

# Introduction

Thank you very much for purchasing the CAT EYE OS 1.1.

Read "SETUP GUIDE" first, for the installation and the basic operation of the product. Read this "REFERENCE GUIDE" when you want to know more about the CAT EYE OS 1.1.

## Important

## Warning!

- Do not give excessive attention to the monitor or the data. Always pay attention to the road, traffic and your surroundings.
- Keep this product away from children. If children should use this product, they should have adult supervision.
- Dispose of the used batteries properly. Keep batteries out of children's reach. In case a battery is swallowed, contact a doctor immediately.

## Caution!

- · Avoid dropping or severely jarring the main unit.
- · Avoid exposing the main unit to direct sun light for extended periods of time.
- · Do not disassemble the main unit.
- · Do not apply chemicals (thinner or benzene) to the unit.
- Static electricity could cause a function error, resulting in abnormal display of the data.
- · Periodically check the positions and mounting conditions of the magnet and the sensor.

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# Buttons



See how the four buttons work in the various modes.

# START/STOP button (ENTER)

Normally this button starts and stops timer that effects the other functions like average speed, etc. When measuring, the speed scale icon flashes.

While setting up the unit this button enters and completes each selection.

# MODE button (SELECT: FWD/REV)

Normally this button switches the function of the lower display. In the setting mode this button forwards and reverses among options. The right button is FWD (forward) and the left button is REV (reverse).

#### MENU button

This button is used to bring up the MENU screen, where previously stored data can be reviewed or settings can be changed.

#### RESTART button

This button is used only after replacing the battery or when screen freezes or appears erratic.

#### Reset operation (Resetting the screen data)

Simultaneously press START/STOP/ENTER button and either MODE/SELECT button in order to reset the daily Trip Distance, Average Speed, and Elapsed Time to zero, and the Countdown data to its original setting. Total Distance (Odo) and Clock Time are not effected.

# Measurement icons



- Elapsed Time icon
- 2 Trip Distance icon
- Average Speed icon
- Maximum Speed icon
- Total Distance icon
- 6 Current Speed icon
- Clock Time icon





# Setup (CLEAR ALL DATA)

#### Before first use or to erase all the stored data (Format operation)



FORMAT? •YES NO+ To erase all the data stored in the main unit, carry out the format operation.

1. Hold the unit as shown in the figure.

PRESS AND HOLD the two MODE/SELECT buttons, press and release RESTART button on the back of the OS. CONTINUE HOLDING DOWN the two MODE/SELECT buttons for TWO MORE SECONDS and let go. Now the FORMAT YES/NO prompt will appear.

- 2. Select YES and press ENTER/START/STOP button.
- Caution: Take note that all the data is erased by this operation. If you want to stop the formatting operation, select "NO", and the Clock Time setting screen will appear. Since the clock has already been returned to its initial setting, set only the time.

Once format operation is done, the unit needs to be set up from the first step.



In addition to Quick Setup that is written in the Setup guide, there is Custom setup (see the next page). In the Custom setup, you can select only your favorite functions that you want to use, and you can also choose your preferred font size and input your personal data.

Note: By pressing the two SELECT/ MODE buttons simultaneously you can go back to the next previous screen.



Goes to previous screen

# Setup

## **Custom setup**

To personalize your Cat Eye OS1.1, select YES in Custom setup prompt.





You can change the settings later, using the function settings on the MENU screen. Refer to Pages 9-16.



# **Current Speed**

Current Speed always displays in the upper display. The data is updated once a second. When the font size is 100%. Current Speed appears between Clock Time and Elapsed Time and is indicated by the flashing Spd icon

0.0(3.0)-65.9 mph [0.0(4.0)-105.9 km/h]

# Elapsed Time

This is the ride time from the start to the present and shown in hours, minutes and seconds. Performing a reset operation returns the data to zero. After 9:59'59" the timer will continue counting from 0.00.00.



0.00.01

# 0 00 00 - 9 59 59

Trip Distance

The trip distance from the start to the present time is displayed. Performing a reset operation returns the data to zero.

