MOTREX HUD
(Head Up Display)

H100 User Manual

MOTREX

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Checklist Before Use – HUD

▶ MOTREX HUD is a navigation system that uses WAZE MAP.

▶ Both MOTREX HUD APP and WAZ APP need to be installed on the user's mobile phone.

▶ Once MOTREX HUD APP is open and the destination has been entered on WAZE, the GPS navigation can start .

▶ As the information is delivered through the WAZE server, the estimated arrival time on WAZE and HUD may not match.

▶ WAZE only works and the connection with HUD is maintained while MOTREX HUD APP is on. (only inside the car)

▶ Navigation starts by opening MOTREX HUD APP and clicking the navigation button to start WAZE MAP.

– For auto start navigation, navigation is automatically connected when HUD APP is launched.

▶ Display protection

– HUD display angle tilted by 45 degrees when the car is parked

· When the surrounding environment is bright or the temperature rises due to the strong sunlight, tilt the display angle by 45 degrees to protect the display.

– When the temperature inside the car is high, the display brightness is dimmed.

· When the car is parked outdoor in the summer, the display may be dimmed when the HUD is launched.

– Do not manually adjust the display (TOLED) angle by force.

· Forcefully moving the display (TOLED) angle may break the product.

– 'Auto' brightness is recommended for the display (TOLED).

· When the display is used for a long time at a high brightness setting, the life of the display (TOLED) may shorten.

▶ The power for MOTREX HUD H100 is supplied through OBD Ⅱ.

– If the car model is supported by OBD II, the car setting can be established in MOTREX HUD APP.

· Ask the seller or the installer for the types of car models supported.

· If you do not have a vehicle on the OBD II supported vehicle list, you can use it by entering the OBD II Standard information. (It is limited to Hyundai and Kia vehicles.)

▶ MOTREX HUD APP may not work if the user's mobile phone in the battery saver mode.

– When the mobile phone display is off or when MOTREX HUD APP is running on the background

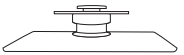
Supported OS : iOS 10.0 or higher / Android 5.0 or higher

Checklist Before Use – OBD

- ▶ For the OBD Ⅱ setting, the car must be fully started and MOTREX HUD APP must be launched.
  (Setting cannot be modified under ACC ON or KEY ON status.)
- ▶ Please reenter and save the car information after an OBD Ⅱ firmware or DB file update.
- ▶ Please check the information (year/fuel type/mileage) on the vehicle registration before entering the car information on OBD Ⅱ.
  (When using the car information (vehicle identification number) attached to the car, OBD Ⅱ communication may not work properly.)
- ▶ Although the car model name is the same due to the manufacturer' s categorization by model year, the cars actually supported may be different from the list of cars supported.
- ▶ There may be restrictions in functions depending on the car' s grade (trim) and options.
- ▶ There may be restrictions in some functions (genuine trip setting) related to OBD Ⅱ communication. In this case, the operation is only enabled under ACC ON status.
- ▶ OBD Ⅱ is not supported for a car with structural modification.
- ▶ For some hybrid cars and cars that use two types of fuel, the fuel efficiency information may not match the actual measurement.
  If necessary, please correct the fuel efficiency before use.
- ▶ For electric cars, the fuel efficiency option is disabled. Remaining gas is replaced with the battery charge rate.
- ▶ Fuel efficiency and distance to empty may change according to the driving condition, therefore, it may be different from the officially recognized value or the actual distance traveled. If necessary, please correct the fuel efficiency before use.
- ▶ For some car models, the method of installation may be different.
- ▶ When more than 7 car DB has been registered on OBD Ⅱ, OBD Ⅱ will not work and there will be no compensation. This does not apply if a same car is being registered repeatedly.
- ▶ Vehicles not listed on the supported vehicle list (passenger standard, vehicles fitted with standard OBD) should be used by setting the vehicle to OBD Ⅱ Standard on other vehicles. (It is limited to Hyundai and Kia vehicles.)
- ▶ When connecting an OBD Ⅱ module using Y-CABLE, there may be errors in the function and operation of the product.
- ▶ The OBD Ⅱ module must be used with direct contact with the vehicle connector.

