

How to use MaxxECU MDash Android App

2015-04-27



Important information! (must be read before use)



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1 - Introduction

MaxxECU MDash is an Android app that communicates wirelessly via Bluetooth between MaxxECU and an Android-based phone or tablet. ALL sensor data and engine parameters that are connected to MaxxECU can be viewed in MDash!

Text marked with "blue" in this manual are references to the PC-software MTune. Internal references to sections or pictures are made with **bold text**. MTune screenshots of version 1.83 and MDash 1.63b/1.83.

MDash works on all Android devices with Android 4.2.2 or newer.

 $\label{eq:maxelinear} \mbox{MaxxECU MDash is tested and developed on Google (ASUS) Nexus7.$

Mount the supplied antenna on the MaxxECU, and make sure to have the charger for plugged in becuase Bluetooth mobile communication consumes a lot of battery power!

2 - MaxxECU settings

For MaxxECU to communicate with MDash there must be a password assigned in MaxxECU. This is done with the PC-software MTune. Installation of MTune is explained in MaxxECU Handbook chapter **4.3.1**

MaxxECU MTune DISCONNECTED	DESCRIPTION OF TAXABLE PARTY AND ADDRESS OF TAXABLE PARTY.
🚯 🔂 🖶 OFFLINE	Bluetooth settings
ECU Tuning	
Start	Bluetooth settings
 Configuration Engine settings ECU Logging settings 	Pin code ? 123456 Restart ECU after changing code
CAN settings	Bluetooth switch 1
<mark>Bluetooth settings</mark> Manual firmware update MTune Settings	Name BTSwitch1
- Limits	Bluetooth switch 2
छ-Fuel छ-Ignition छ-VVT	Name BTSwitch2
B- Motorsport	Bluetooth switch 3
B Advanced B Inputs	Name BTSwitch3
₿-Outputs ₽-Diagnostics	Bluetooth switch 4
🖞- Tuning	Name BTSwitch4

Fig 2a - When Mtune is connected with MaxxECU, go into Configuration -> Bluetooth settings and enter the password you want. Preferable use a good and powerful password (az, 0-9). Once the password is set, <u>MaxxECU must be restarted</u>. MDash 1.83 and newer has the ability to add buttons in app to control functions in MaxxECU. Instead of using traditional switches connected to MaxxECU input.

3 - Android Bluetooth settings

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Fig $\exists a$ - Bluetooth settings in Android can be found by tapping forward to Settings and Bluetooth. Activate the Bluetooth by sweeping the OFF button to ON.

Fig 3b - When Bluetooth is enabled on your Android device, they must be "paired". Tap on the newly found device as shown above. Bluetooth's communication range is 5-20meters depending on environment.





Fig $\exists c$ - In order to pair an Android device with MaxxECU we must here enter the password.



Fig 3e - Mdash is not currently available on Google Play but only available for download directly from www.maxxecu.eu After downloading the app, simply approve "install from unknown sources".

Activation of this is done in Android's settings, Security and "Unknown sources" ("Allow installation of applications from unknown sources").



Fig 3d - When pairing is complete, your MaxxECU device appears in the list of paired devices in Android.

Skärmdumpen sparas				
<u>MaxxECU</u>	Display 1 Disp	play 2 Diagno	ostics	
Error codes:				
No error codes				
Target ECU	(search and pair to the E0	CU in your device's l	oluetooth menu)	
O Demo	mode			
O Maxx	ECU serial:nemkc1			
	ECU serial:1exzlp			
Conn	ect on startup			
		ОК		
	Ę	\sim		
	· _			

Fig 31 - Once the app is installed, a shortcut is among the apps on your device. Click MDash icon to start the program and the following dialog box will appear. Select the device you want to connect to, check the "Connect on startup" to avoid this dialog in the future.

4 - MDash handling

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Dynotuning Engine Management

MDash app is build upon a "grid" which you must understand before you begin to add and move different gauges. Positioning is based on where you touch, and top left of the selected gauges ("Gauge") or text ("Value text").