0.00 - 99999.99 mile [km]



# Average Speed

The average speed from the start to the present time is displayed. Performing a reset operation returns the data to zero. When the trip distance exceeds 99999.99km or the elapsed time exceeds 99:59'59", [ERROR] will appear on the display and calculation of Average Speed will no longer compute. 0.0 - 65.9 mph [0.0 - 105.9 km/h]



# Maximum Speed

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The maximum instantaneous speed from the start to the present time is displayed. Performing a reset operation returns the data to zero. Maximum speed is calculated regardless if the ride timer is on.

0.0(3.0)-65.9 mph [0.0(4.0)-105.9 km/h]



# **Total Distance**

The odometer distance is accumulated continuously. It is not effected by performing a reset operation. Odometer distance is calculated regardless if the ride timer is on.

0.0 - 999999.9 mile [km]

If you push the two MODE buttons simultaneously, the personal distance review screen will be displayed for three seconds.

Per, DST 2185

# Functions (Clock Time, Countdown, Pace arrow, Eco mode, Auto mode)



#### Clock Time

Time is displayed in 12h or 24h mode. If you push the two MODE buttons simultaneously, the date/weekday review screen will be displayed for three seconds.



#### Countdown

When the countdown function is on, the remaining distance or time (whichever you have selected), as compared to the time you started measuring, will be displayed. If the measured distance/time exceeds your setting, a negative value will flash. Resetting returns the countdown to the original setting. If you push the two MODE/SELECT buttons simultaneously while the countdown screen is visible, the screen you did not select will appear for three seconds.

Note: The countdown has been set to "OFF" as a default. This function will appear on the measuring screen only when it is set to "ON" in the function setting process.

\*In the sample screens above and on the previous pages, the digits are shown at 70% and 30% size resectively.

#### Pace arrow



The pace arrow indicates if the current speed is faster or slower than the average speed. If the current speed is equal to the average speed, both arrows appear.

## Eco mode (Sleep mode)



When the main unit is left without receiving any signal for about three minutes, the display goes blank. When any main button is pressed, or the wheel starts again, the screen wakes up and returns to normal display.

#### Auto mode 🕰



When Auto Mode is on, the unit automatically starts/stops measuring functions related to the timer when the wheel is spinning. Im icon comes on. In the default state, Auto Mode is off.

# Functions (Personal data, Battery life)

## Personal data display



On the normal operation screen, if you hold down the two MODE buttons simultaneously for three seconds or longer, the current personal data settings will be displayed for five seconds.

If only a NAME or BIRTHDAY has been entered, only that data will be displayed. If no personal data has been entered, the space will be displayed in blank.

## **Battery life indicator**



If this indicator appears, the battery is beginning to run down. When the battery is consumed further, it begins to flash.

Note: Depending on the environment, the battery life indicator might appear earlier than expected. Use the indicator as a rough standard.

If the display does not become darker even after adjusting the display contrast, it is time to replace the battery.

# **Replacing battery**



**Battery life:** approximately 1 year (if used for 1 hour a day) After replacing the battery, press RESET button on the back of the main unit. (Refer to the restart operation.)

Note: When the battery life indicator starts blinking, it is recommended that the battery be replaced the same day. After replacing the battery, you must reset the time. You do not need to reset the date.

Restart operation (1.When erratic data appears; 2.After replacing battery)



In the following situations, press RESTART button on the back of the main unit.

- · after replacing the battery
- · when pushing the buttons produce no effect, or the screen is frozen.
- Caution: Pressing Restart button erases all Elapsed Time, Trip Distance, Average Speed, Maximum Speed and Clock Time data. After a restart, the clock time setting screen will appear automatically. Be sure to reset the times.

# Menu screen

#### Menu screen

When MENU button is pressed, the screen changes from measuring screens to menu screens.

#### Measuring screen



# Menu screen (Data review)

#### **Data review**

Checks and reviews the accumulated data of the past. Press MENU button again to return to measuring screen. Note: The data of weeklky distance, monthly distance and yearly distance are the accumulated amount of the trip distance (Dst). This accumulated amount is saved when the clock passes midnight. When saved, the digits after the second decimal place are cut off. Therefore, the accumulated amount differs from the data of odometer (Odo).

