of pressing the left button) switches back to the original display again.

Now, the basic settings are completed.

10. Menu-Management

In this chapter, the menu-management is also shown pictorially.

When riding, the momentary-speed is shown with all main-functions in the Display above.

In regards to switching from bike 1 to bike 2 as well as in the "No Bike" Mode (see chapters 2.1 general).

The **main-functions** can be called up separately one after the other by pushing the right button **forward** and by pushing the left button **backward**.

The respective sub-functions modes are called by pressing the right button for 3 seconds. The next sub function is displayed by briefly pressing the right button.

All functions (except the time) have an automatic start / stop while riding, this means the measurement starts with the first turn of the tire and finishes 4 seconds after the last turn of the tire.

Particularities of **CICLOMASTER CM 414 Memory** – see chapter 4.0. The functions time, altitude and temperature are always calculated (also while resting), but not their sub-functions.

The following is valid for all sub-functions: the sub-function appears approximately 10 seconds, then the respective main-function appears again. By means of pressing the right button for 3 seconds, the display immediately jumps back to display the main-function.

Current speed

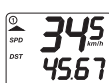
Always shown in mode **Ⓞ** or **Ⓢ** above. Measures the current speed in km/hr (as well as m/hr = miles per hour) and is always shown with the main functions in the upper display. The arrow indicates (left) whether you are riding more quickly (▲) or more slowly (▼) then momentary average-speed.

Setting Range: 0 - 160 km/h as well as mph



Daily amount of kilometer

Shows the amount of kilometers ridden up to this time on a daily basis.
Setting Range: 0 - 999.99 km as well as m



Sub-functions

1. - **actual daily amount of kilometers**
Sub-function of the main-function daily amount of kilometers.



If the daily amount of kilometers were changed in the basic setting, the actual daily amount of kilometers ridden are shown here. If not, the sum of the daily amount of kilometers ridden of bike 1 and 2 are shown.
Setting Range: 0 - 999.99 km as well as m



2. - **Total-kilometers**

Sub-function of the main-function daily amount of kilometers. Shows the total amount of kilometers ridden.
Setting Range: 0 - 99999 km as well as m



3. - **Sum of the total-kilometers (bike 1 + bike 2)**

Sub-function of the main-function daily amount of kilometers. The sum shows the total amount ridden with bike 1 and bike 2.
Setting Range: 0 - 99999 km as well as m



Current altitude

The momentary altitude is displayed in meters (over sea level). The measurement takes place (also for the sub-functions) in 1 meter-steps. Since the altitude is measured by means of atmospheric pressure-measurement, it is weather-dependent.
Setting Range: -200 - 8200 m



Hint: The altitude-meters are only added (in five-meter-steps), if signals are received from the bike. The altitude-meters are always added together in the "No Bike" mode.

Sub-functions

1. - **daily amount of meters – upward**
Sub-function of the function current altitude shows the altitude-meters gone until now going upward.
Setting Range: 0 - 65535 m (starts with 0 again)



2. - **Sum of the daily altitude in meters – upward**
Sub-function of the main-function current altitude. The sum shows (bike 1 and bike 2) the altitude meters gone until now going upward.
Setting Range: 0 - 65535 m



3. - **daily amount of meters – downward**
Sub-function of the main-function current altitude shows the altitude-meters gone until now going downward.
Setting Range: 0 - 65535 m



4. - **Sum of the daily altitudes in meters – downward**
Sub-function of the main-function current altitude. The sum shows (bike 1 and bike 2) the altitude meters gone until now going downward.
Setting Range: 0 - 99999 m (the first number appears in the upper display)



5. - **Sum of the total-altitude-meters upward**
Sub-function of the main-function current altitude. The sum shows (bike 1 and bike 2) all total-altitude-meter lain back until now upward.
Setting Range: 0 - 99999 m (the first number appears in the upper display)



6. - **Maximum altitude**
Sub-function of the main-function current altitude. Shows the highest altitude reached (as well as put in).
Setting Range: -200 - 8200 m



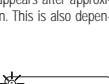
Current ascents / descents

The momentary ascent being ridden is shown as well as the momentary ridden descent in percent. The symbol appears in the display on the left, whether it is an ascent (▲) or a descent (▼).
Setting Range: 0 to 99%



Sub-functions

1. - **Average ascent**
Sub-function of the main-function current ascents / descents. The actual average ascent is shown.
Setting Range: 0 to 99%



2. - **Average descent**

Sub-function of the main-function current ascents / descents. The actual average descent is shown.
Setting Range: 0 to 99%



3. - **Maximum ascent**

Sub-function of the main-function current ascents / descents. The highest ascent is shown.
Setting Range: 0 to 99%



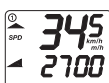
4. - **Maximum descent**

Sub-function of the main-function current ascents / descents. The highest descent is shown.
Setting Range: 0 to 99%



Current gain or loss in altitude (Variometer function)

Shows the current gain in altitude (▲) or loss in altitude (▼) in meters per hour. This function is interesting for mountain-climbers, cyclists, skiers and ski tourists.
Setting Range: 0 to 99900 m/h or ft/h (shown in 100m-steps)



Notice: Due to technical capacities, the correct value appears a few seconds after beginning of the gain or loss in altitude.

Sub-function

1. - **average gain in altitude**
Sub-function of the main-function current gain or loss in altitude. Shows the average amount of altitude gained.
Setting