1. Components

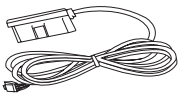
HUD (main body)



Angle-Adjustable cradle

Fixed cradle

HUD main cable

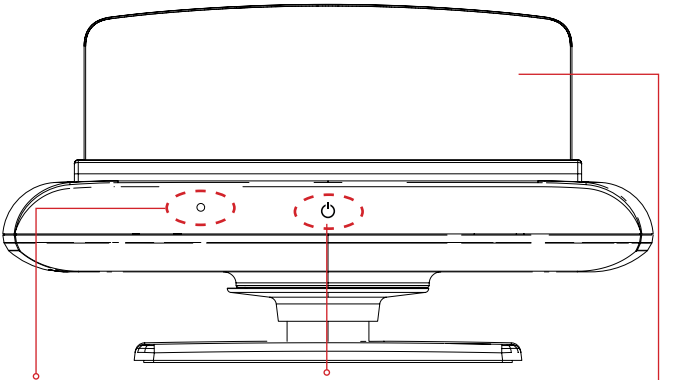


OBD II module

Fixing clip

User manual

※ MOTREX HUD Main Body Buttons



Reset

– Press with a sharp object to reset the HUD.

Power (touch sensor)

– When the power button is pressed, the LCD (TOLED) opens and turns on.

– When the power button is pressed when the power is on, the LCD (TOLED) closes and the system is turned off.

LCD(65K color AM TOLED)

– Use the HUD APP to adjust the angle.

※ When the HUD auto-start is selected on MOTREX HUD APP

** It automatically turns on when starting up the car (ACC ON) and off when the engine turns off (ACC OFF).

※ When the HUD auto-start is not selected on MOTREX HUD APP

** The user can manually turn on/off with the power button.

※ The LCD (TOLED) may break when the angle is adjusted by force.

※ The standard for ACC ON may differ by car model.

2. HUD Installation

1. Check where the OBD terminal is
2. Set the HUD location
3. Embed the HUD main cable
4. Connect the HUD main cable
5. Attach HUD to the dashboard
6. Organize the cables
7. Connect the OBD II module
8. Connect the OBD II module with the HUD main cable

※ When the first OBD module is connected to the vehicle, the HUD will illuminate for 10 minutes.
Please set up the vehicle in the MOTREX HUD APP.
The HUD APP automatically switches off after 10 minutes without having to set up the vehicle, after which the HUD must be switched on.

1) Check where the OBD II terminal is.

(The location of the OBD terminal is different by car.)

2) Decide where to install the HUD.

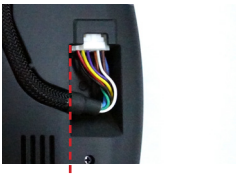
(Decide the location and install. Order of recommendation: 1, 2, 3)

3) Embed the HUD main cable.

(Check the length of the main cable and then embed the HUD main cable.)

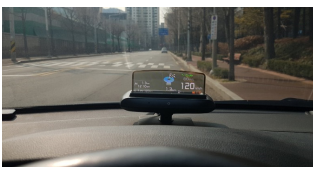
4) Connect the HUD main cable to the HUD.

(When connecting the HUD main cable, make sure the thicker part does not get inside the place for the cables as shown in the image below.)



5) Attach the HUD on the dashboard.

(Install the HUD on the cradle and remove the 3M tape to attach the HUD on the dashboard.)
(Choose the cradle of your preference between the adjustable type and the fixed type.)



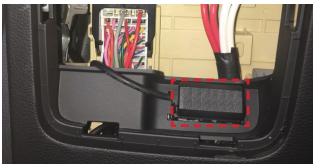
Adjustable Type

Fixed Type

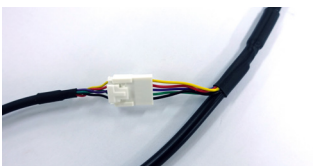
* Above images are provided for reference.

6) Use the clips to organize the line.

7) Connect the OBD module to the OBD terminal.



8) Connect the OBD module with the HUD main cable.



3. MOTREX HUD APP Installation and HUD Connection

1) Open App Store (iOS) or Google Play Store (Android) on the smartphone.
2) Search for "MOTREX HUD".
3) Download and install MOTREX HUD APP from App Store (iOS) or Google Play Store (Android).
4) Open MOTREX HUD APP.
5) Install MOTREX HUD APP and use Bluetooth to connect the smartphone with HUD.
6) When the Bluetooth connection pop-up appears on the smartphone display, select "Accept".
   (When Bluetooth has not been activated on the user's smartphone)
7) Select H100 on the HUD connection screen on the smartphone to complete connection.