#### Last ride day data



Maximum speed ever recorded



Yearly distance



Monthly distance



#### Weekly distance



Shows all the data measured in the last ride day (0:00 - 23:59 or midnight to midnight). When the clock passes midnight, the day's data is memorized as the "last ride day data".

To reset the maximum speed ever recorded, simultaneously press START/STOP/ENTER button and either MODE/SELECT button while the maximum speed ever recorded is visible.

Caution: When the maximum speed ever recorded is reset, the maximum speed on the measuring screen is also reset.

> The yearly distance is displayed for the past six years. Press ENTER/START/STOP button and the screen shows the data in the graph format. (Maximum value of the graph: 12000km, Minimum value of the graph: 500km)

> The monthly distance is displayed for one year. Press ENTER/START/STOP button and the screen shows the data in the graph format by six months period. (Maximum value of the graph: 1200km, Minimum value of the graph: 50km)

> A week's trip distance is displayed day by day. Press ENTER/START/STOP button and the screen shows the data in the graph format. (Maximum value of the graph: 5km) 120km, Minimum value of the graph: 5km)

# Function setting

The function setting screens allow you to change various programmed functions. Current settings for each parameter are displayed on the appropriate function setting screen (except for display contrast and personal data).

Pressing ENTER/START/STOP button on a function setting screen brings up the setting change screen. Select numbers or items using SELECT/MODE button, and then press ENTER/START/STOP button in order to return to the function setting screen. To return to the measuring screen, press MENU button.



Goes to previous screen

Note: To return to the previous screen during the setting operation, press the two SE-LECT/MODE buttons simultaneously.

Caution: If you press MENU button in the middle of the setting operation, you will immediately return to the measuring screen, and all unsaved changes will be lost.

## Tire size setting



Inputs two different tire sizes A and B. (A: setup value, B: initial value 2050)

Entering the tire size is simple: to enter the circumference in inches, choose "EASY"; to enter it in millimeters, choose "CUSTOM".

Note: When EASY is chosen, there may be slight errors because of the difference between the actual wheel circumference and the approximation in inches.

## How to set tire size

- A or B ..... Chooses your bike, A or B.
  - Press SELECT/MODE button to select A or B.
  - Press ENTER/START/STOP to decide.
- SIZE ..... Changes the figure of the tire sizes A and B.
  - "EASY" setting: ..... inputs the figure by the inch size 14 inch - 27 inch:

"CUSTOM" setting: ..... inputs the figure by millimeters 10 -9999mm (Refer to Tire Size Calibration Chart in page 16.)

Select a number using SELECT/MODE button, and press ENTER/START/STOP

button to save it.

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# Date setting



Function setting screen

Sets the date. First set the year, then the month, then the day.

It is important to follow this procedure correctly, as previously stored data may be affected.

Select a number using SELECT/MODE button, and press EN-TER/START/STOP button to save it. After the day has been set, the verification screen will appear. Press ENTER/START/STOP button to save the setting.

Note: The date-setting process may take some time if a number of dates need to be shifted. When the process is complete, the "DATE" detail screen will reappear.

Caution: If you reset the date while you are using the unit, previously recorded ride data will become inconsistent. If, in resetting the date, you exceed the display range for the yearly, monthly, or weekly distance graphs, you will not be able to look at past data.

## **Function customizing**



Selects only your favorite functions that you want to use.

When you select Quick setup, all functions will be displayed as a default.

Function setting screen

# How to customize functions

- Select the necessary function using SELECT/MODE button. If you need all of the functions, choose "SELECT ALL".
- Save your selection by pressing ENTER/START/STOP button. The icons of the selected functions will light up at the bottom of the screen.

(You can cancel your selection by pressing the button again.) The settings can be completed only when you select functions.

 To save your function selections, go to "FINISHED" and press ENTER/ START/STOP button.

