

# **LDWS**

# HUD User Manual

We believe safety is the only way home.

2012.12

### Contents

۷.	Functions	.6
3.	Products appearance	.7
4.	HUD fundamental operating illustration	.8
5.	Product setting table	.9
6.	Product descriptions	.11
7.	Product setting	.17
8.	Installation of CCD camera	.22
9.	System setup standard	.33
10.	System diagram	.37
<b>X</b> Our	Company keep the rights of modifying accessories, wire stock, appearance, and color of this product.(Product stands	s on content)

General safety cautions......4

### Introduction

- This LDWS system is designed to warn the driver as soon as the vehicle get too close to a lane
  line or has an abnormal lane departure when driving at a high speed.
- Abnormal lane departure means the change of lane without making a turn signal or the vehicle is driven at an improper distance from the marking line.
- In this product, it is available to adjust the alert start speed as well as the alert distance of vehicle from the marking lines on both sides as required by the driver.

#### Warning

To prevent occurrence of any accident, do not over-depend on the LDWS system to order to prevent severe injury or death; always drive carefully and concentrated. Your driving habit, which should be safe, concentrated, responsible and passenger protecting is the best way to prevent accident. Driver should always be careful and notice the road and traffic conditions when using this LDWS system, please read the instructions carefully before operating the LDWS system.

# **General Safety Cautions**

#### 1. Make sure to follow the operating manual in setting and installation

For functional setting of this product, please refer to the instructions and the installation manual.

#### 2. Please keep the product and camera clean

Make sure the camera is installed at the right place, keep the camera and windshield clean, use the cleaning tools and articles that have no damage of the lens or are specialized for cleaning the lens.

#### 3. Do not disassemble any parts by yourself

Never remove the housing or panel of computer main and any mechanism of camera to avoid damage of dampness or static; for any unauthorized disassembling or damage, we shall be free from warranty and safety liability.

4. The factors that may affect correct detection: (The system will enter standby automatically)

The system is designed to give warning by processing the image data from the camera on the windshield,

#### and detection correctness of LDWS system may be affected in the follow case:

- (1) The water, dust or snow raised by the running vehicle in the front.
- (2) Leaning of vehicle head due to overload in trunk or on backseat.
- (3) Dazzle results from strong vehicle light or road light on the road that is too wet or with puddle.
- (4) Entering and exiting ramps, roads junctions, narrow road, and area with complicated marking lines.
- (5) The severe environments (heavy rain, thick fog, storm snow, sand storm and strong direct sunlight).
- (6) Road under construction (with marking lines broken, incomplete, messy, light-colored, and inexplicit).
- (7) Intentional risky driving and abnormal driving (any driving behavior that breaks safe driving regulations or is abnormal), for example:
  - A. Approaching to front vehicle too fast or failure to keep proper distance from the front vehicle.
  - B. Failure to drive within lane properly.
  - C. Driving past sharp turn or Y-turn too fast.
- (8) As there may be interference between the machine and other high frequency radio products (E.g. GPS antenna), it is recommended to install the machine at least 60 cm away from other products.
- (9) Camera shall be installed in the right center of windshield at an adequate height, in cased it is interfered by ETC main, please move the ETC to other place as adequate to assure the precision of the system.

PS: ETC is not necessary to be located in the absolute center to work normally.

### **Functions**

- 1.Starting speed: setting of LDWS system starting speed adaptable for different categories of road (Default as 70km/hr).
- 2.Setting of sensitivity: setting of vehicle's sensitivity to lane marking line adaptable for different width of roads to set up warning distance as adequate.
- 3. Memory mode is applied for power on/off and volume of warning sound, and setting prior to shutdown will be continued.
- 4. HUD look-up display enable you to see the vehicle speed without looking down.

#### Warning

To protect your safety and keep your vehicle in optimal condition, do not use the LDWS system when the traffic is heavy, or the road is changeable, slippery or with fierce wind.

# **Products Appearance**

### 1.HUD



### 2. LDWS



# **HUD Fundamental Operating Illustration**

- 1.Press button 2sec to enter setting, it can turn off LDWS or FCWS function either, but it will keep warning light function.
- 2.Press button 2sec to enter setting, it can be save or setting other, please see detail for setting.
- ▲ 1. Be able to turn the volume UP when setting.
  - 2. Kilometer/ mile unit exhibition switching.
- 1. Be able to enter setting options and turn the volume down when setting.
  - 2. Switch voltage exhibition mode.

