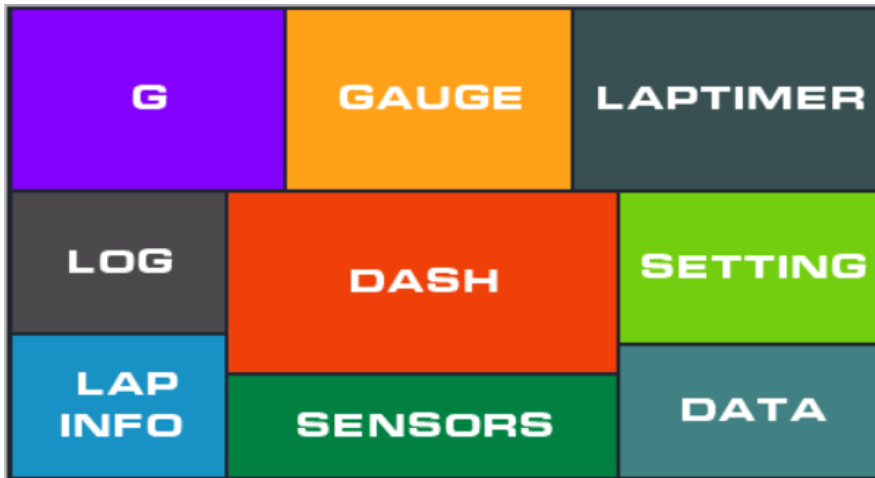


DSH-4

DSH-7

Quickstart guide

MENU



GAUGE

- RETURN TO MENU 
- GAUGE MENU 



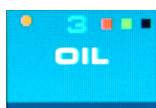
MENU GAUGE

Select the sensors you want to display in the GAUGE page, the scale is based on the value set under SENSOR PROP.

Max 2 sensors can be active simultaneously.

Only sensors with the LOG flag active are displayed.





Left circle → Sensor used protocol

Orange → Canbus

Black → Serial

Blue → OBD

Blue number → Dash position

Red square → Alarm is active

Green square → Sensor to lateral leds

Black square → Logging is active

SENSORS MENU

TRQ D	3 CLT	S_TM1	L_TM1	S_TM2	L_TM2
FUELP	5 MAP	2 RPM	1 SPEED	ADV	4 IAT
MAP	TPS	FLVEL	BARO	ALOAD	6 APR
T_AMB	OIL	INJ	FRATE	TRQ %	LOAD
POIL	BAT	KNOCK	EGT:1	EGT:2	GEAR

When the text is grayed out is not available.

SENSORS PROP

Max logging sensors: 8

Max sensors on the dash: 6

Max sensors on lateral leds: 2

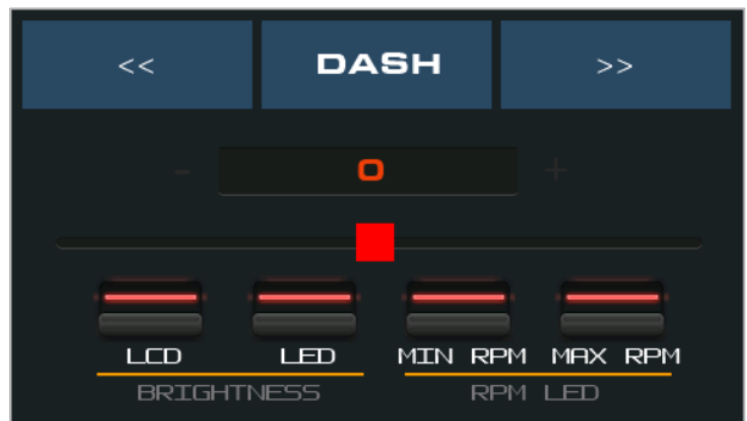
Max sensors with active alarm: 6



- **ALARM:** when the value of the sensor hit the threshold an alarm will be visualize on the dash with blinking RED led.
- **LEDBAR:** the value of the sensor will be mapped on the lateral led, the maximum value is the threshold.
- **LOG:** When active the sensor will be visualized under **DATA** page and **GAUGE** page.
 - When the LOG option is active the value will be written on the SD.
- **PROTOCOL:** select the protocol for the sensor.
- **THRESHOLD:** Used for the alarm and the led.
- **POSITION:** Select the position for the sensor in the dash.