. 0				8 🗢 🛢 8:27
MaxxE		Display 1 Display 2	Diagnostics	Connected
50 80 ×	Error code count	Battery voltage 11,58 V		Lambda
40 Tempsensor	Fuel duty 0,0 %	Intake air temp 12,7 °C		0,980
20 ° 120 0.00 60 0.00 0.00 0.00 1 0.00 0.00 0.0	100 120	4 5 3 RPM 2 1 rpm x100		150 200 250 150 MAP 300 50 350 0 ^{kPa} 400
37,2 °0		• 0 rpm		99,5 kPa
	· · · · · · · · · · · · · · · · · · ·			

Fig 4a - MDash is composed of a tab system with several and separate panels: "Screen 1", "Screen 2" and "Diagnostics".

				8 🗢 🛢 8:28
MaxxECU	Display 1 Dis	play 2 Diagnosti	cs	Connected
		c		
	Long press to	configure your i	nterface	
	Û			

Fig 4b - Display 2 is by default empty and we will use this page to learn how to build up a panel from scratch with a blank page. Touch the tab "Display 2".



<u>MaxxEĽ</u>	U , d	isplay 1	Displa	ay 2	Diagno			nnected
			Add	l Value	text			
			A	dd Gau	ge			

Fig 4c - Tap and hold the display background, the following dialog box appears. Options to create a meter ("Add Gauge") or a text ("Add Value text") will show. In the following example, we choose to add a round tachometer, tap "Add Gauge". Note that the meter will be placed with it's top left corner where you "tap and hold".



Fig 4e - Examples of a tachometer without redline marking. Apparently, the placement of the gauge is not quite where we wanted it, see Figure 4f to move / change / remove.

Value: Engine Control - RPM Include advanced values Size: 5 wide, 5 high Range min: 0 Range max: 12000 Step count: 12 Scale: x 1000 Redline:	laxxEL	Gauge item	Connected
Include advanced values Size: Size: Size: Side: Control Site count: Control Site coun		Value:	
Size: 5 wide, 5 high Range min: 0 Range max: 12000 Step count: 12 Scale: x 1000 Redline:		Engine Control - RPM	
s vide, 5 high Range min: 0 Range max: 1200 Step count: 12 Scale: x 1000 Redline:		Include advanced values	
Range min: 0 Range max: 12000 Step count: 12 Scale: x 1000 Redline:		Size:	
0 Range max: 12000 Step count: 12 Scale: x 1000 Redline:		5 wide, 5 high	
Range max: 12000 Step count: 12 Scale: x 1000 Redline:		Range min:	
12000			
Step count: 12 Scale: x 1000 Redline:		Range max:	
12 Scale: x 1000 Redline:		12000	
Scale: x 1000 Redline:		Step count:	
x 1000 a		12	
Redline:		Scale:	
		x 1000	
		Redline:	
None		None	

Fig 4d - A new dialog box will appear where you can choose which value you want to display. For instance, select "Engine Control - RPM" in the list. Choose size which depends on the space available. In this example there are no other meters near, and therefore, this meter can be made large.



Fig 4fl - Tap and hold on the gauge until this dialog box appears. Tap "Move" and then point somewhere in the grid. "Edit" displays a new dialog box for modifying the existing meter characteristics.



("Move"), a meter ("Gauge"), or text value ("Value text").

Fig 4h - Tap anywhere on the screen to add a text value ("Add Value text"]. Select engine value in the list and select size.



Fig 4j - Here we have enlarged text value by tap and hold on the "meter", select "Edit" and changed the size ("Size").





Fig 4k - Example of a gauge that shows current

voltage from the throttle sensor and a text value that indicates speed.



4.1 - MDash input handling

MTune 1.83 supports "digital inputs" from MDash to control functions like different boost levels, launch, anti-lag and such functions by using Virtual Inputs.



Fig 4.1a - Tap and hold on the surface background, and the following dialog will appear. Tap the "Add Switch".



Fig 4.1c - For MDash to be able to control different levels of boost, Target Tables in MTune needs to be updated like picture above, controlled from MDash.



Fig 4.1e - When the Virtual Input is added, it can then be used in MTune as an input.