## **Display contrast setting**



Function setting screen

#### Personal distance



Function setting screen Adjusts the contrast of the screen (right: darker, left: lighter). Move the scale mark using SELECT/MODE button, and press ENTER/START/STOP button to save the new "contrast settings".

**Note:** The darker the display, the higher the battery consumption.

You can input accumulated distance from a different cyclocomputer. Then the total distance starts measuring from that figure. "This is your Personal Distance". Up to six digits can be entered.

#### How to enter personal distance

- 1) Select the first digit using SELECT/MODE button.
- 2) Press ENTER/START/STOP button to move to the next digit.
- When you have entered the last digit, press ENTER/START/STOP button to complete the process.
- Note: You can reset the number by simultaneously pressing START/STOP/ ENTER button and either MODE/SELECT button on the "INPUT" screen.

#### Mode navigation on/off



Function setting screen Shows what is the previous/next function when MODE button is pressed to navigate to a new function. In the default setup, mode navigation is on.



Select "ON" or "OFF" using SELECT/MODE button, and press ENTER/START/STOP button to save your selection.

Note: At initial setting, this function has already been on.

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## Personal data input



You can enter your name and birthday. Name and birthday can be entered separetely. Select NAME or BIRTHDAY using SELECT/MODE button.

## How to enter personal data

Select NAME or BIRTHDAY using SELECT/MODE button.

Entering your name:

Up to 16 letters can be entered.

- Pressing SELECT/MODE button repeartedly runs through the characters A-Z, a-z, 0-9, punctuation marks, space, and k.
- Pressing ENTER/START/STOP button selects the currently visible character, and moves the cursor to the next character.
- 3) When you are finished, navigate to k and press ENTER/START/STOP button. The, the review screen will appear. If the name is 16 characters long, entering the 16th character brings up the review screen automatically.
- Select "YES" on the review screen and press ENTER/START/STOP button to save your name.

Entering your birthday:

- Enter your birth day starting with the month, and press ENTER/START/ STOP button. The review screen will appear.
- Select "YES" on the review screen and press ENTER/START/STOP button to save your birthday.

## **Countdown setting**



Turns the countdown function on and off, and specifies whether distance or time is to be counted down.

#### How to set countdown

ON/OFF ...... Turns the countdown function on or off.

- Press SELECT/MODE button to select "ON" or "OFF".
- Press ENTER/START/STOP button to execute your choice.
- SELECT ...... Selects whether the distance or time figure is to be displayed.
- SETTING ..... Selects whether the distance or time figure is to be counted down.
  - Press SELECT/MODE button to select either "TM" or "DST".
  - Press ENTER/START/STOP button to enter your choice.

3) Enter a value.

The time can be set in the order of second, minute, and hour. Press SELECT/MODE button to select a value, and then press ENTER/START/STOP button to save the value.

- Time setting range: 9.59.59 0 (default: 1.00.00)
- Distance setting range: 999.9 0.0 km (default: 30.0 km)

## Font size setting



Function setting screen

Using SELECT/MODE button, select the size of font that is easiest for you to read, and press ENTER/START/STOP button to save your selection.

Note: When digits exceed the screen size the figures are automatically reduced. In the default figure it is 70:30.

# **Clock time setting**



Function setting screen Sets the clock time. Make your selection using SE-LECT/MODE button, and press ENTER/START/STOP button to save it. When you have selected 12h mode, take note of the AM/PM icon.

Note: When setting the minute, press ENTER/ START/STOP button according to the time tone so that an accurate time setting can be carried out.

## Auto mode

setting screen



When Auto mode is on, the unit automatically starts/stops measuring whenever the computer receives a signal. When this function is on, **D** lights up and START/STOP/ENTER button will not operate.

Select "ON" or "OFF" using SELECT/MODE button, and press ENTER/START/STOP button to save your selection.

Tire Size Calibration Chart (Since these are the standard sizes, they may be different from the actual ones.)