4. WAZE APP Installation

1) Open App Store (iOS) or Google Play Store (Android) on the smartphone.
2) Search for "WAZE" in the search box.
3) Download and install WAZE APP from App Store (iOS) or Google Play Store (Android).
4) Open WAZE.

※ Both MOTREX HUD APP and WAZE APP should be installed.
※ You can also install WAZE APP by selecting Navigation on the main screen of MOTREX HUD APP.

5. WAZE Navigation

1) When the car starts, MOTREX HUD automatically turns on.

2) Open MOTREX HUD APP on the smartphone.

3) Press Navigation to start WAZE.

4) Type in the destination.

5) Search for the route and press Start Navigation to start the guide.

※ The car information setting must be completed in MOTREX HUD APP to use HUD.

※ Both MOTREX HUD APP and WAZE APP should be installed on the smartphone.

※ When MOTREX HUD APP stops, HUD and the smartphone become disconnected.

※ For navigation, both MOTREX HUD APP and WAZE APP need to be running, and the destination must be set and navigation should be started on WAZE APP for navigation.

※ Navigation starts after launching MOTREX HUD APP and then launching WAZE MAP with the Navigation button.
(For auto start navigation, navigation is automatically connected when HUD APP is launched.)

※ When the MOTREX APP icon appears on the top right of WAZE MAP, navigation begins on HUD.

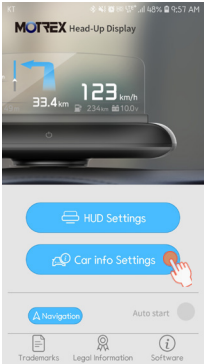
6. MOTREX HUD APP Settings

※ Before setting up the HUD, proceed to the vehicle information setting.

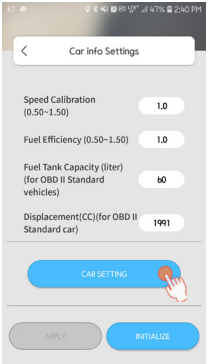
※ When the navigation auto-run is checked

- The WAZE APP runs automatically when you run the MOTRE HUD APP.
- If the MOTRES HUD APP is turned on but WAZE APP is shut down, the mobile phone is disconnected from the HUD. When reconnected, WAZE APP runs automatically.

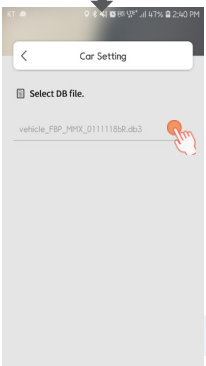
1) Car information settings



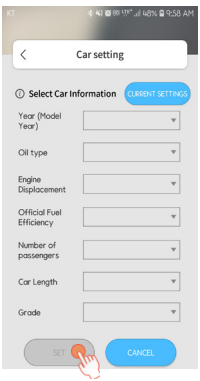
Select Car info Settings



Select CAR SETTING



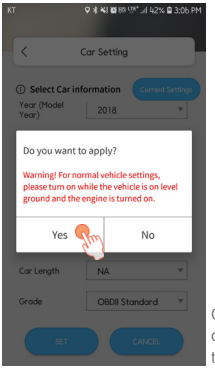
Select DB file (Select the first file)



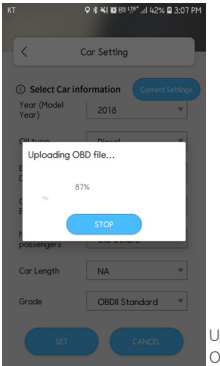
Enter the car information and click SET

※ Visit the MOTREX website to check which car models are supported by OBD II.

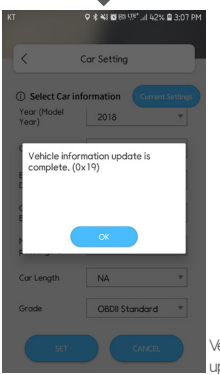
※ Please set the vehicle to OBD II Standard for use if it is not in the vehicle settings. (It is limited to Hyundai and Kia vehicles.)