SETTINGS

- **LCD:** LCD brightness
- **LED:** LED brightness
- **MIN RPM:** Minimum RPM for the led to light on
- **MAX RPM:** Maximum RPM (if the RPM go over this value the LEDS will flashing BLUE)



SETTINGS

- **LCD:** LCD routing refresh
- **RPM: only OBD,** how often request for the RPM
- **OBD: only OBD,** how often request for the other sensors (if the value is too low can cause delay in the RPM request)
- **LOG:** How often save the data on the SD. **Only when LOGGING is active under OPTIONS settings.**



OPTIONS



- **DASH TYPE:** select one of the 5 Dash style
- **LED SHOW:** Led animation when in menu
- **DSH-M MODE:** Change mode of DSH-M
- **LAPTIMER:** enable the lap timer
- **LOGGING:** enable logging the sensors on the SD
- **GPS VSS:** Use the the GPS speed (**only when DSH-M is used**)
- **CAN WARNING:** enable the warning from the ECU via CANBUS
(**only for AEM and ECUMASTER**)
- **ERASE SD:** erase the SD (**press for 3 seconds**)
- **WiFi:** enable the WiFi for updating the firmware, download the log files / session lap timer / configuration file, upload the track list.
Press for 2 seconds to turn on/off the wifi.

When WiFi is enable a simple press will show the option to connect to a existing wireless net.

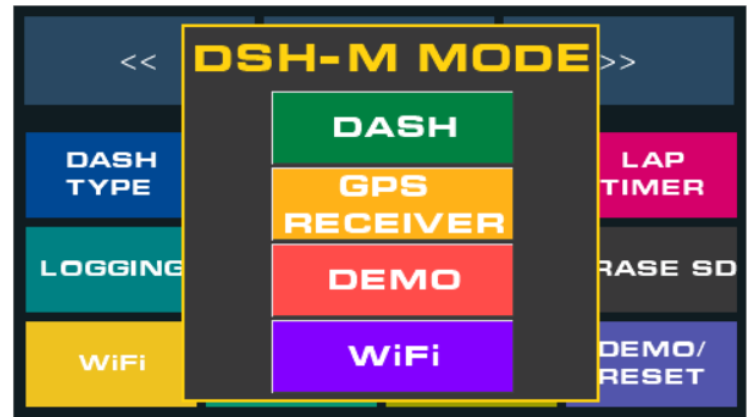
SSID: DSH PASSWORD: i23b1!(H



- **DSH MODE:** Change Dash mode
- **DEMO/RESET:** the dash will read the demo.txt file and visualize the data
Press for more than 3 seconds for resetting.

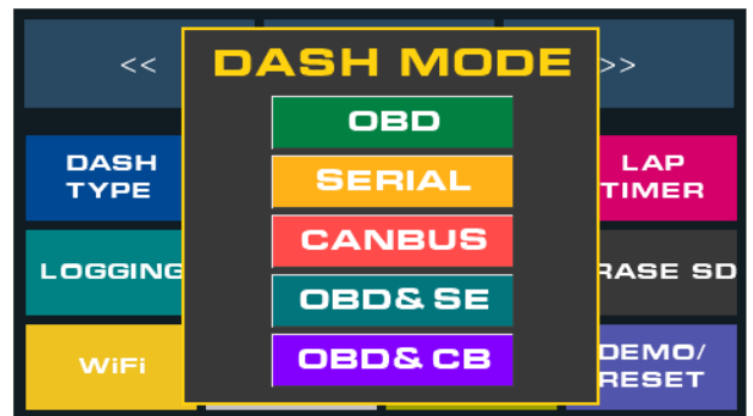
OPTIONS

- **DASH:** enable the dash mode in the DSH-M (**gps and G meter**)
- **GPS REVEIVER:** use the DSH-M like a bluetooth GPS (can be used with racechrono or other app)
- **DEMO:** when enable the DSH-M will sends the content of demo.txt (nmea string)
- **WiFi:** enable the wifi AP for updating the firmware or download logs.
SSID: DSH-M **PASSWORD:** i23b1!(H
- **EXTERNAL BT GPS:** connect a gps device directly to the dash



