

HUDOBD2 USER GUIDE

1. Introduction

The HUD is a sport version multi-function head up display, it provides an accurate time and travel speed computing to test vehicle performances and it is also a powerful tool to provide important vehicle information to enhance safer driving. This information includes of Vehicle Speed, Engine RPM, Fuel Consumption Rate, Engine Loading, Battery Voltage, Engine coolant temperature and Throttle position ratio. According to display mode selected to display data or automatically alarm once there is abnormal event. Over Speed, Low Battery Voltage, and Over Coolant Temperature will trigger a warning immediately to alert the driver.

2. Accessories included

- HUD x 1
- OBD Cable x 1
- Velcro x 2
- Film x 1
- Guide x 1

3. HUD Appearance



4. Installation

- Stop and turn off engine completely
- The OBD socket of your vehicle is usually located under dashboard, please find it out and plug OBD cable of HUD.
- Mini USB cable connects to the HUD
- There are two methods for pairing car protocol.
 - Automatic learning mode: When the HUD starts flashing a frame at the same time to press the function key and the setting key for about 15 seconds or until the HUD goes out then lights up, the HUD will remove the old memory to start learning the new cars' protocol.
 - Manual learning mode: Please refer to "8. Manual setup."



Note:

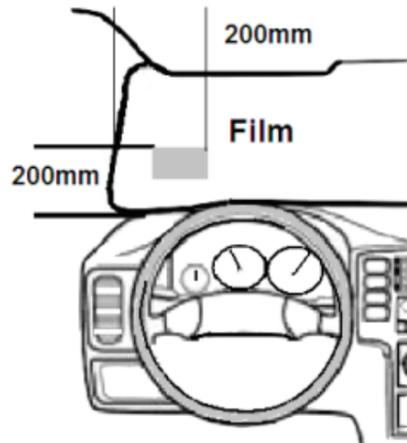
Connecting should take no longer than 600 seconds. If connection time is over 300 seconds it will turn off the display, more than 600 seconds, the unit will enter sleep mode. If the HUD can not connect successfully, set the HUD to reboot and repeat steps 4.4 to continue, or switch to manual learning. Your HUD supports ISO9141, KWP 2000, CAN BUS vehicles.

- If the HUD fails to connect to the vehicle, it means the vehicle's protocol is not OBD2 or EOBD standard. Either way, please contact with us for assistance.
- After successful connection, HUD will display speed as "0".
 - Restart the engine.
 - After successful connection, Velcro adhered to the HUD backside and then fix it in the dashboard appropriate location.
 - Ensure OBD cable is fixed.



5. Reflective film Installation

- Use desired cleaner to clean inside of windshield
- Place film accordingly



6. Functions Description

SPD	Speed: Numeric display shows current vehicle speed, when this icon light up.
RPM	Engine speed: Numeric display shows current Engine revolutions per minute (RPM/10) when this icon light up.
KPL	Fuel Consumption Rate: Numeric display indicates fuel consumption rate (in Km per liter), when this icon lit. <i>NOTE: Some vehicles have not support.</i>
	Engine loading ratio : Total there are 5 scales to indicate instantaneous engine loading. Green means light loading.
	Over Speed Warning: When vehicle speed exceed preset speed limit, the HUD will light icon up with sound warn to remind driver speed down. When vehicle speed is lower than preset speed limit, the icon will automatically turn off. If vehicle stop and the icon lit, it means that infrared function is disabled. (note: Infrared is optional).
	Battery power: The function can display battery voltage and alert battery low. When battery power is lower than 12.0V, the icon lit, please check the battery or generator.
	Engine Coolant Temperature: Numeric display shows engine coolant temperature when this lamp light up.
	Throttle Position Ratio: Numeric display shows throttle position ratio (0~100%) when this icon light up.

	To display the mass of air entering a fuel-injected internal combustion engine. (Multiply 10)
	Test acceleration 0 ~ 100 KM / HR time
	Test 0 ~ 100,200,300,400 M of
	Indicate 100,200,300,400 M acceleration test model and result.

