



MX UTV

USER GUIDE 1.00

Made in Italy



www.aim-sportline.com



MX UTV

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Vehicle Setup

Vehicle Setup:	Polaris RZR Turbo
	Polaris RZR Can-Am Turbo
	BRP Can-Am Turbo
	BRP Can-Am YXZ 2016
	Yamaha YXZ 2017
	Arctic Cat Wild

MX UTV

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WARNING

Read and understand the operator's manual before operating this vehicle. Failure to do so may result in injury or death. Always use proper operating procedures. Do not drink and drive. Do not operate this vehicle if you are under the influence of alcohol or drugs. Do not operate this vehicle if you are tired or distracted. Do not operate this vehicle in adverse weather conditions. Do not operate this vehicle on public roads. Do not operate this vehicle near children or other vehicles. Do not operate this vehicle on steep slopes. Do not operate this vehicle on uneven terrain. Do not operate this vehicle on wet or icy surfaces. Do not operate this vehicle on snow or ice. Do not operate this vehicle on frozen water. Do not operate this vehicle on frozen ground. Do not operate this vehicle on frozen mud. Do not operate this vehicle on frozen grass. Do not operate this vehicle on frozen dirt. Do not operate this vehicle on frozen sand. Do not operate this vehicle on frozen gravel. Do not operate this vehicle on frozen rocks. Do not operate this vehicle on frozen stones. Do not operate this vehicle on frozen pebbles. Do not operate this vehicle on frozen shells. Do not operate this vehicle on frozen bones. Do not operate this vehicle on frozen meat. Do not operate this vehicle on frozen fish. Do not operate this vehicle on frozen vegetables. Do not operate this vehicle on frozen fruits. Do not operate this vehicle on frozen berries. Do not operate this vehicle on frozen nuts. Do not operate this vehicle on frozen seeds. Do not operate this vehicle on frozen grains. Do not operate this vehicle on frozen cereals. Do not operate this vehicle on frozen pastas. Do not operate this vehicle on frozen breads. Do not operate this vehicle on frozen pizzas. Do not operate this vehicle on frozen pizzas.

HC

1. MX UTV in a few words

MX UTV is a gauge designed for being installed on an UTV vehicle.



It samples and shows:

- channels coming from the vehicle ECU
- one temperature value that can be belt or, according to the ECU of your vehicle, oil temperature or oil pressure.



- lap time, with the precision of 1/100 sec and all parameters coming from GPS and Glonass constellations: speed, position, lateral acceleration and time of the day.

The GPS receiver has been tuned for our sport and can thereby stand all lateral and longitudinal accelerations, direction changes and vibrations without problems, always giving a perfect result ten times per second (10 Hz).

MX UTV uses both GPS and Glonass data to compute lap times.

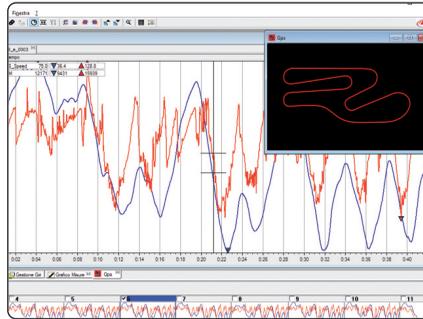
In case the track in which you are racing is included in the MX UTV database, it automatically recognizes it, gets the start/finish line and calculates lap times with high precision.

All these data are stored in a huge 4GB internal memory, that can record your data for thousands of hours.

You can download the data recorded on your PC using WiFi.



Finally, you may analyse the data with Race Studio Analysis, the widely approved data software you can freely download from our website www.aim-sportline.com.



The wide LCD display has a freely configurable RGB backlight and a light sensor (1) that automatically switches on the backlight with low light conditions.

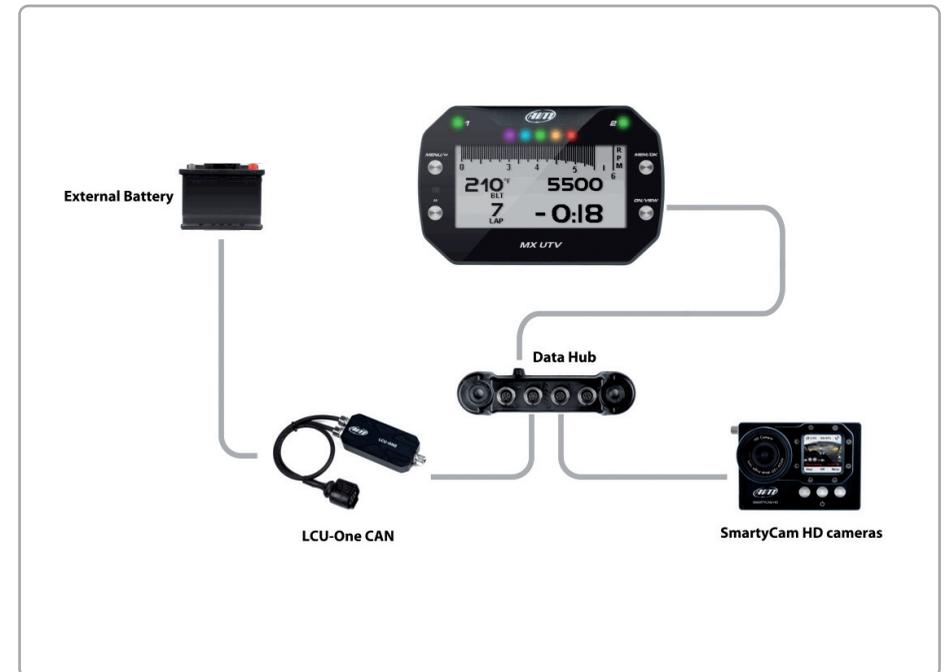
The two RGB alarm LEDs (2) can be switched on with seven different colours, different blinking patterns and custom temperatures thresholds.

Five configurable shift lights (3) help you choosing the best up-shift moment. A very helpful alternative is to use them to indicate the real-time gap between the current lap and the best lap of the session.



MX UTV is expandable: you can connect it via CAN Bus to:

- SmartyCam HD
- LCU-One CAN Lambda controller

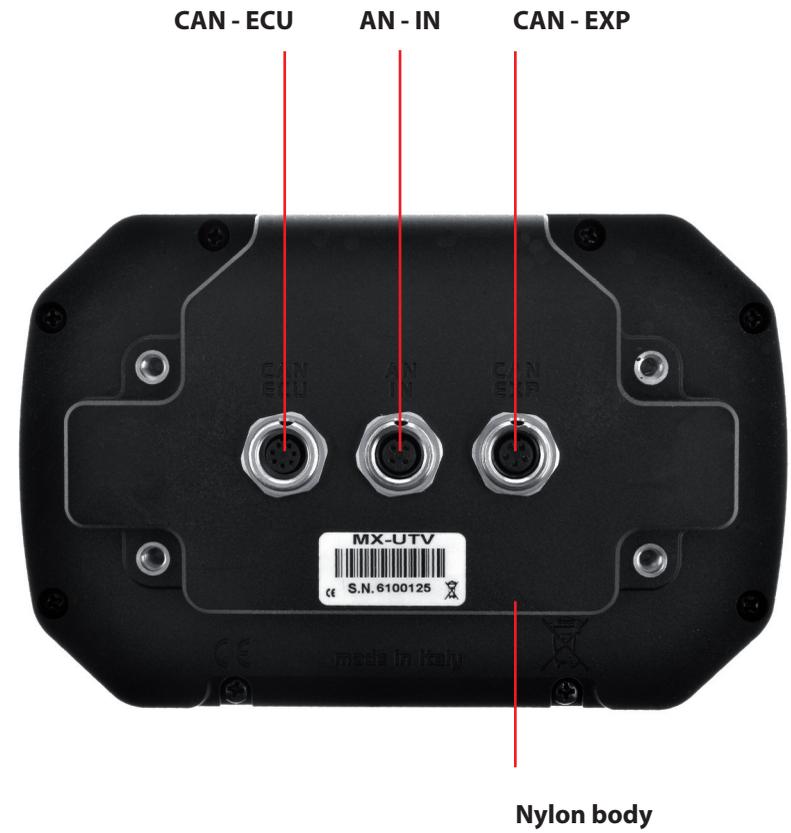
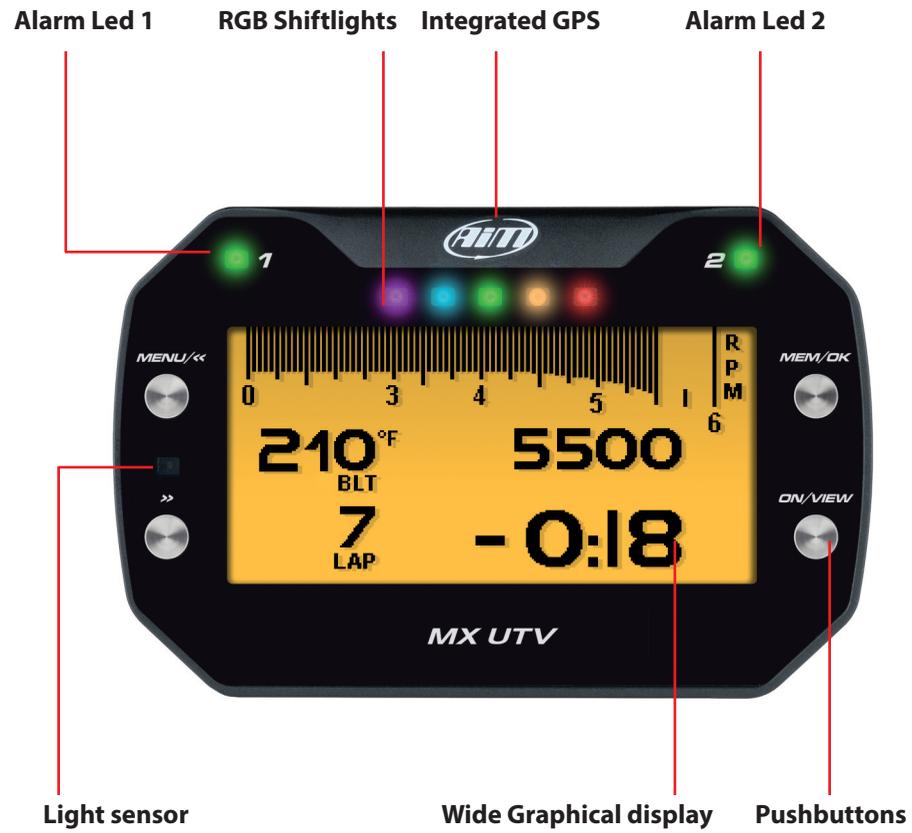


2. What is in the kit?

- 1 MX UTV
- 2 CAN + Power cable
- 3 Single point belt temperature sensor with fixing kit and extension cable
- 4 Sensor extension cable



MX UTV



3. Installation and powering

Your MX UTV can only be powered by the vehicle battery and is to be installed using the four silent blocks already mounted rear of it.