# **Product Setting Table**

	Display Mode	Setup step			_		
No.		Mode	<b>(</b>		<b>A</b>	▼	Reference
1	O IH a.	start		press 2s enter	up	down	Page 17
		driving		system, after adjust,			
		speed		press again to save			
		setting		and exit			
	85H ª *	Learning		press 2s enter	up	down	Page 17
		setting of	press 😃	system, after adjust,			
2		speed	1times to 02H	press again to save			
		signals	Tunies to 02H	and exit			
	03H # .	press <b>(U</b> ) press	press 2s enter				
		RIO value	press	system, after adjust,	ир	down	Page 18
3		setting	2times to 03H	press again to save			
				and exit			
				press 2s enter			
4	очн в	learning of	press 😃	system, after adjust,	ир	down	Page 18
4		turn signals	3times to 04H	press again to save			
			Stillles to 04H	and exit			
5	osh a.	sensitivity		press 2s enter	l lin	up down	Page 19
		for sideline	press 😃	system, after adjust,			
		in the right	4times to 05H	press again to save	ир		
		in the right	4tilles to 05h	and exit			

6	06H 8	sensitivity for sideline in the left	press <b>5</b>	press 2s enter system, after adjust, press again to save	up	down	Page 19
		switch for	press	and exit press 2s enter			
7	פוארם,	over-speed warning	6times to 07H	system, after adjust, press again to save and exit	up	down	Page 20
8	08н в.	Setting of warning speed	press <b>(b)</b> 7times to 08H	press 2s enter system, after adjust, press again to save and exit	up	down	Page 20
9	09н в.	full-time lane departure warning	press <b>4</b> 8times to 09H	press 2s enter system, after adjust, press again to save and exit	up	down	Page 21
10	10H a.	Reset to default	press <b>4</b> 9times to 10H	press 2s enter system, after adjust, press again to save and exit	press  denter setup	press ▲ &  ▼ at the  same time  over 4s	Page 21

### **Product Descriptions**

LDWS連線狀 LDWS line indicator 態指示燈

Speed bar chart display, red as defined max. speed

速度長條圖顯示,紅色為已設定的超速車速最大值



#### 1.Speed display:

It could immediately exhibit driving speed, and project driving speed on the glass of front window. •



#### 2. Over speed display:

The picture immediately exhibit the value up to speeding, it could project the driving speed on the glass of front window. The speed reach to red color means that exceeded the limit of speed.



#### 3. Over speed warning:

The km warning light turned on and issued warning voice twice to remain the customers when driving speed exceeded the limit. If the driving speed is not lower than setting values for 5 km/hr, there will be no issue any more when exceeding setting values again.



#### 4. Voltage display:

Click ▲ to display the current value of voltage and the Volt diagram will be lit on simultaneously; if no mode is changed 10s after voltage display, then it returns to display of vehicle speed.



The icon will be contiguously turned on when the voltage lower than 11.7V; and the icon will be turned off until the voltage higher than 11.7V. When the voltage shows low in voltage exhibition mode, the "volt" sign become red icolor, and become green color until the voltage higher than 11.7V.

#### 5. Lane Exhibition:

The lane departure system will be started when the driving speed exceeded the setting values, and show the detected lane lines with green color on the screen until no more detecting:



#### 6. Lane Departure Warning:

The screen will exhibit the lane which is deviating when the lane departure system started and there was deviated lane. Also, it shows the deviated side with red color and issues warning voice for 0.1 second on and 0.1 second off, until cars return to a normal position on the lane.



#### 7. In-Vehicle Recorder State Exhibition:

In the devices with in-vehicle recorder, the warning light will be contiguously turned on or glitter when the in-vehicle recorder stops recording or the SD card was not inserted to place.



#### 8. Modes switch:

Press button 2sec, it can change to function modes than press 2sec again back to normal modes.

#### 9. Memorial Functionality:

The program can remember the mode and setting before power off.

#### 10. Automatic Light Adjusting

The system could automatically detect the light both in the day and in the night, and reduce the brightness of LED in the night to avoid harsh light hurt eyes.

#### 11. Volume Adjusting:

Before shutting down and under setting mode, press 08H can adjust volume, The buzzer will issue current volume at the same time, stop pressing until adjusting to suitable volume.

#### 12. Kilometer/ mile switching:

Under non-setting mode, press ▲ button to switch kilometer/ mile, the original Km sign will turn off and exhibit.