7. Operation

Press the Function Key continuously, HUD will sequentially display the features, to use the Setting Key to enable the function.

7.1 Feature List:

Function	Operation Description
Vehicle Speed	SPD lit , shows current vehicle speed (Km/h or Mile/h)
Engine Speed	RPM lit , shows current Engine revolutions per minute (RPM/10)
Fuel	lit , shows fuel consumption rate in KMs per liter
Throttle	lit , shows throttle position ratio (0~100%).
Engine Coolant Temperature	lit , shows engine coolant temperature (M). At other features shown, if this icon lit, representing the engine temperature is too high, you had better check the engine coolant system.
Battery Voltage	lit , shows battery voltage (Volt) 。 If the engine does not start (only ACC ON), the display value is the battery voltage, typically 12 ~ 13V. If the engine starts, the generator has run, the display value is the charging voltage, then the voltage normally exceeding 13V. At other features in the display, if this icon lit, representing the battery voltage falls below 12.0V, please check.
Engine Loading	Consists of five lights, each light is 20%. Engine instant fuel consumption (0 to 100%) depending on the number of lights, green light said fuel saving, red light indicates fuel consumption large.
Speeding Alert Setting	lit , displays the current speed setting value. If this icon is illuminated when vehicle parking, this indicates the infrared feature has been canceled. (IR is optional), detailed operation reference section 7-2.
Speed display Adjustment	lit, to adjust the HUD speed display to match dashboard , detailed operation reference section 7-3.

Infrared (Optional)	lit , to select infrared ON/OFF. When the infrared is turned on,during vehicle moving, the speeding alarm threshold can be set free.
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7.2 How to set the speed limit:

- by Key Operation :
 - Press Function Key till lit
 - indicate current setting.
 - Pressing Setting key to enter Speed Limit Setting Mode flashing.
 - Keep press Function Key to change threshold: 0(Disable) → 50 → 60 → 70 → 80 → 90 → 100 → 110 → 120 → 130 → 140 → 150 → 160 → 170 → 180 → 190 → 0 (Disable) → 50,..., revolving.
 - Press Setting key to save and exit Speed Limit Setting Mode stop flashing.
 - Finish.
 - by Infrared: This function applies only to vehicle is moving.
 - Place your hand in front of infrared zone
 - Stay for about 3 seconds.
 - When setting successful, HUD will response 3 alert sound.
 - Finish.
- Setting rule:**
- If vehicle speed less then 50KM/HR, speed limit set to 50.
 - If vehicle speed faster than 50KM/HR, speed limit will set to next default value, for example, if current vehicle speed is 82 KM/HR speed limit will set to 90.
 - If vehicle speed over 190KM/HR, speed limit set to 190.

When you parking, If this is lit , on behalf of the infrared feature has been canceled.

7.2.3 Infrared turned ON/OFF:

- Infrared Set: "ir S" lit then press Setting key "ir S" will flash and enable the function.
- Infrared Close: "ir C" lit then press Setting key "ir C" will flash and disable the function.

- ### 7.3 Speed adjustment:
- Press **Function Key** till display display then press Setting Key to enter adjustment mode. Press Function Key to adjust rate value and use Setting Key to save it. Adjustable range is 50% to 70%, 90% to 120%, factory setting is 100% (1:1).

7.4 How to measure speed 0~100(km/hr) time spent:

- Press **Function Key** until display 0-1 and lit, then press Setting Key to start test. This feature is enabled only when the vehicle stops. Beginning of the test, HUD display flashes 000 (second). When the speed reaches 100 KM / HR, HUD will send a long tone, then every 4 sec takes turns display time and distance.





Time: 9.6 sec

Distance: 66M

Press Setting Key to end this feature, press Function Key to continue next feature.