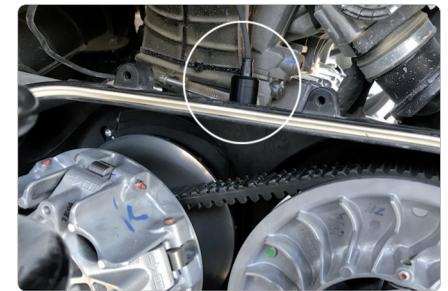
4. The belt temperature sensor

When installing the belt temperature sensor and all sensors in general ensure that the sensor cable does not bend, be careful not to over tighten the plastic stripes – this because vibrations can cut the harness sheath – and leave the cable long enough to stand the steering wheel angle.

To install the belt temperature sensor:

- drill the vehicle carter
- place the belt temperature sensor and fix it using the flange you find in the kit

The images below show the sensor correctly installed.



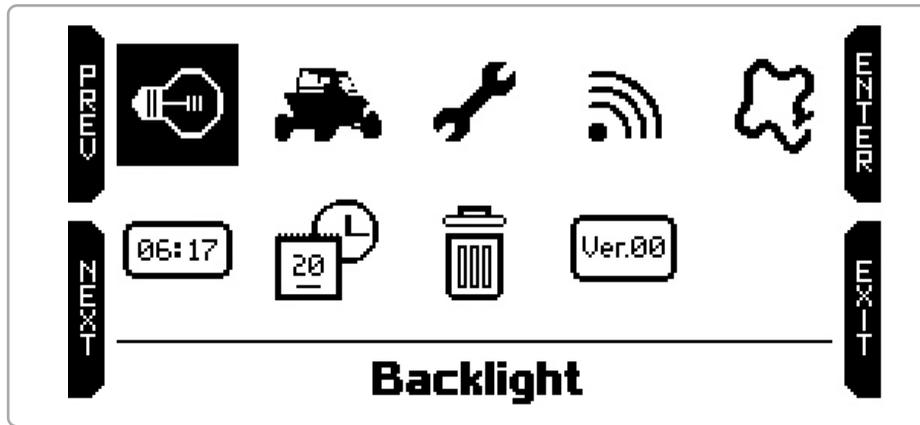
Once the sensor installed you can set an alarm threshold using “LED setup” function, alarm option, as explained in the related chapter.

4.1 Managing the analog input with a Yamaha ECU

If your UTV vehicle features a Yamaha ECU it has no belt so the analog input can be connected to a temperature/pressure sensor to measure the oil temperature/pressure. Connect your sensor to the 4 pins central female Binder connector you find rear on the system (as shown in the pinout drawings at the end of this user manual) and configure it as explained in “Analog channel setup” chapter.

5. Configuration Menu

Before using your MX UTV you need to set some parameters as explained here below. Enter the menu pressing the "MENU/←" button and this page shows up.



The icons allow you to set your MX UTV up:



5.1 Backlight



You can set the backlight as "ON", "OFF" or "AUTO". In this last case the light sensor placed left on the front of your MX UTV switches on/off the backlight according to the ambient light level.

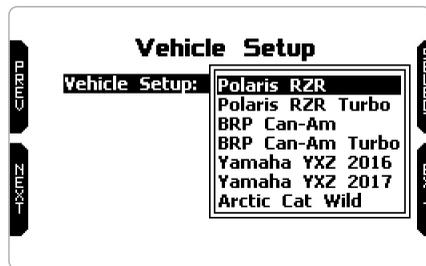
In this page you can also change the backlight colour choosing among eight different colours.



5.2 Vehicle Setup



Selecting this icon, you can choose your vehicle ECU.



Available ECU Models and channels are the following.

ECU Model

Polaris RZR
Polaris RZR turbo

Available channels

Speed, RPM, Gear, ECT, TPS, Brake SW, Fuel rate
Speed, RPM, Gear, ECT, TPS, Brake SW, Fuel rate,
Boost Pressure, Charge Air temp

CAN-AM
CAN-AM turbo

Speed, RPM, Gear, ECT, TPS, BrakeSW, Instant fuel flow
Speed, RPM, Gear, ECT, TPS, BrakeSW, Instant fuel consumed
Boost pressure, Intake Air Temp

Yamaha YXZ 2016
Yamaha YXZ 2017

Speed, RPM, Gear, ECT
Speed, RPM, Gear, ECT, TPS, BrakeSW

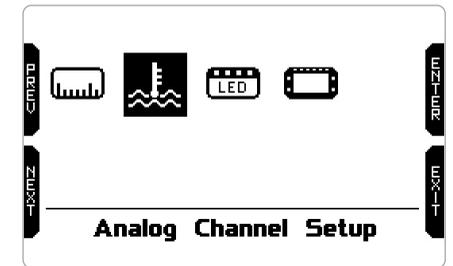
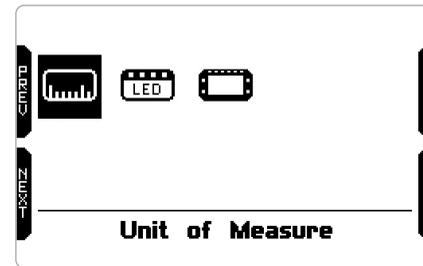
Arctit Cat Wildcat

Speed, RPM, Gear, ECT, TPS, BrakeSW

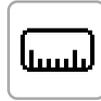
5.3 System settings



Selecting this icon, you can set MX UTV Measure unit, LED and display (left image here below). If your vehicle is equipped with a Yamaha ECU you can also set MX UTV analog input (right image below); else it is indicated to the infra-red belt temperature input.

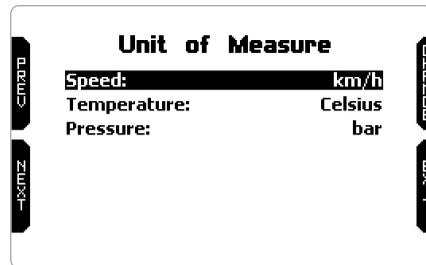


5.3.1 Measure unit



You can set the unit of measure of:

- speed: km/h or mph
- temperature: °C or °F
- pressure: bar/psi



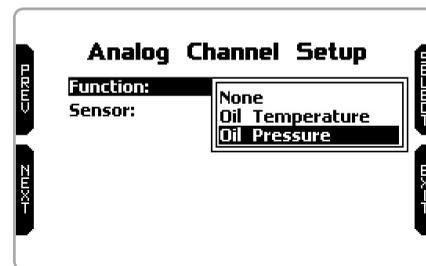
5.3.2 Analog channel setup (Yamaha only)



This icon only appears on vehicle with Yamaha YXZ 2016 and 2017 ECU and allows you to set the MX UTV analog input. It needs an analog sensor to be connected to MX UTV rear central connector (see MX UTV pinout in “Technical drawings and specifications” chapter).

Available options are:

- NONE
- oil temperature
- oil pressure

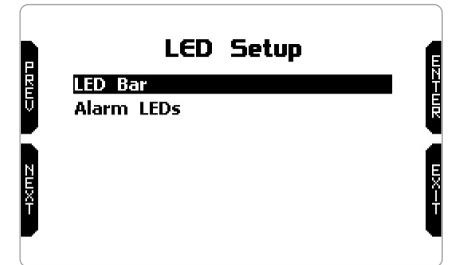


5.3.3 LED setup



Here you can set:

- the central LEDs bar (LED Bar)
- the two lateral LED corresponding to “1” and “2” screen prints (Alarm LEDs)



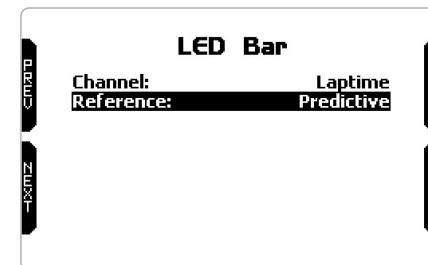
LED Bar: manages the central LEDs that can be set as:

- Laptime
- RPM
- OFF

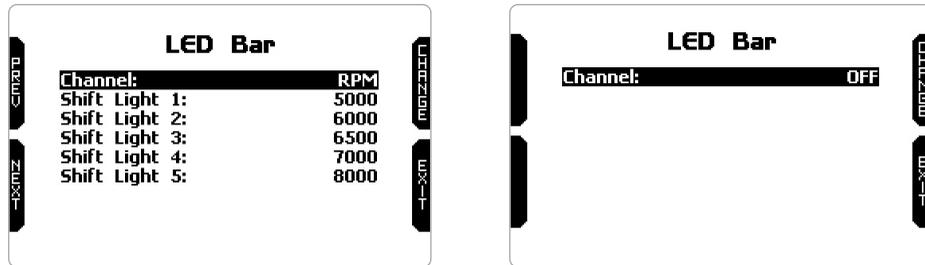
Choosing **Laptime** LEDs will switch on while running showing:

- gap between current lap time and best lap time (Predictive)
- gap between current split time and this split time in best lap (Best Section).

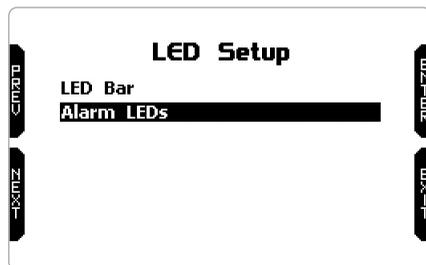
Each of the five LEDs indicates a tenth of a second gap; if lighting green they indicate an improvement while if lighting red they indicate a worsening.



Choosing **"RPM"** (left image below) you can set RPM threshold value (up to 16.000) that switches on each LED so to know when up-shifting.
 Choosing **"OFF"** the central LED bar is disabled (right image below).



Alarm LEDs: manages the lateral LEDs corresponding to "1" and "2" screen prints that can be configured as alarms (image below).