	Λ			
1111	2. Anti-Lag	Switch item	Lambda target	EGT 3
150 200	Off	Function:	0,905	19
MAP 250	3. Traction	Boost level 👻	Lambda corr A	EGT 4 1 9
250 -		Size:		EGT 5
) ^{kPa} 300		2 wide, 1 high 🔻		19
99,0 kPa		Add item		EGT 6
Speed		30 Coolant temp 90 7	EGT Highest	EGT 7
) km/h	1 9 9 Bar 10		20 °C	EGT 8

Fig 4.1b - A new dialog box will pop up. Choose Boost level or one of the four digital inputs that can be uesed in MaxxECU. Digital inputs \rightarrow BT Switch 1 - 4. <u>Must be used as a virtual input.</u>

🚱 🔂 🚽 OFFLINE	Virtual digital in	Virtual digital inputs				
ECU Tuning Start Il: Configuration Il: Limits Il: Fuel II: Santition	Virtual Input 1 User Output Function Input function	User Output Function 10 Secondary RPM Limit				
ローVVT 部 Motorsport 路 E-Throttle 離 Advanced 副 Inputs	Virtual Input 2 User Output Function Input function	User Output Function 9 Start logging				
Trigger/Home inputs (F11) Sensors (CLT,IAT,TPS) Lambda sensor Digital inputs Wirtual digital inputs Speed/Gear EGT sensors	Virtual Input 3 User Output Function Input function	User Output Function 8 Anti-lag enable				

Fig 4.1d - For MaxxECU to use MDash buttons, a virtual input is needed and function must be set in MTune.

Logger RealTime Data			
+ EngineControl	- Digital inputs	TracMod DIN 1 Active	
+ User AIN	DIN 1 Active	TracMod DIN 2 Active	
+ ECU Diagnostics	DIN 2 Active	TracMod DIN 3 Active	
+ Internal O2 Diagnostics	DIN 3 Active	TracMod DIN 4 Active	
+ Fuel	AIN 1 Active	TracMod DIN 5 Active	
- Flex fuel	AIN 2 Active	TracMod DIN 6 Active	
Ethanol concentration	AIN 3 Active	Virtual input 1 Active	
Fuel temperature	AIN 4 Active	Virtual input 2 Active	
+ Ignition	BT Switch 1 Active	Virtual input 3 Active	
+ User Tables	BT Switch 2 Active	+ Timers	
+ Trigger	BT Switch 3 Active	 + Speed/Gear	
+ Internal EGT	BT Switch 4 Active	+ Idle control	

Fig 4.1fl- In the tab RealTime Data, Digital Inputs the real time status of MDash switches can be seen.





Fig 4m - Nexus 7 tablet mounted in car.

Fig 4n - Active holder for Nexus 7 tablet.

5 - Error codes handling

MaxxECU has built-in error code handling, which are linked inside MDash for viewing.



Fig 5a - Tap on "Diagnostics" to access the error code handling system. The above example shows error code for internal lambda sensor. Tap and hold to erase the error code.

Fig 5b - No error codes.

NEW in MDash 1.83 is that a psysical button can be connected to any digital inputng (DINx, AINx), activated as "MDash page/ Reset CEL(hold)" and causes MDash to change tabs, and also to erase fault codes. Handy if gloves as used...

5 - Advanced varnings.

MaxxECU also has built-in warning system which can alert the driver for various things like high coolant temperature, low oil pressure, differences between the cylinders' exhaust temperatures.

All varnings configured in MTune will be displayed on MDash panel!

See 6.3.9 in MaxxECU handbook for further information and examples.



Fig 5c - Examples of how warnings are placed above the existing gauge panel to indicate a possible problem.

6 - Final words

We would like to thank you for your confidence in your choice of MaxxECU. We have worked extremely hard, and put a lot of time creating an engine control unit to make it "a little better".

In the unlikely encounter of a problem which is considered to be beyond your control, please contact customer support. You are very welcome to make suggestions on how to improve our product further!

> Maxxtuning AB www.maxxtuning.eu - info@maxxtuning.se