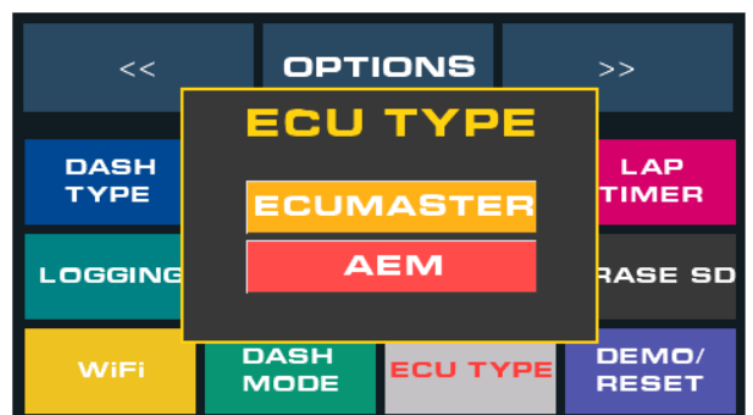
OPTIONS

- **OBD:** the dash will work only with the bluetooth obd adapter
- **SERIAL:** used with ECUMASTER CLASSIC protocol
- **CANBUS:** used with AEM and ECUMASTER BLACK
- **OBD&SE:** use OBD and SERIAL bus for retrieve the data
- **OBD&CB:** use OBD and CAN bus for retrieve the data



OPTIONS

- **ECUMASTER :** Serial & Canbus
- **AEM :** AEMnet v150505



LAPTIMER

- Track list from track.trk

All the coordinates are in Decimal degree

<https://www.nmeagen.org/>

Example of track.trk file:

```
FRNCORTA,45.51338333,10.00546667,45.51303333,10.00546667,45.51265000,10.00521667,45.51220000,10.00521667,45.51066667,10.00081667,45.51061667,10.00153333
CREMONA,45.08560000,10.31210000,45.08525000,10.31195000,45.08533333,10.30733333,45.08516667,10.30791667,45.08390000,10.30618333,45.08325000,10.30613333
NORDSCHLF,50.34311667,6.96055000,50.34400000,6.95965000,50.37716667,6.94948333,50.37666667,6.95063333,50.36988333,7.00495000,50.36993333,7.00600000
NUVOLARI,45.07253333,8.99208333,45.07215000,8.99143333,45.07208333,8.99060000,45.07163333,8.99075000,45.07450000,8.98900000,45.07426667,8.98845000
SPA,50.44421667,5.96560000,50.44395000,5.96488333,50.43168333,5.97273333,50.43185000,5.97393333,50.43585000,5.96715000,50.43561667,5.96800000
```

SPA,	TRACKNAME
50.44421667,	FINISH LINE LATITUDE POINT 0
5.96560000,	FINISH LINE LONGITUDE POINT 0
50.44395000,	FINISH LINE LATITUDE POINT 1
5.96488333,	FINISH LINE LONGITUDE POINT 1
50.43168333,	SECTOR 1 LINE LATITUDE POINT 0
5.97273333,	SECTOR 1 LINE LONGITUDE POINT 0
50.43185000,	SECTOR 1 LINE LATITUDE POINT 1
5.97393333,	SECTOR 1 LINE LONGITUDE POINT 1
50.43585000,	SECTOR 2 LINE LATITUDE POINT 0
5.96715000,	SECTOR 2 LINE LONGITUDE POINT 0
50.43561667,	SECTOR 2 LINE LATITUDE POINT 1
5.96800000	SECTOR 2 LINE LONGITUDE POINT 1

LAPTIMER

- Finish Line:** Press when you cross the finish line of the track
- Sector 1:** Press when you want to place the first sector
- Sector 2:** Press when you want to place the second sector
- DEL:** delete the positions



This functionality is useful if the track is not present in the track list and we don't want to enter the coordinates manually. **DSH-M in DASH mode required. GPS FIX required.**

If the position is acquired successfully the light will change from red to green.