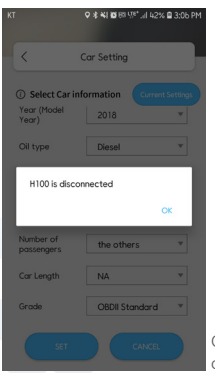
Click "Yes" on the pop-up to upload



Uploading OBD file

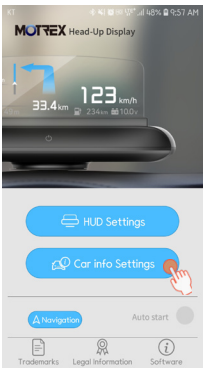


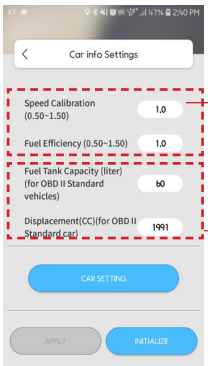
Vehicle information update is complete



OBD car setting completed

2) OBD information correction





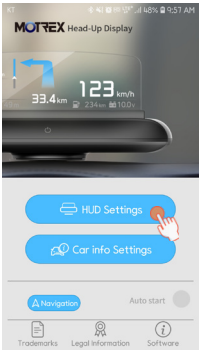
Select Car info Settings

If you do not have a vehicle on the OBD II supported vehicle list, you can use it by entering the OBD II Standard information.

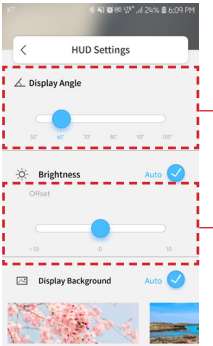
After OBD II setting, the adjustment value can be modified if the speed, fuel consumption shown on the dashboard while driving are significantly different.

※ Make sure to press the Apply button after changing the setting.

3) HUD settings

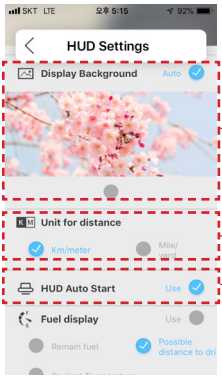


Select HUD Settings



When brightness is set to Auto, the display brightness is adjusted automatically with the illumination sensor.
Between −10% and +10%, additional adjustment can be made to the current brightness level.
When Auto is not selected, the user can manually adjust the brightness from 0% to 100%.
*Setting the brightness to 100% always instead of selecting the auto brightness control may shorten the life of the display.

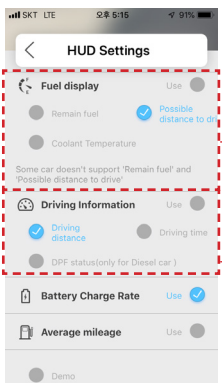
The display angle may be adjusted from 50 to 100 degrees (by 10 degree unit).



Set the background image for booting.
When set to Auto, it changes according to the date on the phone.

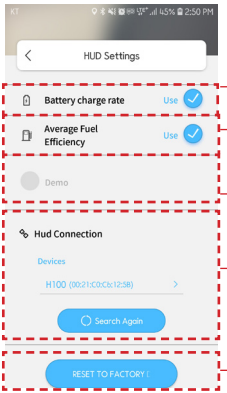
Select the unit of distance to be shown on HUD

Select whether to auto start HUD.
When selected, HUD automatically turns on when the car starts.
* For HUD setting and navigation information, launch HUD APP and enter the destination for navigation.



Select the fuel display information to display.
When selected, the fuel information is shown on the display.
According to the OBD II information given, the fuel information such as remaining fuel, possible distance to drive, and coolant temperature are displayed.
* Remaining fuel and possible distance to drive are not supported for some car models.

Set the driving information to display.
When selected, selected driving information are shown on the display.
According to the OBD II information given, the driving distance, driving time, and DPF information (for diesel car) are displayed.



Set whether to show the battery charge rate on the display. When checked, the battery charge rate shows on the display.
* Battery voltage is displayed for non-IBS cars.

Set whether to use average fuel efficiency.

An arbitrary number is shown on the display i nstead of the user information.