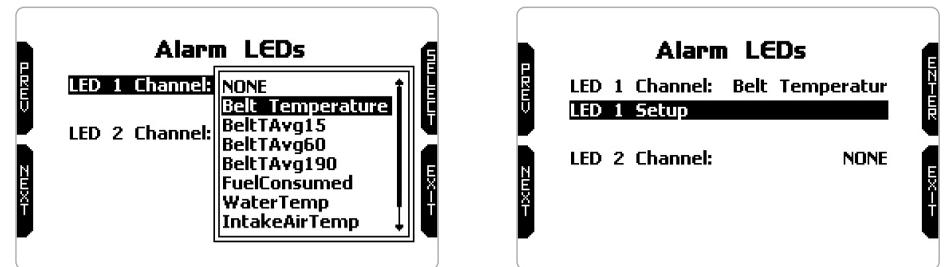


In this page (left image below) you can link each LED to one of the channels supplied by your vehicle ECU. As you see in addition to the usual ECU channels, MX UTV supplies three average belt temperatures, to say:

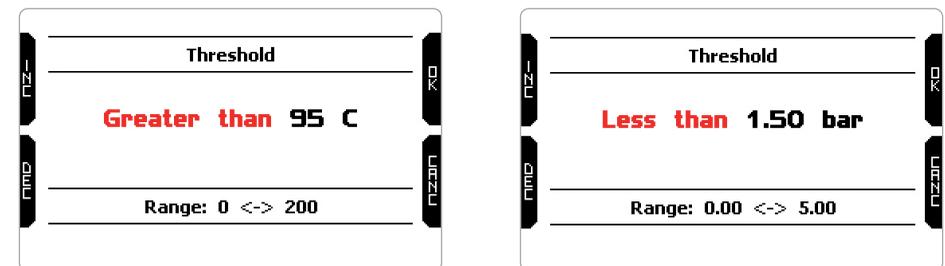
- BeltAvg15: belt average temperature in the last 15 minutes
- BeltAvg60: belt average temperature in the last 60 minutes
- BeltAvg190: belt average temperature in the last 190 minutes

select **any** channel you want to set an alarm for and press "EXIT".

Setup option appears to let you set switching on threshold, LED colour and blinking frequency (right image below).



Please note: switching on threshold is usually a max value (left image below) except for vehicles with Yamaha ECU where oil pressure alarm threshold can be set as min value (right image).

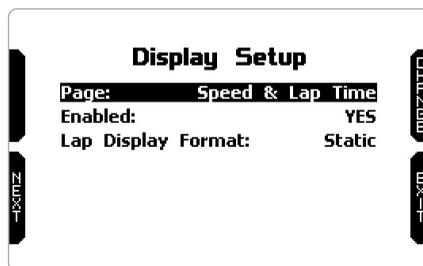
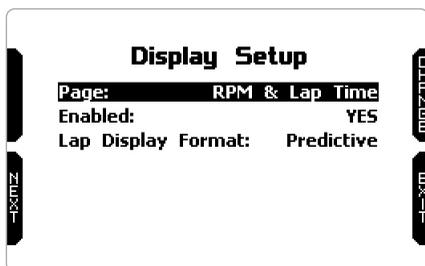


5.3.4 Display setup



MX UTV can show up to 4 pages, two of which are pre-defined:

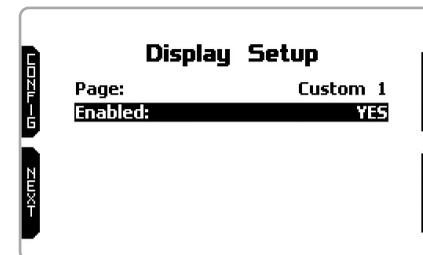
- RPM & Lap Time (left image here below): shows RPM value and lap time (and split time if set) other than temperature(s);
- Speed & Lap Time (right): works exactly like the previous one but shows speed.



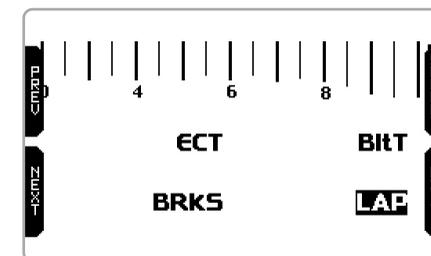
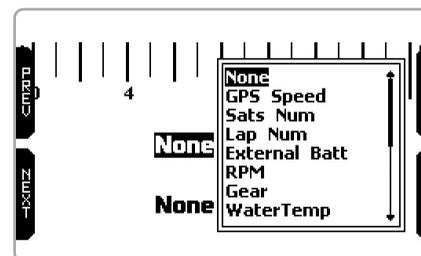
In both pages you can see lap time in three formats:

- static: shown steady for the entire lap; changes when crossing start/finish line;
- rolling: dynamic, is shown for 5 seconds; afterwards time starts rolling again;
- +/- best: shows the gap between current lap and the best lap of this session; if the current lap is the new best lap this is automatically updated and becomes the reference for the following laps;
- predictive: it calculates each 50m the predicted lap time using the speed channel and GPS position.

The two **custom** pages need to be enabled as shown below. Enabling them “CONFIG” button top left of the page appears: press it.



Each custom page can show up to four fields. Pressing “SELECT” you can choose the channel to show in each field (left image below). The only field that can show lap information is bottom right one (right image below).



5.4 Wi-Fi

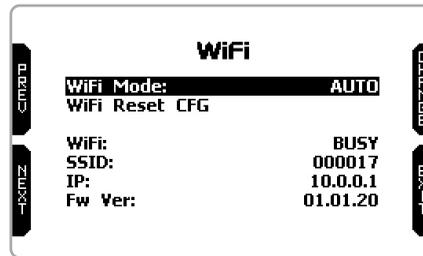


Here you can manage Wi-Fi as well as reset its configuration. Available Wi-Fi modes are:

- ON
- AUTO
- OFF (default)

“AUTO” mode switches Wi-Fi on when the vehicle is stopped and automatically **switches it off** when MX UTV starts recording (RPM value higher than 850).

“**WiFi Reset CFG**” option allows to reset Wi-Fi configurations and is very useful if you do not remember Wi-Fi password.



MX UTV Wi-Fi configuration can be made only using Race Studio 3 software. Two possible Wi-Fi modes are available:

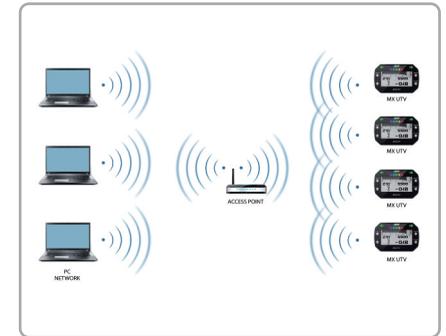
1 – As an Access Point (AP – default setting)

This is the ideal configuration if you have one only device and one only computer. In this situation, your MX UTV creates a Wi-Fi network and works as an Access Point you can connect your PC to.



2 – Existing network (to connect to an existing Wi-Fi network – WLAN)

This mode is more complex and implies an external access point (AP) but it is also more flexible and powerful because allows you to communicate with more than one device and with more than one computer in the same network. MX UTV and the PC must connect to an existing Wi-Fi network made by a device that works as an external Access Point.



When working in WLAN mode MX UTV has two available security levels:

- network authentication: network password
- device authentication: MX UTV password

Both levels allow you to use different strategies. A PC in WLAN, for example, can see several AiM devices but can communicate only with those he knows the password of.

If you forget the password you can reset Wi-Fi configuration from MX UTV menu as explained at the beginning of this chapter.

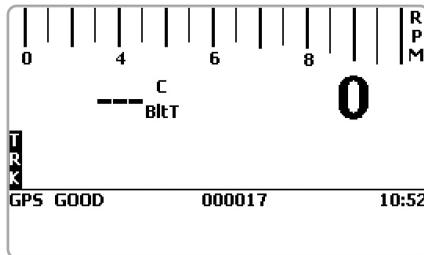
5.4.1 Configuring MX UTV as an Access Point (AP)

This is MX UTV default configuration and is the easiest and most direct connection mode, ideal if you want to communicate with one MX UTV using one PC. It is free and so completely accessible by anyone.

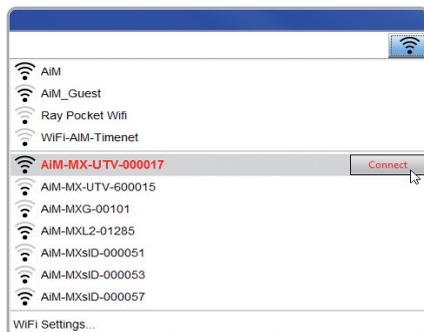
Please set an access password as soon as possible.

To establish a Wi-Fi connection:

- ensure that the Wi-Fi is enabled
- read your MX UTV name in the bottom line of the display main page (000017 in the image below).



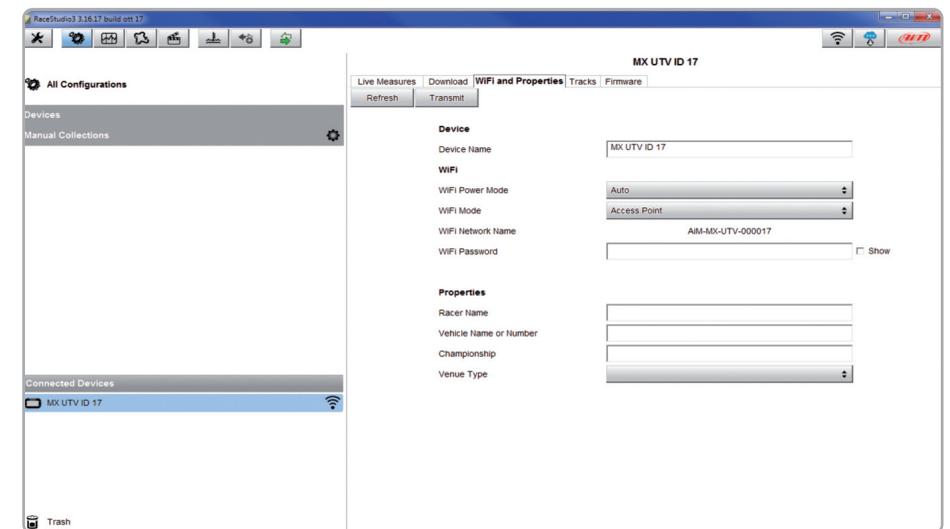
- run Race Studio 3
- click Wi-Fi icon, select your device and click "Connect"
- in a few seconds, the connection is established



To set other parameters create a unique password to protect your device/your network. With a password the communication is safe and encrypted using WPA2-PSK standard.

Characters allowed in the password are all letters, also capital, all digits and these characters: '+- _()[]{}\$£!/?^#@*"\`"=~/:;/%"

"Space" type can be used if it is not the first one because this could cause incomprehension in some Windows™ versions.



This AP or SSID name is unique for your device.
An example of name is: **"AiM-MX UTV-000017"** where:

- "AiM" is the prefix of all AiM devices
- "MX UTV" is the device identifier
- "000017" is your device serial number assigned by the factory.