TIRE SIZE	mm	inch	TIRE SIZE	mm	inch	TIRE SIZE	mm	inch	TIRE SIZE	mm	inch
CL	ISTOM	EASY	CL	ISTOM	EASY	CL	ISTOM	EASY	CU	STOM	EASY
12 x 1.75	935		24 x 1-1/4	1905		26 x 1.95	2050		700 x 19C	2080	
14 x 1.50	1020		24 x 1.75	1890	24inch	26 x 2.00	2055		700 x 20C	2086	
14 x 1.75	1055	14inch	24 x 2.00	1925		26 x 2.10	2068		700 x 23C	2096	
16 x 1.50	1185		24 x 2.125	1965		26 x 2.125	2070		700 x 25C	2105	
16 x 1.75	1195	16inch	26 x 7/8	1920		26 x 2.35	2083		700 x 28C	2136	
18 x 1.50	1340		26 x 1(59)	1913		26 x 3.00	2170		700 x 30C	2170	
18 x 1.75	1350	18inch	26 x 1(65)	1952		27 x 1	2145		700 x 32C	2155	
20 x 1.75	1515		26 x 1.25	1953		27 x 1-1/8	2155	27/700	700CTubu	2130	
20 x 1-3/8	1615	20inch	26 x 1-1/8	1970		27 x 1-1/4	2161		700 x 35C	2168	
22 x 1-3/8	1770	22inch	26 x 1-3/8	2068		27 x 1-3/8	2169		700 x 38C	2180	
22 x 1-1/2	1785		26 x 1-1/2	2100	26/650	650 x 35A	2090		700 x 40C	2200	
24 x 1	1753		26 x 1.40	2005		650 x 38A	2125				
24 x 3/4Tu	1785		26 x 1.50	2010		650 x 38B	2105			-	_
24 x 1-1/8	1795	_	26 x 1.75	2023		700 x 18C	2070				

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# Troubleshooting

If a malfunction occurs, check the following items before contacting a dealer for service. Trouble Check items Remedy The FORMAT YES/NO prompt does not appear. Are the two MODE buttons held down firmly? Ensure to hold down the two MODE/SELECT button for two more seconds after pressing and releasing RESTART button. The liquid crystal screen appears dark or there are some dark spots. Was it left for a long time under direct sunlight? It will go back to normal after a few hours once it is out of the sunlight. Data will not be effected. Display response is slow. Was the ambient temperature too low [below 0°C (32°F)]? It will go back to normal when the temperature rises. Data will not be effected. No display Is the computer asleep? Push a button to wake up. Push Restart if buttons do not respond. Computer could be frozen. Is the battery worn out? Replace the battery with a new one (CR2032). After the battery is replaced, be sure to press RE-START button Meaningless display appears. Press RESTART button Current Speed is not working properly. Check if the wire is broken or damaged. Replace the bracket sensor set with a new one Check the clearance between the speed sensor and the magnet. Check if the mark line of the speed sensor and the magnet is aligned. Adjust the positions. Check if there is any object on the contacts of the main unit or the bracket. Clean contact. Main unit is often stained with sweat. Periodically wash it with mild soap and wipe dry. Measurement does not stop even though START/STOP button is pressed. Is the Auto Mode on? When the Auto Mode is on, START/STOP button does not start or stop measurement. Turn the Auto Mode off. (Refer to "Auto mode" in page 16.) The size of the figures on the screen is reduced. When the bigger font size is selected (100%, 70%, 50%), and if the number of digits for trip distance and total distance exceed the maximum number of digits, the size is automatically reduced to fit on the screen The last ride day data is not correct. Is the clock time setting correct? The last ride day data is saved when the clock time passes the midnight. Therefore, if your clock is not correctly set, the data shown will be incorrect. Is the unit measuring?

The last ride day data is not updated unless it newly measures data. (See page 10.)