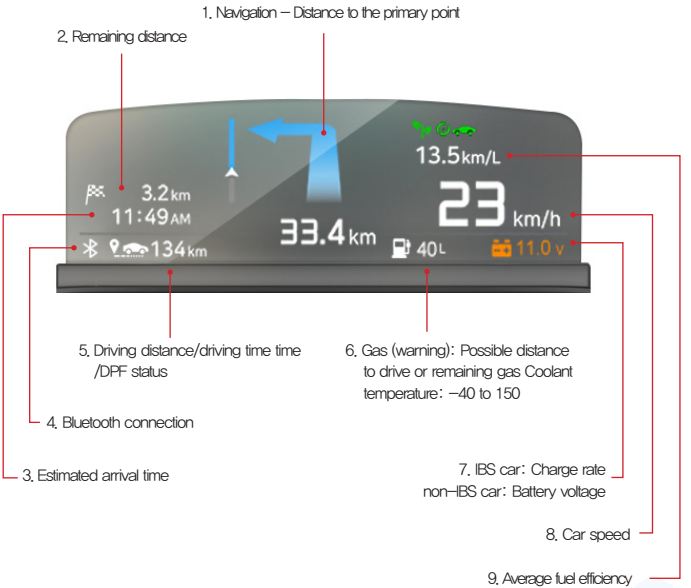
Shows the device connected to HUD.

Reset to factory default.

HUD setting	Default
Display angle	90 degree
Brightness	Auto ✓ / Brightness "0"
Background image	Auto ✓
Unit of distance	km/meter
HUD auto start	Use ✓
Fuel display	Possible distance to drive
Driving information	Driving
Battery charge rate	Use ✓
Average fuel efficiency	Don' t use

7. Display

[With destination setting]



※ Driving distance, driving time and average fuel efficiency is for one trip. They are reset when the engine is turned off and then restarted.

※ The average fuel efficiency after ignition is shown in km/L and appears over 1km is travelled after ignition.

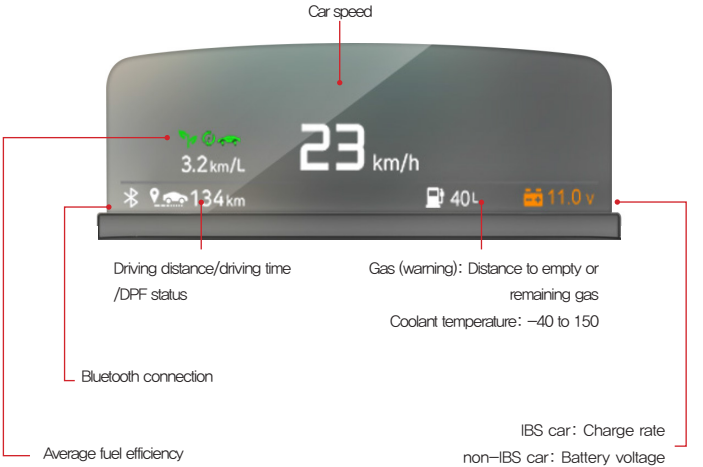
※ BAR icon appears when the distance remaining to the destination is less than 200m..

※ Information on display may vary depending on the car model.

Display	Description	Default
1	Direction and distance to the primary point when the destination has been set * BAR icon appears when the distance remaining to the destination is less than 200m.	
2	Remaining distance to the destination when the destination has been set	
3	Estimated arrival time when the destination has been set	
4	Generated when HUD and MOTREX HUD APP are connected	
5	Driving distance: Driving distance from 1 trip after ignition	Driving distance
	Driving time: Time from 1 trip after ignition	
	DPF: Shows capturing or combusting (only for diesel cars) *When combusting, it is helpful not to turn off the engine.	
6	Gas icon: Shows fuel status Gray: Enough Yellow: Not enough Flickering yellow: Almost empty Gray (—): Remaining fuel/possible distance to drive not supported * Possible distance to drive for electric cars is shown as " — ". * Remaining fuel for electric cars is shown as the remaining battery in %.	Gas icon/Distance to empty
	Coolant icon: Coolant temperature (-40 to 150) * Not supported for electric cars; displayed as "—"	
7	Battery charge rate or battery voltage * Shown in yellow if the battery rate or voltage is low. IBS car: Charge rate / Non-IBS car: Battery voltage	
8	Car speed	
9	Average fuel efficiency - When traveling less than 1km after ignition, it is shown as "— km/L" * Displayed as "—" for electric cars (not supported)	

※ Change the usage option and values in MOTREX HUD APP.