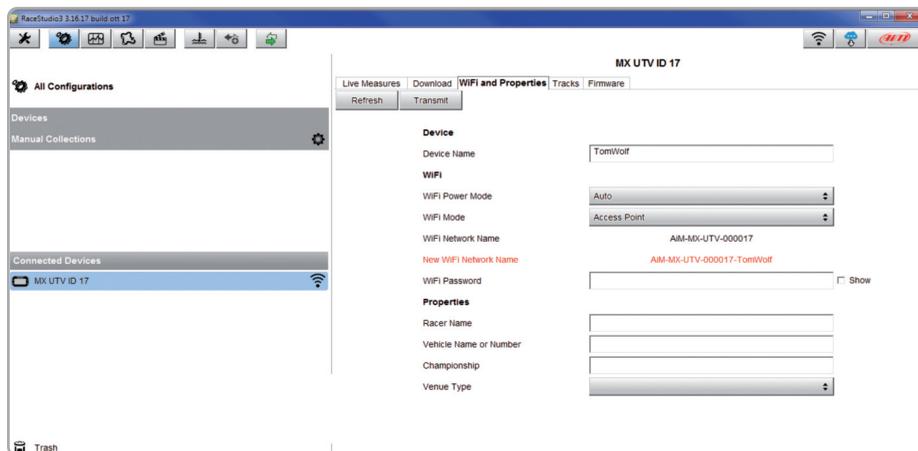
To make your device more recognizable you can add a name to the SSID. The limit is of eight characters. Allowed characters are all letters, capital too, all digits and these characters: '+ - _ () [] {}!.

"Space" type can be used provided that it is not the first one because it can cause incomprehension in some Windows™ versions.

If, for example, you add the driver's name, Tom Wolf, the network name (SSID) becomes:

"AiM-MXUTV-000017-TomWolf"

Once all parameters set click "Transmit". MX UTV reboots and is configured with the new parameters. If MX UTV is protected by a password, as recommended, Race Studio 3 will ask that password to authenticate.



Please Note the same Wi-Fi connection can be created with the operative system tool. Once the device has been authenticated in the Wi-Fi network you can communicate with it using Race Studio 3.

5.4.2 Adding MX UTV to an existing network

This situation is ideal for a team with multiple drivers and staff members and is desired to communicate with one or more AiM devices using the same PC network. Each MX UTV can have its password that adds another security and privacy level to the network.

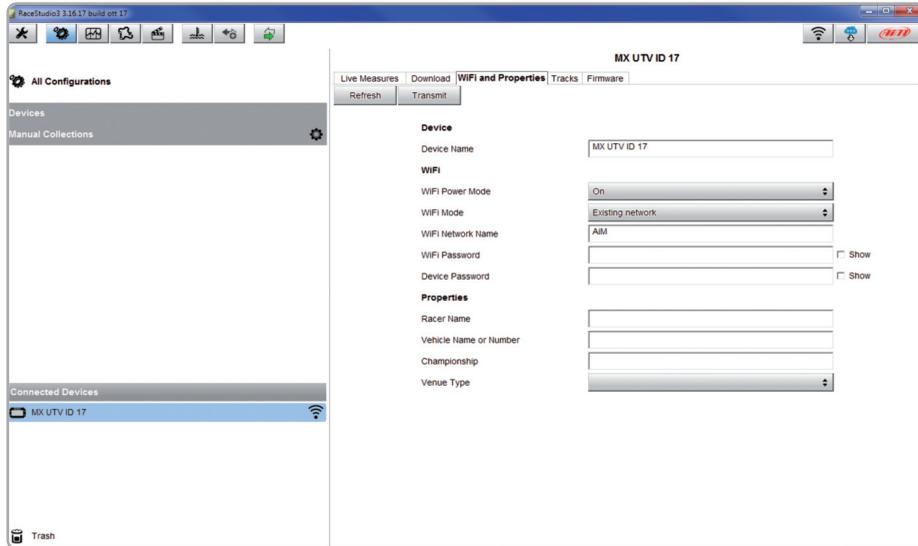
Race Studio 3 will show all MX UTV connected to the same network under "Connected devices" label, bottom left of the software page: click your device.

Enter "Wi-Fi and properties" tab and set it on "Existing Network"; fill in network name, network password and device password.

Transmit the network settings to your device clicking "Transmit": your device reboots and joins that network.

Please note: the only admitted password are those following WPA2-PSK standard.

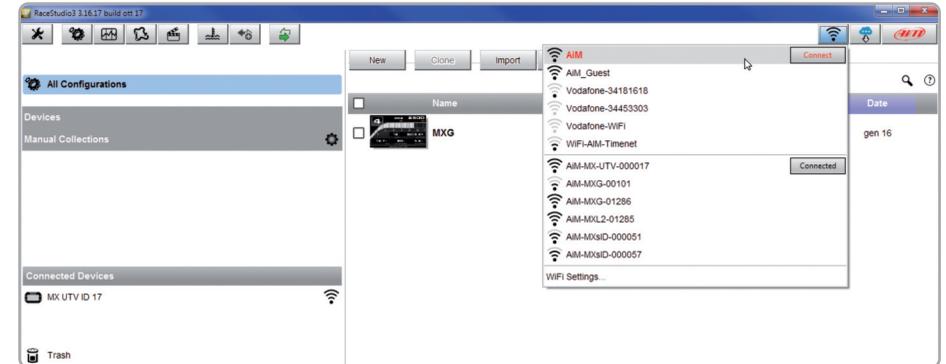
To complete this procedure use Race Studio 3 software as here explained.



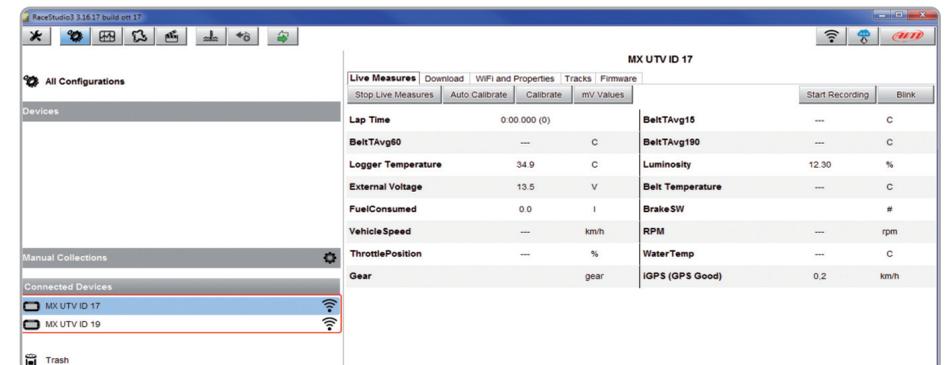
Here above you see a device "MX UTV ID 017" that switched from AP to WLAN mode ("Existing Network").

Network name is "AiM" and does not work with free access because is protected by a password.

To obtain connectivity on the device the PC has to be authenticated to the same network as shown here below.



When the PC is authenticated to the network called "AiM" it can see all devices you configured to access the same network. In the image below two AiM devices are connected to the same "AiM" WLAN.



5.4.3 Wi-Fi network settings

In this chapter, you find a short description of how to configure a WLAN including AiM devices and a PC.

Here below is an example of configuration.

ROUTER SETTINGS

Use this section to configure the internal network settings of your router. The IP Address that is configured here is the IP Address that you use to access the Web-based management interface. If you change the IP Address here, you may need to adjust your PC's network settings to access the network again.

Router IP Address : 192.168.0.1
 Subnet Mask : 255.255.255.0
 Device Name : Network_1
 Local Domain Name : (optional)
 Enable DNS Relay :

DHCP SERVER SETTINGS

Use this section to configure the built-in DHCP Server to assign IP addresses to the computers on your network.

Enable DHCP Server :
 DHCP IP Address Range : 192.168.0.2 to 192.168.0.6
 DHCP Lease Time : 10080 (minutes)
 Always Broadcast : (compatibility for some DHCP Clients)
 NetBIOS announcement :
 Learn NetBIOS from WAN :
 NetBIOS Scope : (optional)
 NetBIOS node type : Broadcast only (use when no WINS servers configured)
 Point-to-Point (no broadcast)
 Mixed-mode (Broadcast then Point-to-Point)
 Hybrid (Point-to-Point then Broadcast)
 Primary WINS IP Address :
 Secondary WINS IP Address :

For better network performances, we suggest the use of a network device equipped with a DHCP server and using 3x3 MIMO technology like, for example a Linksys AS3200.

To maximize the bandwidth, you should not allow the Internet on this WLAN; this means the DHCP server should be configured without any DNS address nor gateway by default.

The parameters for the device network configuration in this example are:

■ **Wireless network name: Network_1**

It means that the WLAN network name is "Network_1." A PC has to be authenticated in this network to interact with any AiM device of this network.

■ **Gateway address: 192.168.0.1**

primary DNS server: 0.0.0.0

secondary DNS server: 0.0.0.0

(These settings prevent Internet connectivity on this WLAN)

■ **Subnet mask: 255.255.255.248**

Enable DHCP server: yes

DHCP IP address range: 192.168.0.2 to 192.168.0.6

These settings enable a DHCP server running on this WLAN and provide an IP address in a 2-6 range. This means that this network allows 5 network hosts.

The number of devices on a WLAN network depends on the subnet mask. Here below you see typical examples of network masks and IP addresses range.

The configuration in bold is the one we suggest (if a greater number of devices is not needed), being the one that makes it easier and quicker for Race Studio 3 the identification of the devices in the network.

Subnet mask:	IP address range:	Number of devices:
255.255.255.0	192.168.0.1 – 254	254
255.255.255.128	192.168.0.1 – 126	126
255.255.255.192	192.168.0.1 – 62	62
255.255.255.224	192.168.0.1 – 30	30
255.255.255.240	192.168.0.1 – 14	14
255.255.255.248	192.168.0.1 – 6	6

5.4.4 The Internet connectivity

For an optimal speed of your AiM device(s) we recommend not to allow the Internet on the same network and to set the WLAN in the same way.

You can of course allow the Internet access on your network but this would degrade the communication.

This slightly slower speed can be suitable for your needs but you can also have a second Wi-Fi connection using an additional hardware (NIC).

This configuration would provide an optimal speed of the data network of your AiM device(s) and at the same time would provide an internet connectivity with the second NIC.

5.4.5 Connection issues

It can occur that MX UTV is correctly connected to Race Studio 3 via Wi-Fi but the user interface does not show it. This may be because Wi-Fi port setting is set with a static IP.

