

Mobileye 5-Series

# User Manual

*MOBILEYE<sup>®</sup>*  
*560*  
*MOBILEYE<sup>®</sup>*  
*550*

English  
Deutsch  
Français  
Italiano  
Español  
Русский  
日本語  
中文

  
**MOBILEYE<sup>®</sup>**  
Our Vision. Your Safety.™

## **Thank you for choosing Mobileye.**

You have joined thousands of customers in the world, who have also chosen the Mobileye 5-Series systems.

You are now helping to turn our environment into a safer one for drivers, passengers and pedestrians.

Mobileye's User Manual will take you step by step through the functions of the Mobileye 5-Series in the best and most useful way.

For any further information, please contact us at [www.mobileye.com](http://www.mobileye.com)

**Thank you and have a safe drive!**



# User Manual

## Important Safety Information

BEFORE USING THE MOBILEYE 5-SERIES, CAREFULLY READ THE FOLLOWING SAFETY INSTRUCTIONS AND WARNINGS THIS USER MANUAL CONTAINS.

**WARNINGS! THE MOBILEYE 5-SERIES SYSTEMS ARE NOT A SUBSTITUTE FOR SAFE AND ALERT DRIVING.**

**DO NOT ATTEMPT TO CHANGE SETTINGS ON THE MOBILEYE 5-SERIES WHILE DRIVING!**

Do not press any Mobileye 5-Series system buttons before you understand their functionality. By installing the Mobileye 5-Series Advanced Driver Assistance Systems, you will be acknowledging and agreeing to operate the Mobileye 5-Series in accordance with the Safety Instructions and Warnings set forth below. If you do not agree to these terms, please return the Mobileye 5-Series product to your dealer, in its original packing materials, within 30 days of purchase, for a full refund.

- The Mobileye 5-Series Systems are Advanced Driver Assistance Systems which alert drivers to certain potentially dangerous situations. They do not replace any functions drivers would ordinarily perform in driving a motor vehicle, nor do they decrease the need for drivers to stay vigilant and alert in all driving conditions, to conform to all safe driving standards and practices, and to obey all traffic rules and regulations.
- The Mobileye 5-Series Systems are not automated driving systems and do not act as a substitute for any aspect of driver vehicle control or safe driving practices. Drivers are strongly cautioned not to rely on the Mobileye 5-Series as a substitution, to even the slightest degree, for the exercise of due caution in assuring that they are driving safely and avoiding accidents.
- While the Mobileye 5-Series represents a state of the art innovation in machine vision software and other technologies, Mobileye cannot and does not guarantee 100% accuracy in the detection of vehicles, pedestrians, traffic signs, or driving lanes, and does not guarantee therefore the provision of any related audio or visual warnings. In addition, road, weather and other conditions can adversely affect the Mobileye 5-Series systems recognition and response capabilities.
- Accordingly, drivers should not rely on the Mobileye 5-Series to assure their driving safety, but rather should continue to rely on safe driving practices.
- Drivers should exercise caution in using the Mobileye 5-Series Display Unit (available on certain Mobileye 5 models). Always maintain full concentration on the road at all times including while looking at the Mobileye 5-Series display.

Every effort has been made to ensure the accuracy of all information in this User Manual. However, Mobileye Technologies Limited makes no expressed or implied warranty or representation based on the enclosed information. Mobileye Technologies Limited reserves the rights to alter the equipment specifications and descriptions in this publication without prior notice. Any errors or omissions may be reported to Technical Support, Mobileye Technologies Limited.

Email: [support@mobileye.com](mailto:support@mobileye.com)

## Installation and Safety Instructions

- The Mobileye 5-Series installation must be carried out by an authorized Mobileye dealer or installer.
- The Mobileye 5-Series should not be transferred between vehicles, other than by an authorized Mobileye dealer or installer.
- The Mobileye 5-Series should only be operated with 12VDC–24VDC power.
- Do not cover or obstruct the Camera Unit or the Mobileye 5-Series Display and Control Unit.
- Do not use the Mobileye 5-Series for any purpose other than described in this User Manual.

# Turning on the Mobileye 5-Series

The Mobileye 5-Series is activated automatically when you start your car.