7.5 How to test 0~100,200,300, 400M, time spent and speed:



Press Function Key till

display 0-4 and lit · press setting Key to start the test, This feature is enabled only when the vehicle stop, Beginning start the test, HUD display flashes 000(second), then Issue a short tone to remind the test begins, and start counting time. HUD issues a short tone per 100M. When 400M is reached, it will end test and issue a long tone, and start rotating display 100M,200M,300M,400 M test results.

The figure below shows the test result for 100M time and speed display :



left figure, the red light represents a measuring distance (100→200→300→400→100), The 3 digital numeral is test result time and speed display. Time display has dot, accuracy 0.1 sec.

8. Manual Select Protocol Mode (MSPM)

8.1 Power on HUD, press **Function Key** over 5 times then press **Setting Key** to enter MSPM → **CO1**

8.2 The display show "Cxx", 'C' means that you can use **Function Key** to change protocol, 'xx' is protocol number. Press **Setting Key** to execute the protocol learning. HUD display "rxx", 'r' means that HUD is running the selected protocol. **CO1** → **PO1**

8.3 Press **Function Key** to interrupt learning.



8.4 HUD will display vehicle speed,once learning is successful.

NO	Protocol	NO	Protocol
1	TOYOTA	2	Reserved
3	KWP2000 Fast	4	ISO9141
5	ISO14230A	6	CAN(500K,11
7	CAN(500K,29 bits)	8	CAN(250K,11Bits)
9	CAN(250K,29Bits)	10	NISSAN CAN
11	ISO14230C	12	ISO14230D
13	KWP2000 SLOW	14	ISO14230E
15	ISO14230F	16	ISO14230B
17	PROTON SARVY	18	TOYOTA Comfort
19	Renault CAN	20	PROTON GEN2
21	Citroen	22	Reserved
23	Hyundai (old)	24	Reserved

9. Electronic specification

Working voltage	9-15 V DC
Working current	50mA
Operating	-30 °C to 85°C
Circuit Protection	Reverse wiring and surge
Speed Indication	0 ~ 400 KM/HR

10. Troubleshoot

- 10.1 After starting the engine, if HUD did not show, which means it does not automatically wake up, you can press the Function Key or start the engine again to wake it up, or check the OBD2 cable is loose.
- 10.2 The infrared will be action only when the moving vehicle,. If HUD always issues a warning sound, usually infrared is dis-turbed, please check whether there is protruding parts in front of the HUD, if there is the case, and adjust the HUD location.
- 10.3 The first time use HUD in vehicle shall re-pair protocol. Don't turn on engine, OBD2 connector always has battery power supply, to press both Setting Keys and Function Keys for about 15 seconds, the HUD display will turn off again (if not lit, re-power OBD2), HUD memory will be cleared, then you can turn on engine to re-learn new car of the protocol.
- 10.4 The first time HUD learns protocol, do not start the engine (just ACC ON), if the dashboard has strange display during HUD learning period, restarting engine it will return to normal.

11. Note and Caution

- 11.1 The information of HUD is for reference only. Do not operate HUD and OBD2 connector when you are driving.
- 11.2 Do not directly use water or chemical to clean HUD.
- 11.3 Do not place the unit at the dusty place. It could cause mal-function.
- 11.4 Connect the power plug securely. Improper connection will cause over current and may result in malfunction.
- 11.5 Do not remove cover, or modify the product. Contact your local dealer to perform servicing such as inspection, adjustment, or repair work.

About This Manual

- The information in this manual is subject to change without notice.
- This manual has been created with extra care. In case that you have any comments or questions regarding this manual, please contact your local dealer or our Customer Service Center.
- Before operating this set, please fully understand the prerequisite such as specifications or constraints of the hardware and software. We are not responsible and have no liability for any loss, damage or injury as a result of misuse.
- All other products and company names used in this manual are trademarks or registered trademarks of their respective owners.

Technical Assistance

If you need assistance setting up or using your Gator product now or in the future, call Gator Support.

Australia
TEL: 03 – 8587 8898
FAX: 03 – 8587 8866

Mon-Fri 9am – 5pm AEST

Please retain this user guide for future reference.