To switch it to dynamic (DHCP):

- open “Network and sharing centre” in the Windows™ research engine
- right click on the Wi-Fi connection and a panel shows up
- select “Properties” option
- double click on “Internet Protocol version 4 (TCP/IPv4)”
- verify that option “Obtain an IP address” is active

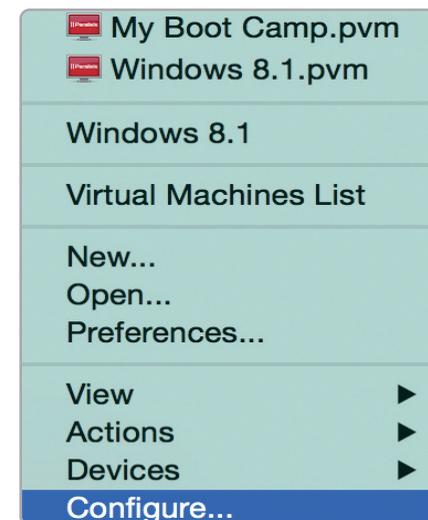
5.4.6 Working on Mac™ with virtualized Windows™

Race Studio 3 only works on Windows™ operative systems; Mac users can use a virtualized Windows™ machine.

The main problem is that the host OS (Mac) must share its Wi-Fi interface with the virtualized operative system (Windows) as Ethernet interface and not as Wi-Fi interface.

Configuring Parallels(™)

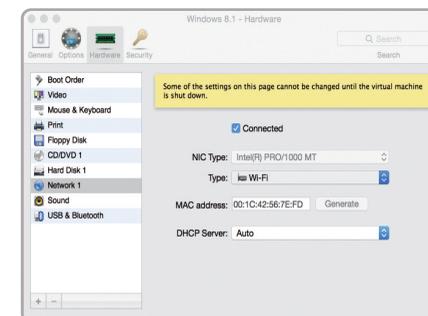
Select “Menu -> Configure...” in Parallels.



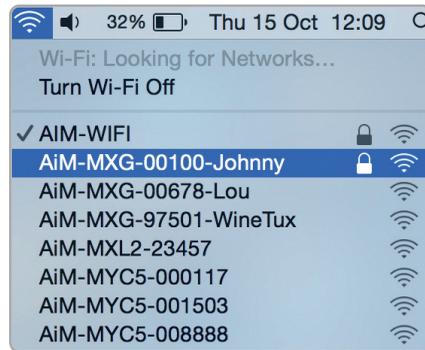
Press “Hardware” – top on the page that shows up – and select “Network” in the drop-down menu on the left.

Right on the configuration panel set “Type” field on “Wi-Fi”.

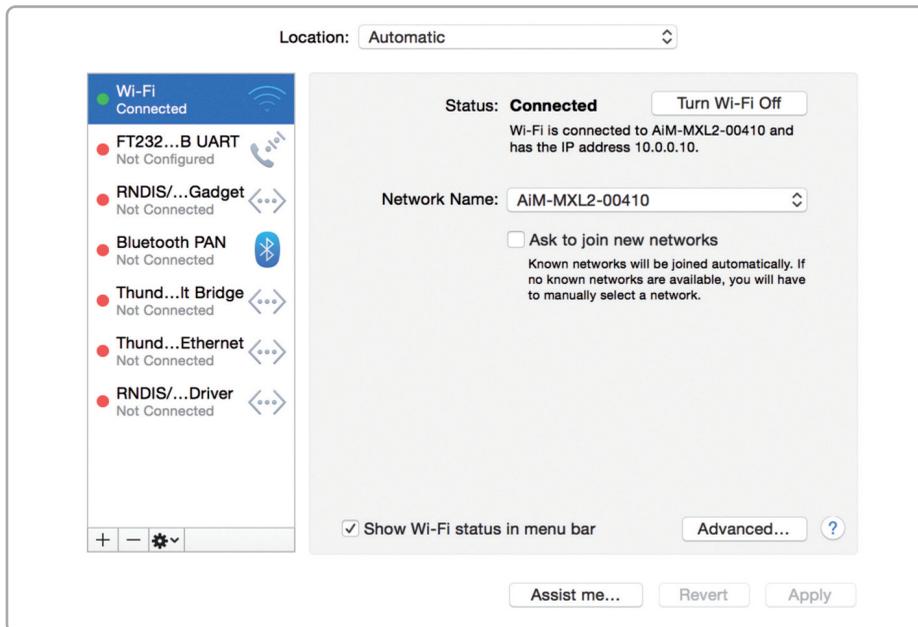
Then select the device you want to communicate with.



To ensure that the communication works select “Open Network preferences...” menu.

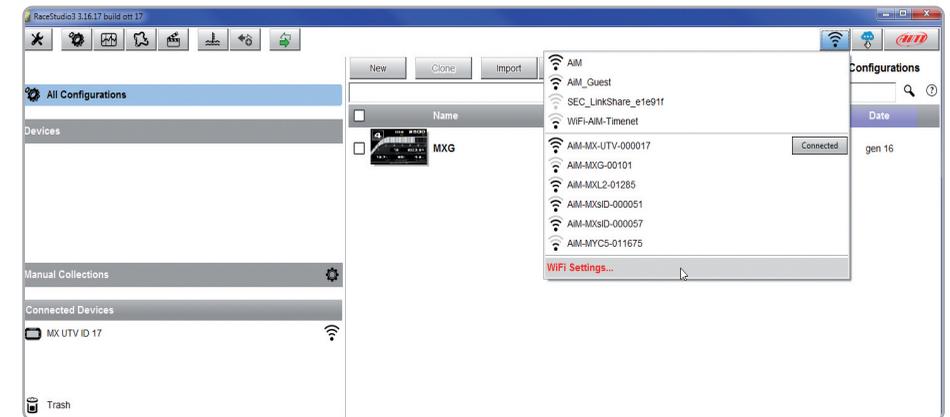


Verify that the status in the window that shows up is “Connected” and that the IP address associated is, for example, 10.0.0.10 (could be 10.0.0.11, 10.0.0.12, or generically 10.0.0.x).



To enable Race Studio 3 correctly working on a Mac with virtualized Windows™:

- press Wi-Fi icon
- select “Wi-Fi Settings...” icon



- enable the checkbox shown here below.



5.4.7 Connected device visualization issues

It may occur that using Race Studio 3 on an iMac with virtualized Windows the device connected via Wi-Fi takes some time to be shown in the network or is not shown at all. This is why we always suggests using an Wi-Fi (WLAN) router.

This router work as an Access Point allowing more external devices to connect to its network. MX UTV Wi-Fi configuration is to be set on Existing Network as explained in the related paragraph.

5.5 GPS and Track management



MX UTV built-in GPS receiver is used for:

- Lap Time calculation
- Speed calculation
- Predictive lap time calculation
- Position on the track in analysis

To calculate these data the system needs start/finish line coordinates. MX UTV comes with a long list of the world main tracks. The tracks are constantly updated by our technicians and are automatically loaded to your PC when you run our Race Studio 3 software and a connection to the Internet is available.

MX UTV provides two track selection modes: automatic and manual.

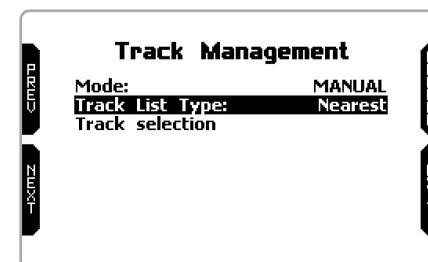
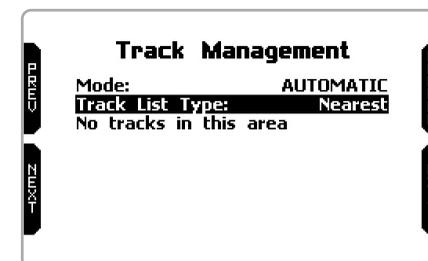
Automatic:

MX UTV automatically recognizes the track you are running on, loads the start/finish line and calculates lap times.

This is the best mode in most cases.

Manual:

allows to manually select the track from the internal database. This mode is to prefer when multiple track configurations are available nearby. In this case MX UTV would anyway recognize the track but would need at least one complete track lap. To be ready from the first lap manual mode would be helpful.



You can scroll the list of available tracks choosing among these options:

- nearest: shows only tracks in a 10 km distance
- all: shows all tracks stored in the system in alphabetical order
- custom: shows only the tracks you have previously created (learning mode)

5.5.1 Creating a track with MX UTV

If you are running in a track NOT included in MX UTV database the device switches to “learning” mode and behave this way:

- it starts sampling all track points
- when detects that is crossing the same points for the second time it realizes that the track is closed and sets a temporary start/finish line showing lap time each time it crosses that point;
- at the end of the session the system shows the track map with start/finish line: you can move start/finish line using MX UTV lateral buttons
- you can add this new map to MX UTV database, modify start/finish line coordinates, name the track and transmit it to the PC at first PC-MX UTV connection.

5.5.2 Managing a Track with Race Studio 3 software

Using Race Studio 3 Track manager function you can create, delete and modify tracks, transmit and receive them to/from your MX UTV. To enter it press “Tracks” icon on the software main page.



The main page is divided in three columns: on the Left:

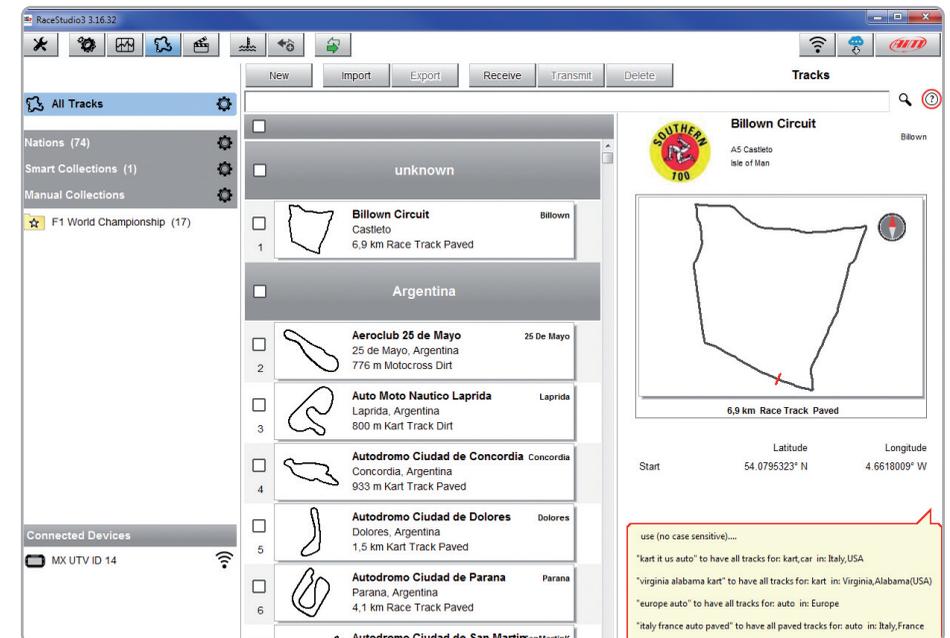
- on top, the filters that allow to collect many tracks following customized criteria; by default, all tracks are shown (light blue “All Tracks” filter in the image below).
- bottom left, the connected devices (in the image, “MX UTV ID 14”).