Following system initialization, the Mobileye 560 EyeWatch Display Unit shows this screen.

The system will now start accompanying your driving, and will warn you of potential dangers.

**IMPORTANT NOTE:** To prevent possible degradation in system accuracy, do not remove or tamper with the Camera Unit or the Windshield Mount. **CAUTION:** The Camera Unit can heat up during operation. Refrain from touching the Camera Unit during or immediately after operation.



## Alert Types

The Mobileye 5-Series are Advanced Driver Assistance Systems that supply the following alerts:

### Mobileye Forward Collision Warning (FCW)

#### HOW DOES MOBILEYE FCW WORK?

Mobileye FCW alerts you up to 2.7 seconds before a possible collision with the vehicle ahead of you.

#### WHEN IS MOBILEYE FCW OPERATIONAL?

Mobileye FCW is always operational when the system is turned on.

#### MOBILEYE FCW AUDIO ALERT

A series of loud, high-pitched sounds.

#### MOBILEYE FCW VISUAL ALERT

A red, flashing car icon shown on the EyeWatch Display.



The FCW alert will also be displayed on Mobileye's 560/550 Smartphone application\*.

## Mobileye Urban Forward Collision Warning (UFCW)

### HOW DOES MOBILEYE UFCW WORK?

Mobileye UFCW alerts you before a possible low speed collision with the vehicle ahead of you.

Mobileye UFCW may also act as a “virtual bumper” (VB) to warn you prior to zero speed collision with the vehicle in front of you.

### WHEN IS MOBILEYE UFCW OPERATIONAL?

Mobileye UFCW is operational from 0 speed to 30 km/h (18.6 mph).

### MOBILEYE UFCW AUDIO ALERT

A series of loud, short high-pitched sounds.

### MOBILEYE UFCW VISUAL ALERT

A red, flashing car icon shown on the EyeWatch Display.



The UFCW alert will also be displayed on Mobileye's 560/550 Smartphone application\*.

**NOTE: Mobileye Forward Collision Warning and Mobileye Urban Forward Collision Warning cannot be disabled or muted. However, if the system is turned off, NO WARNINGS will be issued. Virtual Bumper sensitivity can be modified according to driver preference.**

## Mobileye Pedestrian Collision Warning (PCW)

### HOW DOES MOBILEYE PCW WORK?

Mobileye PCW alerts you to a possible collision with a pedestrian ahead of you.

### WHEN IS MOBILEYE PCW OPERATIONAL?

**Daytime:** Mobileye PCW is operational from a speed of 1 km/h (0.621 mph) to a speed of 50 km/h (31 mph). **Night-time:** Not operational.

### MOBILEYE PCW AUDIO ALERT

A series of loud, high-pitched sounds.

### MOBILEYE PCW VISUAL ALERT

A red, flashing pedestrian icon shown on the EyeWatch Display. A red pedestrian icon flashing with no audio alert indicates that there is a pedestrian in the vehicle's danger zone.



The PCW alert will also be displayed on Mobileye's 560/550 Smartphone application\*.

**NOTE:** This feature is available only in certain geographical areas.

## Mobileye Lane Departure Warning (LDW)

### HOW DOES MOBILEYE LDW WORK?

Mobileye LDW alerts you when you unintentionally begin to depart from your lane. If you signal when moving between lanes, an alert is not generated.

### WHEN IS MOBILEYE LDW FUNCTIONAL?

Mobileye LDW is active at speeds greater than 55 km/h (34 mph).

### MOBILEYE LDW AUDIO ALERT

A series of sharp warning beeps of short duration.

### MOBILEYE LDW VISUAL ALERT

The right or left deviation alert indicator flashes on the EyeWatch display.

### MOBILEYE LDW WILL NOT ISSUE ALERTS WHEN

- Lanes are unmarked or poorly marked.
- Driving speed is lower than 55 km/h (34 mph).
- Turn Indicators (blinkers) are being used.
- Mobileye LDW has been disabled by setting the sensitivity level to "0" (LDW OFF).
- A sharp turn is made.
- The system has been muted.



The LDW alert will also be displayed on Mobileye's 560/550 Smartphone application\*.