[Without destination setting]



※ Information on display may vary depending on the car model.

8. OBD II Update

1) Firmware update

※ Install the OBD II firmware additionally when the OBD II firmware has been updated.

※ Download the OBD II firmware for MOTREX HUD from the MOTREX website.

· MOTREX website : www.motrex.co.kr

▶ Android

(1) Connect the mobile phone with the computer.

(2) Put downloaded OBD II firmware file into the H100 folder on the mobile phone.

(3) Disconnect the mobile phone from the computer.

(4) Type in the destination.

(5) Start the car and launch MOTREX HUD APP.

▶ iOS

(1) Connect the mobile phone with the computer.

(2) Open iTunes.

(3) Select the phone icon ( ) and select the application ( ).

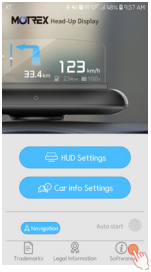
(4) Select MOTREX HUD( ) and select Add File.

(5) Put downloaded OBD II firmware file and select Save.

(6) Disconnect the mobile phone from the computer.

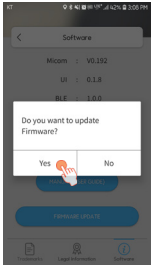
(7) Start the car and launch MOTREX HUD APP.

※ Start MOTREX HUD APP and start the update in the following order.

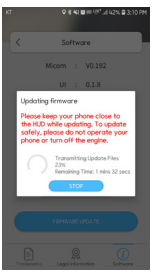


Click Software

Click FIRMWARE UPDATE



Select "Yes" on the pop-up for update



Updating firmware

Firmware update is complete

Pop-up closes once the firmware update is completed. HUD is disconnected and restarts.

※ Keep the smartphone near HUD and keep the engine going during the update.
※ HUD connection must be maintained during the firmware update.
※ If you press Stop during the update, the update stops. When the update is restarted, it starts from the beginning again.
※ By pressing the home button, you can run HUD APP on the background and use other applications.
※ HUD cannot be used during the update.

2) DB file update

※ Install the OBD II DB file additionally when the OBD II file information has been updated.

※ Download the OBD II firmware for MOTREX HUD from the MOTREX website.

· MOTREX website : www.motrex.co.kr

▶ Android

(1) Connect the mobile phone with the computer.

(2) Put downloaded OBD II DB file into the H100 folder on the mobile phone.

(3) Disconnect the mobile phone from the computer.

(4) Start the car and launch MOTREX HUD APP.

▶ iOS

(1) Connect the mobile phone with the computer.

(2) Open iTunes.

(3) Select the phone icon ( ) and select the application ( ).

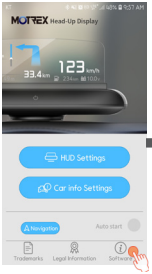
(4) Select MOTREX HUD( ) and select Add File.

(5) Put downloaded OBD II DB file and select Save.

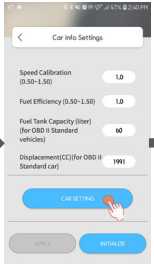
(6) Disconnect the mobile phone from the computer.

(7) Start the car and launch MOTREX HUD APP.

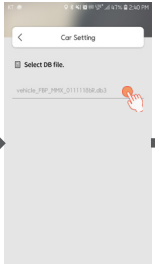
※ Start MOTREX HUD APP and start the update in the following order.



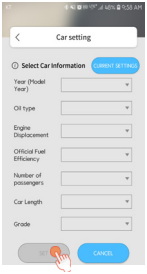
Click on Car info Settings



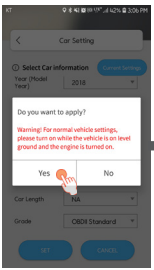
Select CAR SETTING



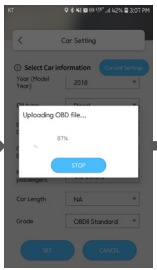
Select DB file (Select the first file)



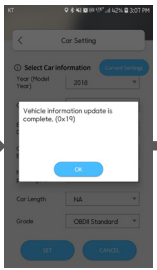
Enter the car information and click SET



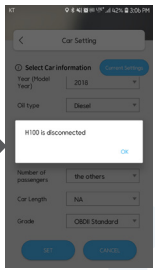
Click "Yes" on the pop-up to upload



Uploading OBD file



Vehicle information update is complete



OBD car setting completed

9. Firmware Update

1) Launch App Store (iOS) or Google Play Store (Android) on the mobile phone.