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## Specifications CAT EYE OS1.1

Displa	y functions		
	Current Speed	0.0(3.	0) - 65.9 mph [0.0(4.0) - 105.9 km/h]
	Elapsed Time	0:00'0	00" - 9:59'59"
	Trip Distance	0.00 -	99999.99 mile [km]
	Average Speed	0.0 - 6	65.9 mph [0.0 - 105.9 km/h]
	Maximum Speed	0.0(3.	0) - 65.9 mph [0.0(4.0) - 105.9 km/h]
	Total Distance	0.0 - 9	999999.9 mile [km]
	Clock Time	0:00 -	23:59 [AM12:00 - PM11:59]
	Countdown	Tm: 9	.59.59 - 59.59, Dst: 999.9 - 999.9 km
	Pace Arrow	Indica	tes if the current speed is higher or lower than the average speed.
Data I	eview function		
	Last Ride Day Data		All the data measured in the last ride day (0:00 - 23:59)
	Maximum speed ever record	led	The maximum speed ever recorded in the past
	Yearly distance		The yearly distance for the past six years
	Monthly distance		The monthly distance for one year
	Weekly distance		A week's trip distance, day by day
Settin	g function		
	Tire size		Two different sized tires, A and B (default: A: EASY=26/650; CUS
			TOM=2096; B: 2050)
	Date		January 1, 2000 - December 31, 2099
	Function customizing		Selects only the preferred functions
	Display contrast		Changes the contrast in eight levels
	Personal distance		Inputs personal total distance and continues to accumulate from that
			figure (maximum figure: 6 digits)
	Mode navigation		Shows the previous/next function
	Personal data		Name and birthday (maximum letters for name: 16 letters)
	Countdown		Shows remaining distance or time, whichever is selected.
	Font size		Chooses the font size of the lower display (4 sizes)
	Clock time		in 12h-mode or 24h-mode
	Auto mode		Starts/stops measuring via speed signal
Contro	ol system		8-bit one-chip microcomputer, crystal oscillator
Displa	iy system		Liquid crystal display (54x31dot plus icon)
Speed	d signal detection system		Noncontact magnetic sensor
Opera	iting temperature range		32°F - 104°F [0°C - 40°C]
Storag	ge temperature range		-4°F - 122°F [-20°C - 50°C]
Applic	able fork diameter		11ø - 36ø
Powe	r supply / battery life		CR2032 x 1 / approx. 1 year (When using 1 hour/day)
Dimer	nsion / weight		2-7/18" x 1-27/32" x 23/32" [62 x 47 x 18 mm] / 1.34 oz [38 g]

Designs and specifications are subject to change without notice, due to modifications or improvements.

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# Optional parts ① Bracket sensor kit [169-9650] ③ Ø ③ Bracket sensor kit (169-9670] ③ Speed sensor kit (169-9670] ③ Speed sensor kit (169-9670] ③ Ø ④ Ø ④ Ø ④ Ø ④ Ø ④ Bracket sensor kit (169-9670] ④ Speed sensor kit (169-9670] ④ Speed sensor kit (169-9670] ④ Ø ④ Ø ④ Ø ④ Ø ● Bracket [169-9660] ④ Bracket [169-9680] ④ Ø ④ Ø ④ Ø ④ Ø ● Ø ④ Ø ● Bracket [169-9680] ● Bracket [169-9680] ● Bracket [169-9680] ● Ø

# **Limited Warranty**

2-Year Warranty for Main Unit Only (Accessories/Attachments and Battery Consumption excluded) If the computer main unit is operating defectively from normal use, the part of the main unit will be repaired or replaced free of charge. The service must be performed by Cat Eye Co., Ltd. Please consult our trouble-shooting page and then a retailer before returning the product to Cat Eye. Pack the main unit carefully with a detailed explanation of the problem and instruction for repair. Please include your name and address clearly on your correspondence. Insurance, handling and transportation charges to our service shall be borne by person desiring service.

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# REGISTRATION

#### CAT EYE Web Site (http://www.cateye.com)

For warranty service you must register your product. Please register your OS1.1 as soon as possible. CAT EYE provides as much technical support as possible by telephone, e-mail and our web site. Please register on-line through our web site, or send the registration card below directly to our Customer Service Department. For registration, please fill in the product's serial number (the 7digits number marked on the back of the main unit).





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U.S. Pat. Nos. 4642606/5904442/Pat. and Design Pat. Pending