The column in the middle shows:

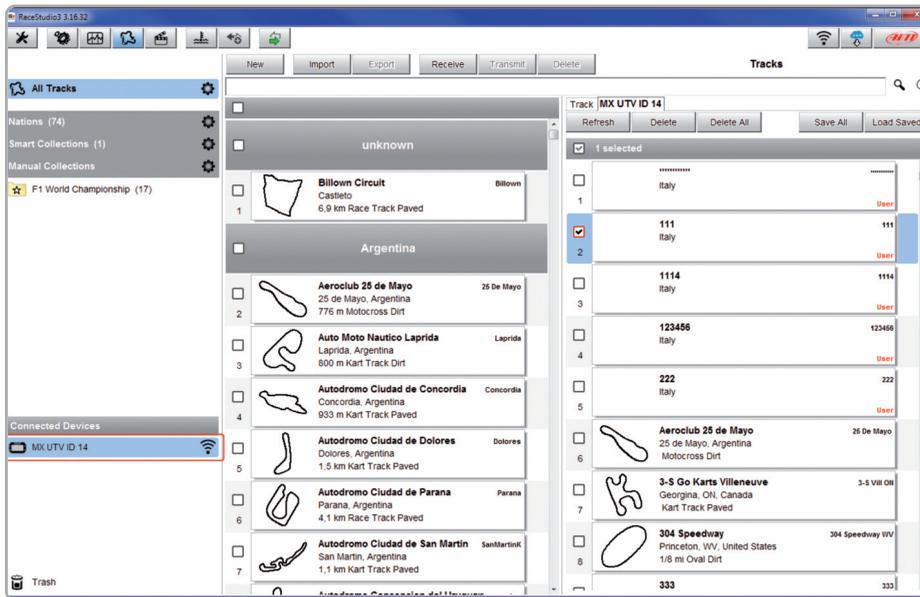
- on top a fast search bar, that allows to select the tracks which satisfy your personal research criteria; by pressing “?” a pop-up window shows research examples (highlighted in red below).
- all the tracks listed in Race Studio 3 database. It automatically updates at start up if a connection to the Internet is available.

The column on the Right shows:

- the data sheet of the track you are mousing over.



When your MX UTV is connected it is shown on the left bottom part of the page as said before. Clicking on it all the tracks it contains are shown in the right column of the page. The tracks you created are labelled “user” on the right of the track panel.



The page keyboards are used to manage the tracks.

The keyboard you find above the central column allows you to:



- **New:** create a new track
- **Import:** import one or more tracks you stored in your MX UTV or on another external device
- **Export:** export one or more tracks to a specific PC folder or to another peripheral device
- **Receive:** receive from your connected MX UTV the tracks you created (if no device is connected the button is disabled)
- **Transmit:** transmit one or more tracks from the PC to your connected MX UTV (if no device is connected the button is disabled)
- **Delete:** delete one or more tracks from Race Studio 3 Database

The keyboard you find above the right column allows you to:

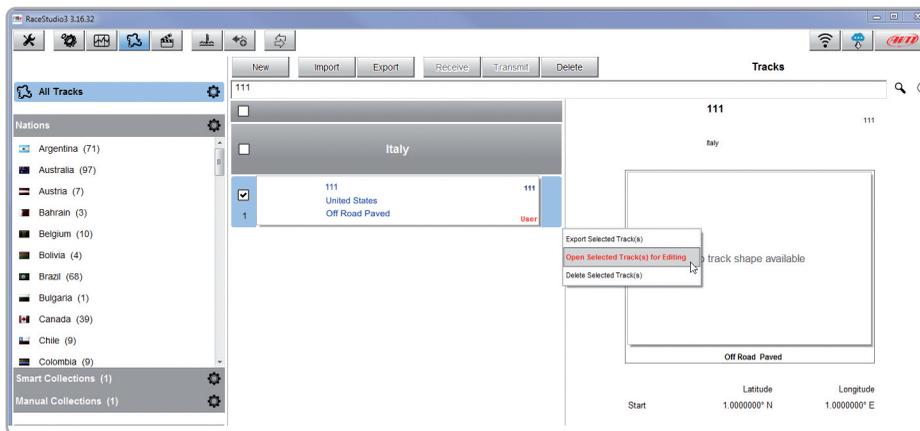


- **Refresh:** refresh the track list stored in your connected MX UTV
- **Delete:** delete one or more tracks from your MX UTV memory
- **Delete All:** delete all tracks stored in your MX UTV memory
- **Save all:** save all the tracks stored in your connected MX UTV; it creates a zip file you can load to another AiM device
- **Load Saved:** load the tracks you previously saved in your connected MX UTV memory

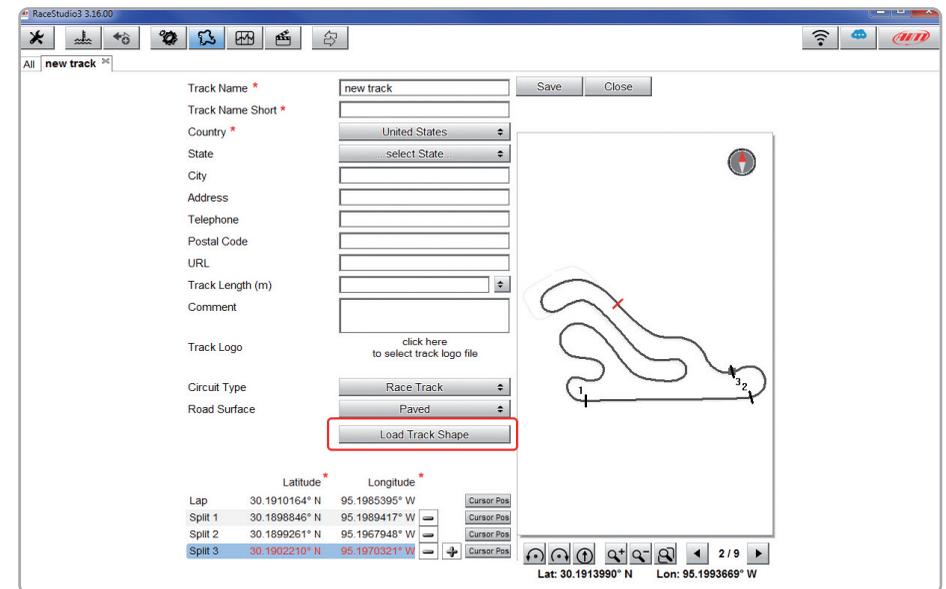
As said before, if your MX UTV detects the track it is racing on is not included in its database, it starts recording in “learning” mode.

At the end of the session you can connect it to the PC to add the track map to your PC database.

- click the device name bottom left of Race Studio 3 page
- select the track map and press “Receive”: the track map appears in the central column list
- right click on the map and select “Edit option”



New track page appears. All fields with an asterisk are mandatory. “Track name short” is the name you will see on your device – max allowed number of characters is 12. We recommend to fill in “Circuit type” and “Road surface” because – even if not necessary to set the track – they are used by the research filters.



Being your track created by your MX UTV you can also load the track map pressing “Load Track shape”.

The software just admits “.tkk” files – generated by Race Studio 3 – and “.gpk”, generated from data download.

When the track is uploaded, the software can automatically calculate its length (in miles or meters). Start/finish line (Lap) can be added by mousing its point on the track and pressing “Cursor Pos”. To insert the splits press “+” and repeat the operation. Splits are marked by black segments and numbers.

All these points can also be added manually if you know their coordinates.

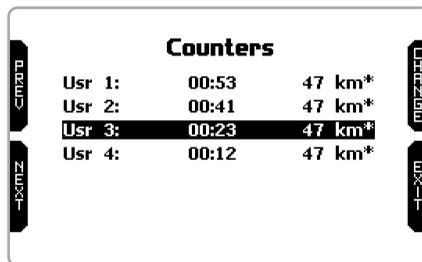
Press “Save” and the new track will appear in the list labelled “User”.

For further information about track management with Race Studio 3 visit documentation area, software/firmware section of www.aim-sportline.com.

5.6 Counters

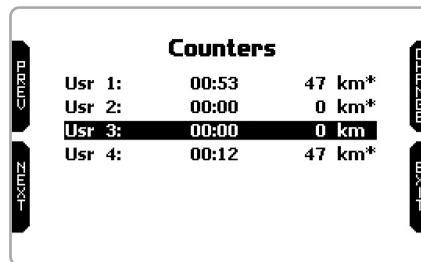
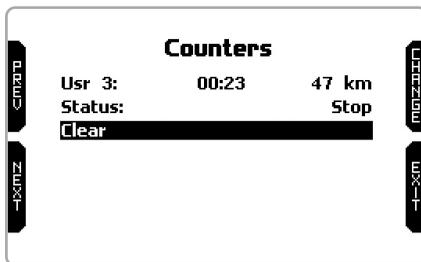


This page manages the 4 resettable odometers of MX UTV. The system odometer is not resettable and is not shown; you will see it in odometers page of Race Studio 3 software (see the chapter about MX UTV and the PC)



Each odometer can be activated/deactivated and/or reset. Select the odometer you want to manage and press "CHANGE":

- to disable select "Status" and press "CHANGE": status becomes "STOP" (left image below)
- to reset the odometer select "Clear" and press "CHANGE" (left image below)
- pressing "EXIT" you go back to counters page and won't see the asterisk on the counter you disabled while the cleared one shows 0 km (in the right image below both operations have been performed on counter 3).



5.7 Date time



Here you can set the time zone of your MX UTV as well as enable/disable "Daylight Saving Time". Time zone is always set manually. Date and time can be shown in different formats.

Time is automatically synchronized as MX UTV receives the GPS signal.



5.8 Clear memory

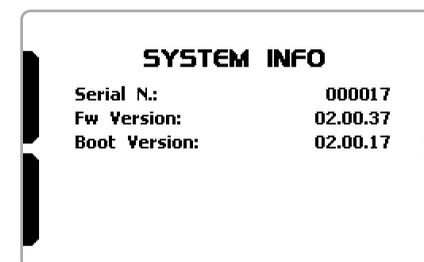


Clears all sessions stored in MX UTV memory: needs confirmation.

5.9 System info



This page shows serial number as well as Firmware and Boot version of your MX UTV.