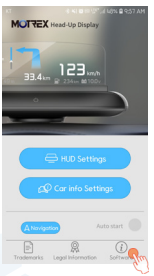
2) Enter "MOTREX HUD" in the search box.

3) Update the app on App Store (iOS) or Google Play Store (Android).

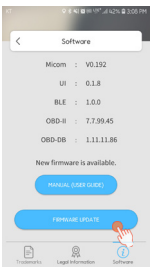
※ If there is an update, the update button for MOTREX HUD APP on App Store (iOS) or Google Play Store (Android) becomes active.

4) Update the firmware from the MOTEX HUD APP.

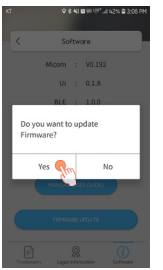
※ A total of two updates can be made to Micro, OBD II, after each update the HUD will be rebooted.



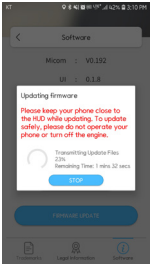
Click Software



Click FIRMWARE UPDATE

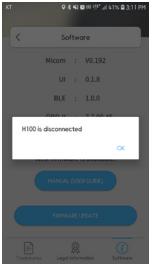


Select "Yes" on the pop-up for update



Updating firmware

Firmware update is complete



Pop-up closes once the firmware update is completed. HUD is disconnected and restarts.

※ If firmware update is enabled after updating the MOTREX HUD APP in the APP store(iOS) or Google Play store(Android), please proceed with firmware update.

※ The update order is in the order of Micom and OBD II.

※ Keep the smartphone near HUD and keep the engine going during the update.

※ HUD connection must be maintained during the firmware update.

※ If you press Stop during the update, the update stops. When the update is restarted, it starts from the beginning again.

※ By pressing the home button, you can run HUD APP on the background and use other applications.

※ HUD cannot be used during the update.

10. Product Specifications and Other Information

1) Product specifications

Model name	MTXH100
Product name	Head Up Display
Processor	ARM Cortex M4
Display	65K color AM TOLED
Resolution	360 x 112px
Sensor	Illumination sensor, touch sensor
Wireless connec-tion method	BLE
Power	12V only (OBD II connection)
HUD application	MOTREX HUD (iOS 10.0 or higher / Android 5.0 or higher)
Interlocked mobile navigation	WAZE (iOS 10.0 or higher / Android 5.0 or higher)
Temperature for operation	−20 to 70 degrees
Size and weight	W 168 x L 95 x H 23(mm) / 180g
Frequency range	2,402 to 2,480 MHz
Maximum transmssion output	−7.68 dBm

[Standards]

- Equipment name: Specific low power wireless device (Wireless device for wireless data communication system)
- Seller: MOTREX Co., Ltd.
- Manufacturer: MOTREX Co., Ltd. / Made in Korea

2) FCC regulations

FCC Warning

This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residental installation.
This equipment generates, uses and can radiate radio frequency energy and, if nor installed and used in accordance with the instructions, may cause harmful interference to radio cummunications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

≫ Reorient or relocate the receiving antenna.

≫ Increase the separation between the equipment and receiver.

≫ Connect the equipment into an outlet on a circit different from that to which the receiver is connected.

≫ Consult the dealer or an experienced radio/TV technician for help

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may nor cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
Caution: Any changes or modifications to this device not expressly by the party responsible for compliance could void your authority to operate the equipment.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

This equipment should be installed and operated with minimum 20cm between the radiator and your body. This transmitter must not be collocated or operating in conjuction with any other antenna or transmitter unless authorized to do so by the FCC.

MOTREX

MOTREX HUD
(Head Up Display)

H100 User Manual