- **NAME:** Track name or Session name (Press SEND to save)

LAPTIMER

NAME	FINISH	SECTOR1	SECTOR2
LAT L0	00.000000	SEND	BACK
LON L0	00.000000		
LAT L1	00.000000		
LON L1	00.000000		

LAPTIMER

NAME	FINISH	SECTOR1	SECTOR2
<div style="border: 1px solid black; width: 100%; height: 100%;"></div>			
<div style="background-color: green; color: white; padding: 10px; display: inline-block;">SEND</div>			
<div style="background-color: gray; color: white; padding: 10px; display: inline-block;">BACK</div>			

- **FINISH:** enter the finish line coordinates and press SEND to save
- **SECTOR1:** enter the coordinates for sector 1 and press SEND to save
- **SECTOR2:** enter the coordinates for sector 1 and press SEND to save

In the LAPTIMER main page you can see the summary and if the track is set or not.

Track name: IMOLA		TRACK
Finish Line - Set		
Sector 1 - Set		
Sector 2 - Set		
Best 2:21.43 - 6/8		CUSTOM
SET	GPS	
SESSION		

LAPTIMER

- **DEL:** it will delete all the laps recorded and the predictive lap reference
- **SAVE:** Save the session on the SD

1

<

BACK



SAVE

DEL

>

OBD MENU

- **SEARCH:** When the bluetooth adapter is connected and the OBD is active will search for compatible sensors
- **CONNECT** (blue): Connect to the bluetooth OBD adapter
- **CONNECT**(green): Connect to the OBDII port

VALID PIDS	0	SEARCH
BLTOOTH		CONNECT
OBD II		CONNECT
MENU	REFRESH	NEXT

OBD MENU

- **Protocol:** Select what protocol use with the OBD. By default the dash will do this operation automatically
- **Adaptive timing:**
 - **Default:** should work for almost all car
 - **Aggressive:** It will help to retrieve data more quickly but can cause problem on the bus
 - **OFF:** autotiming OFF (**use timeout setting to select the fix timeout**)
- **TIMEOUT:** Used only when the adaptive timing is set on OFF.
- **CUSTOM COMMAND:** will send custom AT command to the adapter
 - format example: ATZ ATD ATSPA6 (**use always one space after the command**)

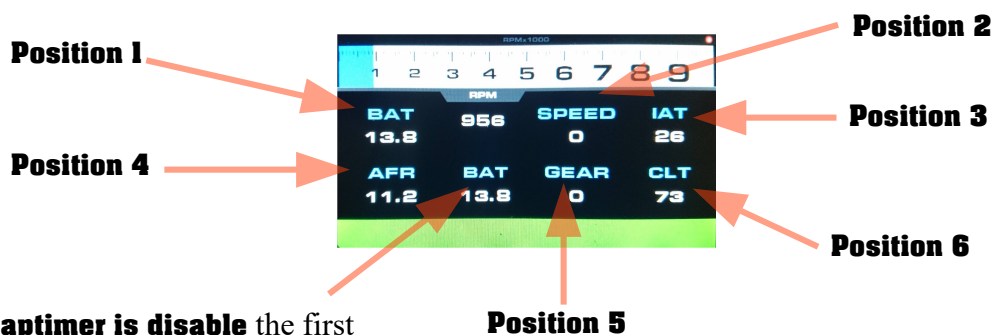
Protocol	SEND	
Adaptive timing	SEND	
Timeout	SEND	
Custom cmd	SEND	
BACK	REFRESH	MENU

JOYSTICK FUNCTION(optional) :

- LEFT : navigate to the left
- RIGH : navigate to the right
- ESC: back function
- ENTER: select item

LED FUNCTIONALITY

- **GMETER:** When the DSH-M in in DASH mode the lateral leds simulate the the gforce, the left side for lateral force and the right for dec/acceleration force.
- **LAPTIMER:** When the laptimer is active and the there are valid lap the lateral leds will show an indication of the predictive lap, left side (red) for positive delta(slower lap) and right side(green) for negative delta (quicker lap), every led is ~0.1 second.
- **LEDBAR:** Will show the value of the sensor mapped like this: 1 led = min value (hard coded) and max led = threshold value (settled in the SENSOR PROP).
- **LEDBAR IN CANBUS MODE (ECUMASTER):** When Traction control is active the lateral led turn yellow, launch control white and pit limiter in blue.