## Mobileye Headway Monitoring and Warning (HMW)

### HOW DOES MOBILEYE HMW WORK?

Mobileye HMW displays your headway in relation to the vehicle in front of you. If you get closer than a set distance (calculated in seconds), it alerts you to the danger.

### MOBILEYE HMW AUDIO ALERT

A single chime when headway is equal to or lower than the predefined headway time threshold.

### MOBILEYE HMW VISUAL ALERT

**NOTICE:** The green car icon is displayed from the moment a vehicle is detected, and as long as the headway is greater than the predefined headway time threshold.

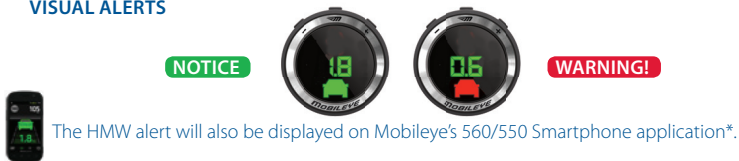
**WARNING!** The car icon changes to red when the headway is less than 0.6 seconds or when the headway is equal to or lower than the predefined headway time threshold.

### WHEN IS MOBILEYE HMW FUNCTIONAL?

A car icon is shown whenever a vehicle is detected traveling in front of you. The numerical headway display and the audio alert are operational only at speeds greater than 30 km/h (19 mph).

## THE DISTANCE METER

The numerical display indicates the distance to the vehicle in front of you in seconds.  
**VISUAL ALERTS**



**Mobileye HMW will not issue audio warnings when the system has been muted**

### **WARNING!**

- Setting the timing of the headway alert to a low value will activate the alert when vehicles are very close.
- You, the driver, are always solely responsible for maintaining a safe driving distance from vehicles ahead, regardless of Mobileye 5-Series warnings or lack of them.

## Additional Features

### Mobileye Intelligent High-Beam Control (IHC)

#### HOW DOES MOBILEYE IHC WORK?

Mobileye Intelligent High-Beam Control controls a vehicle's driving lights by automatically switching them from low beam to high beam on dark roads without nearby traffic.

#### WHEN IS MOBILEYE IHC FUNCTIONAL?

Mobileye IHC is active at night, on dark roads (with no street lights), without nearby traffic.

Mobileye IHC is active at speeds greater than 35 km/h (21 mph).

Mobileye IHC is active only if enabled.

#### MOBILEYE IHC WILL NOT SWITCH TO HIGH BEAMS WHEN:

- Another vehicle's tail lights are detected in front of your vehicle at a distance of less than 400 meters.
- There is an oncoming vehicle at a distance of less than 800 meters.
- Your vehicle enters a well-lit area, or street lights are detected.



IHC active



The IHC icon will also be displayed on Mobileye's 560/550 Smartphone application\*.

#### **IMPORTANT NOTES:**

1. Mobileye IHC is available only on selected vehicle models.
2. Mobileye IHC is available only if activated during system installation.
3. Mobileye IHC is available only in certain geographical areas.



IHC enabled

## Mobileye Speed Limit Indication (SLI)

Detects and classifies various speed signs and notifies the driver if the vehicle's speed exceeds the allowed speed detected on the sign.\*



Speed limit Indication (SLI) is available only via Mobileye Smartphone application.



## Mobileye Traffic Sign Recognition (TSR)

Detects and classifies various traffic signs and notifies the driver of such signs.\*








Traffic Sign Recognition (TSR) is available only via Mobileye Smartphone application.



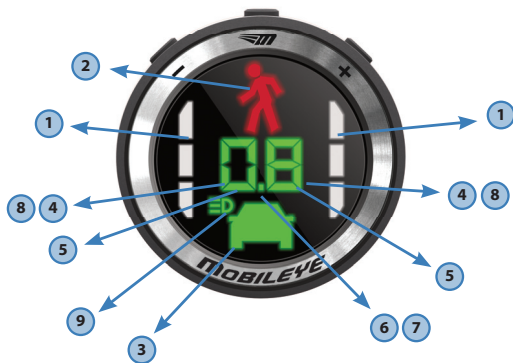
Mobileye SLI/TSR is available only in certain geographical areas.