6. On the track

Some MX UTV pages are available for online visualization. To scroll them press "ON/VIEW". Pages can change according to MX UTV configuration: expansions, SmartyCam, etc. At least four pages are always available:



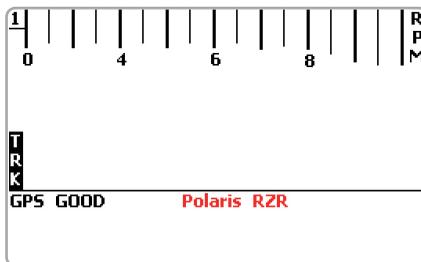
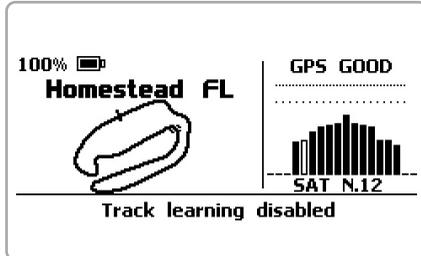
Selected track page: is the first page that appears switching MX UTV on. When the vehicle is moving, this is automatically closed. It shows:

- on the left, the selected track; you can select a new track manually (menu/track management) or automatically.

- on the right, the satellite bar (visible satellites and signal level of each one).

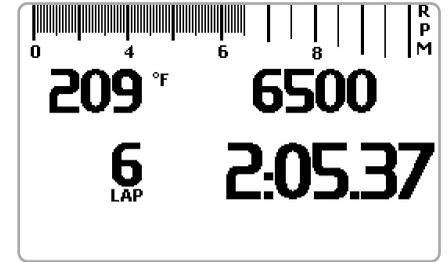
To recall track page press (">>/OFF") button in correspondence of "TRK" label in MX UTV home page.

The following page that appears shows central bottom of the page the Vehicle Setup you selected.



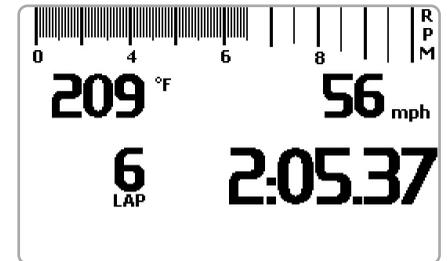
RPM & LAP TIME page: shows:

- RPM bar graph whose range has been set in "RPM setup"
- RPM value on the right of the display
- Temperature value(s) on the left part of the screen
- lap time information (actual, rolling or predictive). This information is shown for the period you set in "Lap time setup"



SPEED & LAP TIME page:

like the previous one but with speed shown on the right.



7. Data Recall

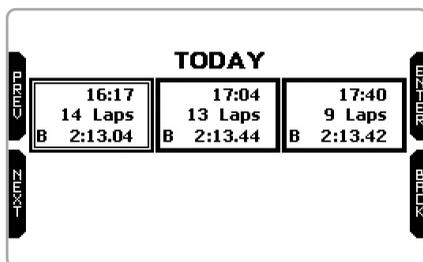
At the end of the test you can recall sampled data pressing **MEM/OK**.

MX UTV shows these pages.

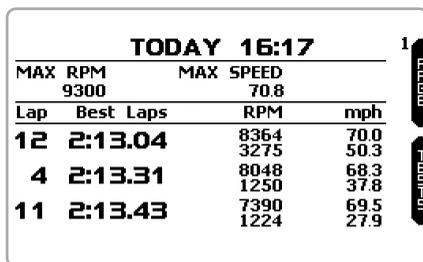
If your last test is at least 24 hours old you can enter summary page and select the day you want to see. Press "ENTER"



Then select the test. In each box you see test time, laps number and the best lap time. Press "ENTER"

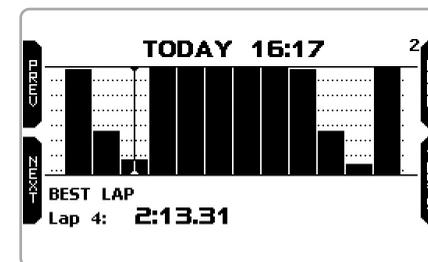


If you just finished your test the first page you see is the one here on the right. It shows the three best lap times with max/min RPM values, speed and temperature. Press "NEXT".

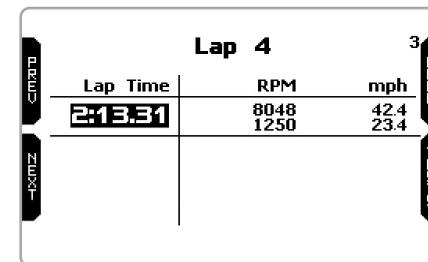


This page is a histogram test summary. Moving the cursor left and right you can see all laps and select the one you want to see.

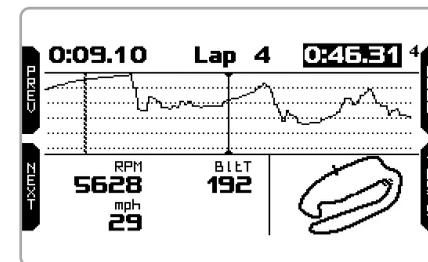
Press "ENTER".



This page shows the selected lap with max/min RPM and speed values



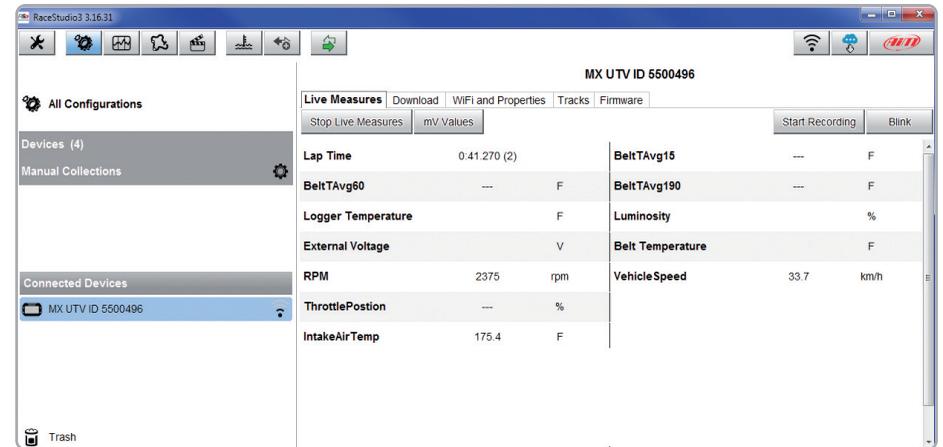
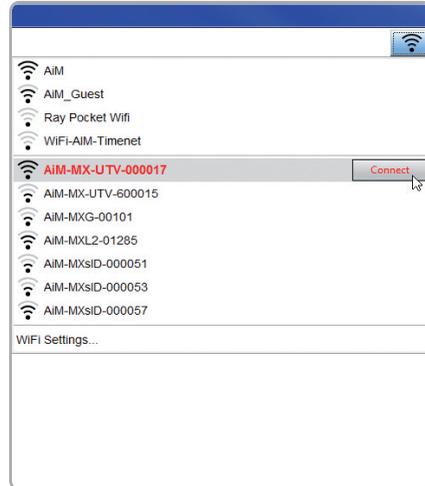
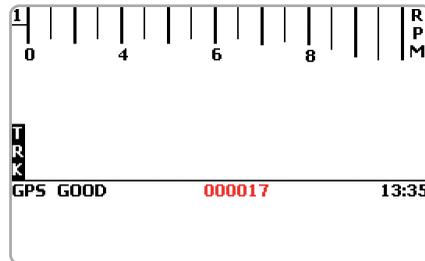
This page shows the RPM graph of the lap. Press "PAGE".



8. Connection to the PC

You can connect MX UTV to a PC **only** via Wi-Fi. To do it:

- check that MX UTV Wi-Fi is set on "AUTO" or on "ON"
- read your MX UTV name – mid of MX UTV home page bottom line – or look for it in "System Information" page.
- click Race Studio 3 Wi-Fi icon and select your MX UTV.

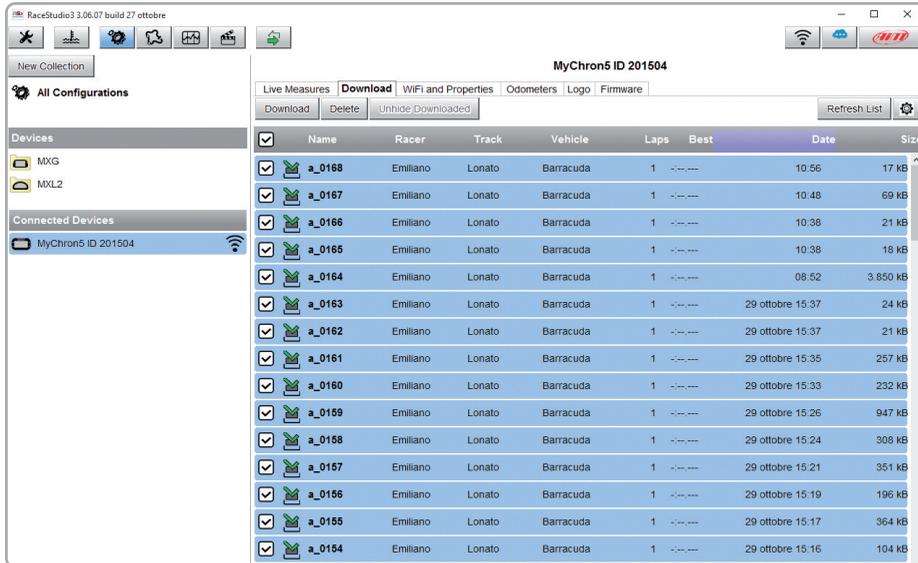


Once the connection is established you have these options:

- Live Measures: to check all MX UTV channels;
- Download: to download data, see the related chapter;
- Wi-Fi and Properties: to manage the Wi-Fi configuration (see the related chapter)
- Tracks: to manage the tracks stored in the device memory
- Firmware: to check or update your MX UTV firmware version.

9. Data download

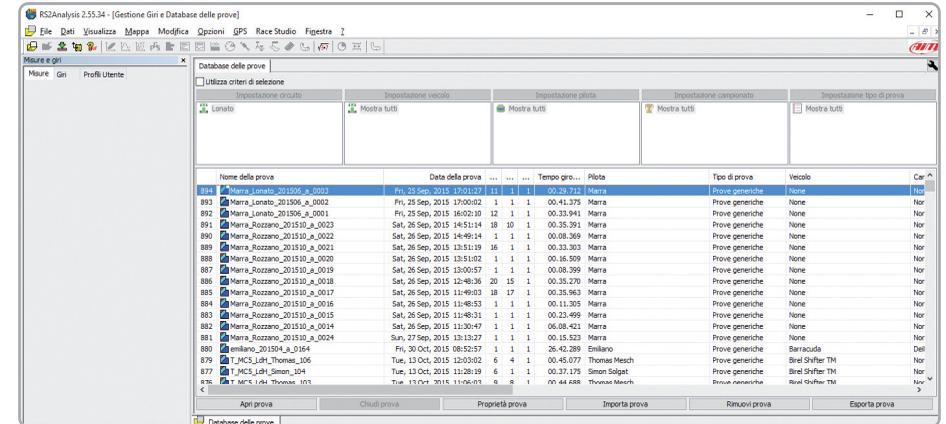
Once MX UTV-PC connection is established activate “Download” tab to download sampled data.