# **Product setting**

#### 1. Enter system to start driving speed setting:

Press button for two seconds to enter setting (setting exhibition turns on). After exhibit 01H, press ▲ button could show current driving speed value. Press ▼ button each time to reduce 10 km/hr, and adjust to the speed which need to start LDWS system. Press button to escape this setting item and continue other setting items. After accomplishing all of the setting items, press button for two seconds to save setting and leave setting mode.

#### 2. Learning setting of speed signals:

Press and hold for 2s to enter setting(Setting indicator on), press to select 02H before pressing to enter setting, when spd is displayed on the controller, keep vehicle speed at 30km/hr, and press to access it as the speed suitable for the vehicle, press and hold for 2s after setting to save the setting and exit setting mode.

Exit setting mode to save the setting before finishing the setting.

#### 3. RIO value setting (Camera):

Press and hold for 2s to enter setting(Setting indicator on), press to select 03H before pressing ▲ to enter setting, press ▲ to increase and ▼ to reduce the value between 0~150 (by 5/press), the identifying area of camera is defined with the ladder-shaped area formed by the right and left lane lines and upper and lower reference lines, which is applicable for different vehicles, then press to exit for other settings, upon finishing all the settings, press and hold 2s for to save the setting and exit setting mode.

#### 4. The setting for the learning of turn signals (high level signal/ low level signal):

Press button for two seconds to enter setting (setting exhibition turns on). After, press button to select 03H and then press button to enter setting. Then, press button is the switching level of turn signals. Each pressing will exhibit 01:HI or 00:LO to offer adjust for users (PS: This step was suggested that process after adjusting the high/Low levels of turn signals judged via professions). After, press button to escape this setting. Accomplish all of the setting, press button for two seconds to save setting and leave setting mode.

#### 5. Setting of sensitivity for sideline in the right:

Press and hold for 2s to enter setting(Setting indicator on), press to select 05H before pressing  $\blacktriangle$  to enter setting, press  $\blacktriangle$  to increase and  $\blacktriangledown$  to reduce the value between 40~100 by 5/press (The higher the value, the higher the sensitivity is). This mode could be used to adjust the sensitivity of warning distance between the vehicle and the sideline in the right according to different vehicle types or driving demands, then press  $\blacktriangle$  to exit for other settings, upon finishing all the settings, press and hold for 2s to save the setting and exit setting mode.

#### 6. Setting of sensitivity for sideline in the left:

Press and hold for 2s to enter setting(Setting indicator on), press to select 05H before pressing  $\blacktriangle$  to enter setting, press  $\blacktriangle$  to increase and  $\blacktriangledown$  to reduce the value between 40~100 by 5/press (The higher the value, the higher the sensitivity is). This mode could be used to adjust the sensitivity of warning distance between the vehicle and the sideline in the left according to different vehicle types or driving demands, then press  $\blacktriangle$  to exit for other settings, upon finishing all the settings, press and hold for 2s to save the setting and exit setting mode.

#### 7. Setting of switch for over-speed warning:

Press and hold for 2s to enter setting(Setting indicator on), press to select 07H before pressing to enter setting. This mode could be used to switch on or off the warning function of over-speed according to different driving demands; press with 0000 to turn off the over-speed warning function, and 0001 to turn on the function, then press to exit for other settings, upon finishing all the settings, press and hold for 2s to save the setting and exit setting mode.

#### 8. Setting of warning speed:

Press and hold for 2s to enter setting(Setting indicator on), press to select 08H before pressing ▲ to enter setting. This mode could be used to change the warning speed, which could be operated by pressing ▲ to increase and ▼ to reduce the value between 60~140 by 5/press according to different driving demands; then press to exit for other settings, upon finishing all the settings, press and hold for 2s to save the setting and exit setting mode.

#### 9. Setting of full-time lane departure warning:

Press and hold for 2s to enter setting(Setting indicator on), press to select 09H before pressing to enter setting. This mode could be used to switch on or off the function of full-time lane departure warning by pressing to 0000 or to 0001; then press to back to select menu; upon finishing all the settings, press and hold for 2s to save the setting and exit setting mode.

#### 10. Reset to default:

Press and hold for 2s to enter setting(Setting indicator on), press to select 10H before pressing ▲ to enter setting, now all the menus are off, then press and hold ▼ for 4s, the buzzer buzzes for a second and default is reset.

#### 11. Memory of default setting:

Within 5s after the machine is fully on, press and hold  $\nabla$ ,  $\triangle$  and simultaneously until a beep is heard and the system turned off to freeze the function of 02H, 03H, 04H, 05H, 06H and 09H.