\* For further information regarding the Mobileye Smartphone application, please visit [www.mobileye.com/mobilapp](http://www.mobileye.com/mobilapp)

## Mobileye 5 – Series Features

System/ Feature	 Eyewatch Display	 Bluetooth™	 FCW UDW LDW PCW HMW	 IHC	 SLI / TSR
Mobileye 560	●	●	●	●	●
Mobileye 550		●	●	●	●





**1. LEFT/RIGHT DEVIATION ALERT**

When a Lane Departure Warning is sounded, the left or right deviation alert indicator will flash for 0.7 seconds.

**2. PEDESTRIAN ICON**

Displayed only when a pedestrian or bicycle are detected ahead of you in the same lane.

**3. HEADWAY VISUAL ALERT (CAR ICON)**

Displayed only when a vehicle in the same lane is detected ahead of you. Colored green or red according to safe or unsafe headway.

**4. HEADWAY-DISTANCE METER**

A two-digit number that displays your headway (in seconds) from the vehicle ahead. Only values of 2.5 headway seconds or less are displayed.

**5. ZERO SPEED INDICATION**

When the ego speed of the vehicle is zero, the two bottom lines of the two digits are turned on (thus, indicating zero speed).

**6. SYSTEM ON**

Indicated by a green dot.

**7. MUTE**

Indicated by a flashing green dot between the two digits of the headway figure.

**8. LOW VISIBILITY INDICATION**

Dimming of the numerical display (headway distance meter). Displayed during low visibility conditions (bad weather, direct sunlight, dirt on windshield, etc). The Mobileye 5-Series continue to work but there may be degradation in detection ability. If low visibility persists, check for possible camera obstructions (dirt, humidity, ect).

**9. IHC INDICATION**

Green icon means Mobileye IHC is enabled. Blue icon means Mobileye IHC is active.

## Camera Buttons

### Turning the Mobileye 5-Series systems OFF/ON

Press and hold the center button on the camera (o).

### Volume Control

Press the (-) button repeatedly to decrease volume; press the (+) button repeatedly to increase volume. There are 6 volume levels (0-5). Note: When the volume is set to zero, the Mobileye LDW and Mobileye HMW sounds are disabled, but Mobileye FCW sound volume will default to level "3".

## Control Panel (available in the Mobileye 560 system)

Please note that the EyeWatch menu button will be disabled as long as the vehicle's speed is greater than 0, to prevent the driver from changing system settings while driving. The volume settings are always enabled, regardless of the vehicle's speed.


### Mode Selection

#### Turning the Mobileye 560 system OFF/ON


**Turning OFF:** Press the () button until the EyeWatch Display turns off.

**Turning ON:** Press any button.


#### Changing the EyeWatch Display's Brightness Level:

- Press () once. All the display icons will appear.
- Press the (-) (+) buttons to decrease or increase the brightness level.
- There are 5 available levels (1-5). Mobileye 560 automatically adjusts brightness levels for day and night.

#### Changing the Headway Warning Timing:

- Press () twice. A red car icon will appear.
- Press (-) to decrease the headway-warning timing; press (+) to increase it.
- Available levels: **0.1-2.5**

#### Changing Mobileye LDW Sensitivity:

- Press () 3 times. The right and left lane icons will appear.
- Press (-) to decrease Mobileye LDW sensitivity; press (+) to increase it.
- There are 3 available levels (**0-2**)


### CAUTIONS:

- If you set Mobileye LDW sensitivity to "0", it will disable LDW alerts.
- To enable Mobileye LDW alerts, make sure the Mobileye LDW sensitivity level is set to either level 1 or 2.

### Changing Mobileye PCW Sensitivity:

- Press the () 4 times. The pedestrian red icon will appear.
- Press the (-) to decrease the Mobileye PCW sensitivity, or press (+) to increase it. There are 3 available levels (**0-2**).

### Enabling and disabling Mobileye IHC:

- Press () 5 times. The IHC green icon will appear.
- Press (+) to activate Mobileye IHC; press (-) to deactivate it. There are 2 available modes: Level 0 means Mobileye IHC is off; Level 1 means Mobileye IHC is on.

### Volume Control

Press the (-) button repeatedly to decrease volume; press the (+) button repeatedly to increase volume. There are 6 volume levels (**0-5**).