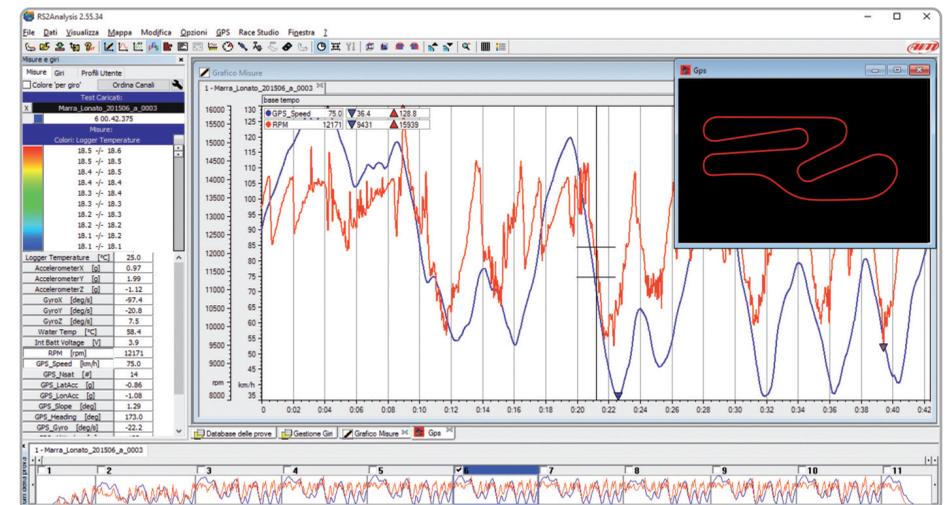
This page shows all information about the files stored in the system: number of laps, best lap, date/time and file dimensions. Select one or more files and press “Download” to download and analyse them.

10. Analysis

When data have been downloaded press Analysis icon and Race Studio Analysis software will open showing this page.



Select your file double clicking on it and start analysing it. A lot of pages, graphs and images will help you analysing your data in the best way.



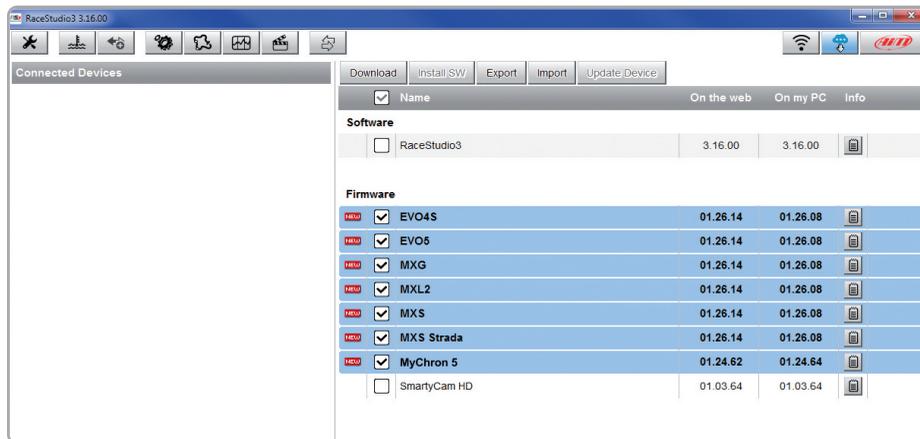
11. Notification of new available versions



Our technicians and engineers are constantly working to improve both the firmware (the application that manages your device) and the software (the application you install on your PC).

Each time a new firmware and/or software version is available the icon here above appears with an arrow indicating that something is available for download (otherwise the icon only shows the cloud).

Click it and freely download the new applications.

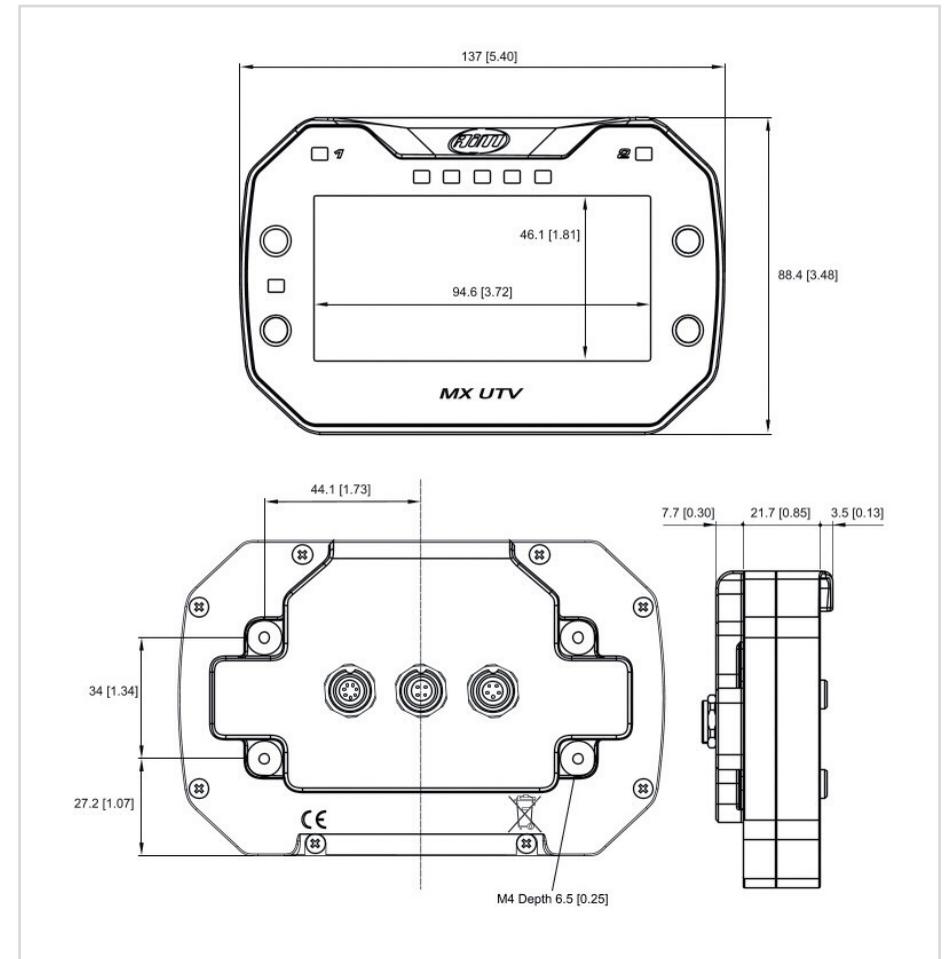


Once the new firmware has been downloaded, connect your device to the PC via Wi-Fi to perform a firmware upgrade. In a few seconds the device is ready.

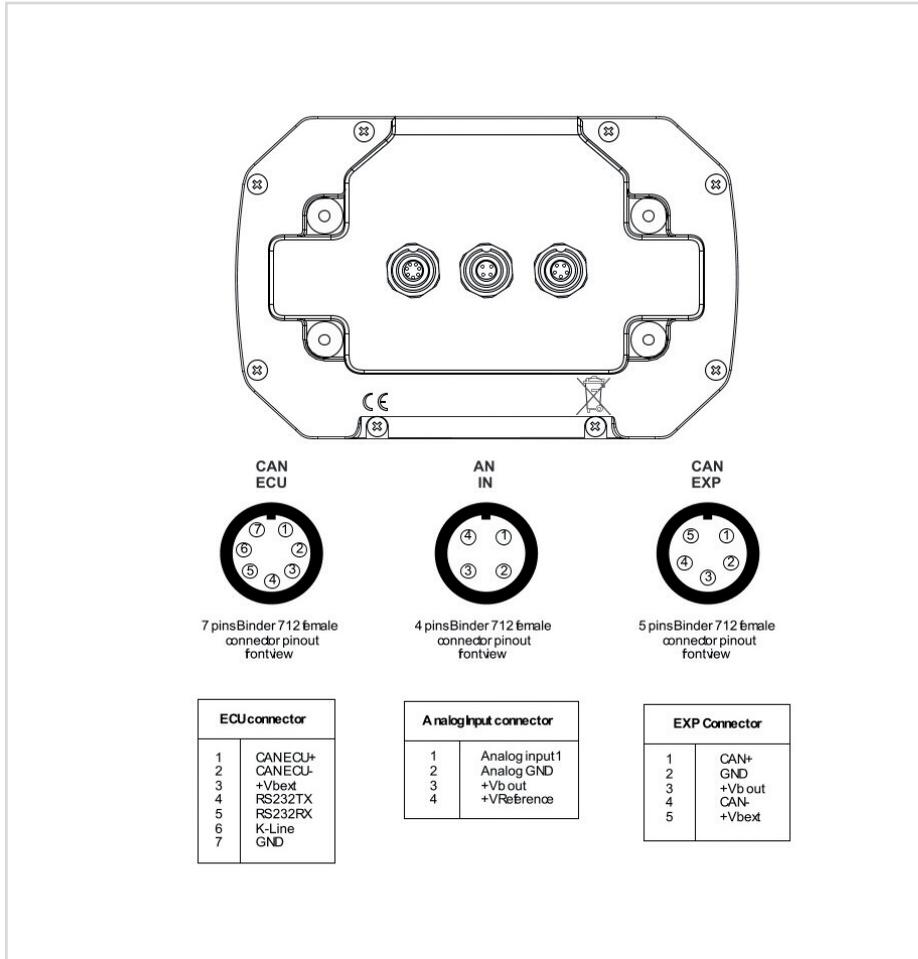


12. Technical specification and drawings

■ Display resolution	268x128 pixel
■ Backlight	7 configurable RGB colours
■ Ambient Light sensor	Yes
■ ShiftLights	5 freely configurable RGB LED
■ Alarms LEDs	2 freely configurable RGB LED
■ CAN connection	Yes
■ ECU connection	Yes
■ GPS	Integrated 10Hz GPS+Glonass
■ Analog Inputs	1
■ Wi-Fi connection	Yes
■ Internal memory	4Gb
■ Body	Glass fiber reinforced Nylon
■ Pushbuttons	Metallic
■ Connectors	Binder connectors
■ Dimensions	137x88,4x31,9 mm
■ Weight	330g
■ Waterproof	IP65



MX UTV pinout



Our web site, www.aim-sportline.com is constantly updated.

Please, refer to it for downloading the last release of our documentation.