POSITION SENSOR

When **laptimer is disable** the first sensors with **no position and LOG active** will be displayed

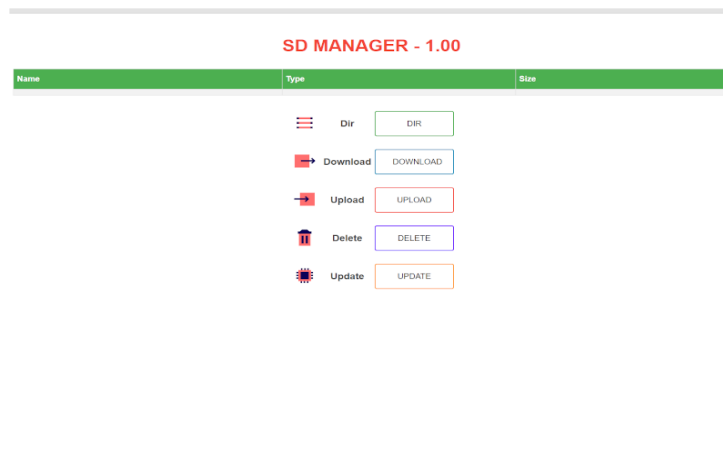
Example of a Laptimer saved session

Imola
 Lap: 1 laptime: 2:56.87 Sector 1: 1:20.51 Sector 2: 1:01.40 Delta: +0:35.44
 Lap: 2 laptime: 2:28.58 Sector 1: 0:57.14 Sector 2: 0:57.80 Delta: +0:07.15
 Lap: 3 laptime: 2:29.12 Sector 1: 0:57.76 Sector 2: 0:57.90 Delta: +0:07.69
 Lap: 4 laptime: 2:25.60 Sector 1: 0:56.04 Sector 2: 0:56.70 Delta: +0:04.17
 Lap: 5 laptime: 2:22.78 Sector 1: 0:54.94 Sector 2: 0:55.20 Delta: +0:01.35
 Lap: 6 laptime: 2:56.87 Sector 1: 1:14.51 Sector 2: 1:07.40 Delta: +0:35.44
 Lap: 7 laptime: 2:28.58 Sector 1: 0:51.94 Sector 2: 1:03.00 Delta: +0:07.15

Example of a logging file

```
[30/06/2021 - 18:42]
TIME,CLT,RPM,SPEED,ADV,IAT,BAT
65.48,45.0,4900.0,130.0,3.0,12.0,12.0
65.75,45.0,5000.0,74.0,3.0,12.0,12.0
66.01,45.0,5000.0,74.0,14.0,12.0,12.0
66.27,45.0,5100.0,74.0,14.0,32.0,12.0
66.54,45.0,5200.0,74.0,14.0,32.0,12.0
66.81,45.0,5300.0,74.0,14.0,32.0,12.0
```

SD MANAGER



SD Content

SD MANAGER - 1.00

SD Contents

Name	Type	Size
/System Volume Information	Dir	
WPSettings.dat	File	12 B
IndexerVolumeGuid	File	76 B
demo.csv	File	499.5 KB
datalog1.log Log file	File	96.5 KB
/extra	Dir	
demo.csv Demo file	File	499.5 KB
/config	Dir	
track.trk Track list	File	1.3 KB
settings.dsh File where all the settings are saved	File	320 B
session.bin Laptimer laps	File	128 B
reference.bin Reference lap	File	536 B

SAVE SETTINGS

All the settings are saved in settings.dsh, you can download the file with the DOWNLOAD button and enter this line: /config/settings.dsh. If, at some point, you want to recover the settings, you need to delete the setting file in the dash and upload the old one in the root directory and restart.

FIRMWARE UPDATE

Connect to the dash via WiFi and upload the update file, wait for the upload to finish and then click UPDATE button. The dash will check if there is any update and restart. After the restart a message will ask if you want to update, after 10 seconds if no input is given (or you choose NO) the dash will ask again on next boot. If you don't want to update, delete the file from the web page. The update will take approximately 2 minutes for the bin firmware and up to 15 minutes for the tft firmware.