Note: When the volume is set to zero, the Mobileye LDW and Mobileye HMW sounds are disabled, but Mobileye FCW sound volume will default to level **"3"**.

### Mute

**Option 1:** Set volume level to **"0"**, from the EyeWatch Display.

**Option 2:** Press and hold the (-) button on the EyeWatch Display for 1.5 seconds.

To exit Mute, press (+).

Note: The mute mode will be active until the system is turned off. Following system initialization, the system will return to the preset volume.

### Virtual Bumper Sensitivity (VB)

To change the Virtual Bumper sensitivity, press and hold the (+) button, and then press the (-) button for 1.5 seconds. A red car icon will start flashing and the numerical display will light. Press (-) to decrease VB sensitivity, or press (+) to increase it. VB sensitivity is limited to distances between 1 meter and 2 meters.



The settings control panel is also available in Mobileye's 560/550 Smartphone application (for further information please see the application user manual online at [www.mobileye.com/mobilapp](http://www.mobileye.com/mobilapp)).

## Pairing your Smartphone with Mobileye 560/550

**PLEASE NOTE: Pairing process may vary between different Smartphone devices. For specific device instructions please follow your Smartphone device user manual.**

The pairing process is required only once. After your Smartphone has been paired with the Mobileye 560/550 system, it will automatically connect to the Mobileye 560/550 system every time you use the Mobileye Smartphone application.

The Mobileye 5-Series can be paired with up to 8 different Smartphone devices (one Smartphone connected at a time).

### The pairing process

- Go to your Smartphone device Bluetooth settings screen and search for "new device".
- Turn on your vehicle ignition key to power up the Mobileye 560/550 system. In a few seconds, your Smartphone device should find a device called "Mobileye 5 BTM".
- Use your device settings to pair with the Mobileye 560/550 system.
- When asked for the pass key, enter "1234". Your Smartphone should now be paired to the Mobileye 560/550 system.

**NOTE: Pairing new Smartphone to the Mobileye 560/550 system is possible only during the first two minutes after the system has been powered up.**

If you fail to pair your device during the first two minutes, you should power cycle the system by turning off and on your vehicle ignition key. After your Smartphone has been paired to the Mobileye 560/550 system, you can proceed to download and install the Mobileye Smartphone application.

The Mobileye Smartphone application download page is located at:  
[www.mobileye.com/mobilapp](http://www.mobileye.com/mobilapp)



### System Limitations

1. The Mobileye 5-series systems are intended for paved roads with lanes that are clearly marked.
2. The Mobileye 5-series systems cannot "see" better than the driver. It is the driver's responsibility to be alert and aware at all times, and to depend on his or her eyesight and hearing when driving.
3. The Mobileye 5-series systems detect fully visible rear ends of vehicles. Therefore, crossing, oncoming and passing vehicles cannot be detected.
4. The Mobileye 5-series systems do not guarantee 100% accuracy in detecting vehicles, pedestrians or driving lanes, or in providing warnings for all potential road hazards. In addition, road, weather and other conditions can adversely affect the Mobileye 5-series systems' recognition and response capabilities. Any conditions that create partial or full blockage of the camera's view will result in no or reduced functionality of the Mobileye 5-series systems. Always ensure that the camera has a clear field of view.

## License and Warranties

### LIMITED USE LICENSE

The software embedded in this Mobileye product is the proprietary of Mobileye. The purchaser is granted solely with a non-exclusive license to use the software as provided by Mobileye, and shall not: (a) modify, adapt, alter, translate, or create derivative works from any software residing in or provided by Mobileye in conjunction with this Mobileye product, (b) reverse assemble, decompile, disassemble, or otherwise attempt to derive the source code for such software (c) assign, sublicense, lease, rent, loan, transfer, disclose, or otherwise make available such software, or (d) remove proprietary notices on product or its accompanying documentation.

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### IF WARRANTY SERVICE IS NEEDED

The following procedure is to be followed if a problem arises with this Mobileye product:

1. Contact the distributor of which this Mobileye product was purchased from.
2. Contact Mobileye if this Mobileye product was purchased directly from Mobileye. All Mobileye products must be returned to Mobileye with prepaid freight. A return authorization number is required and may be obtained by contacting our Customer Service Dept.