RaceCapture/Pro 3

Next generation of data, telemetry, and control

Your time on track matters and you want to maximize every minute and dollar toward tuning the engine, honing your racecraft, or finding that extra edge over your competition. As motorsports evolves, so should motorsports telemetry technology: more real-time, extending your reach to the people who matter. Showing you what you need while you're still at the track, so you can make changes and adapt now, not later. Autosport Labs' new RaceCapture/Pro MK3 brings flexible data acquisition, predictive lap timing, real-time telemetry, and control to your race car.

Live-streaming to Podium

Live-stream your racing to Podium, where you can perform real-time analysis on engine, chassis, and driver performance. Share and compare your laps with friends, colleagues, and race coaches around the world.

Learn more at https://podium.live

Compatibility with the RaceCapture app

Use the included RaceCapture app to create a customizable dashboard for gauges and predictive lap times, easily review data with the analysis features, and configure every feature through a touch interface. It works on your favorite tablet or phone as well as your laptop. Android, iOS, OSX, and Windows are all supported!
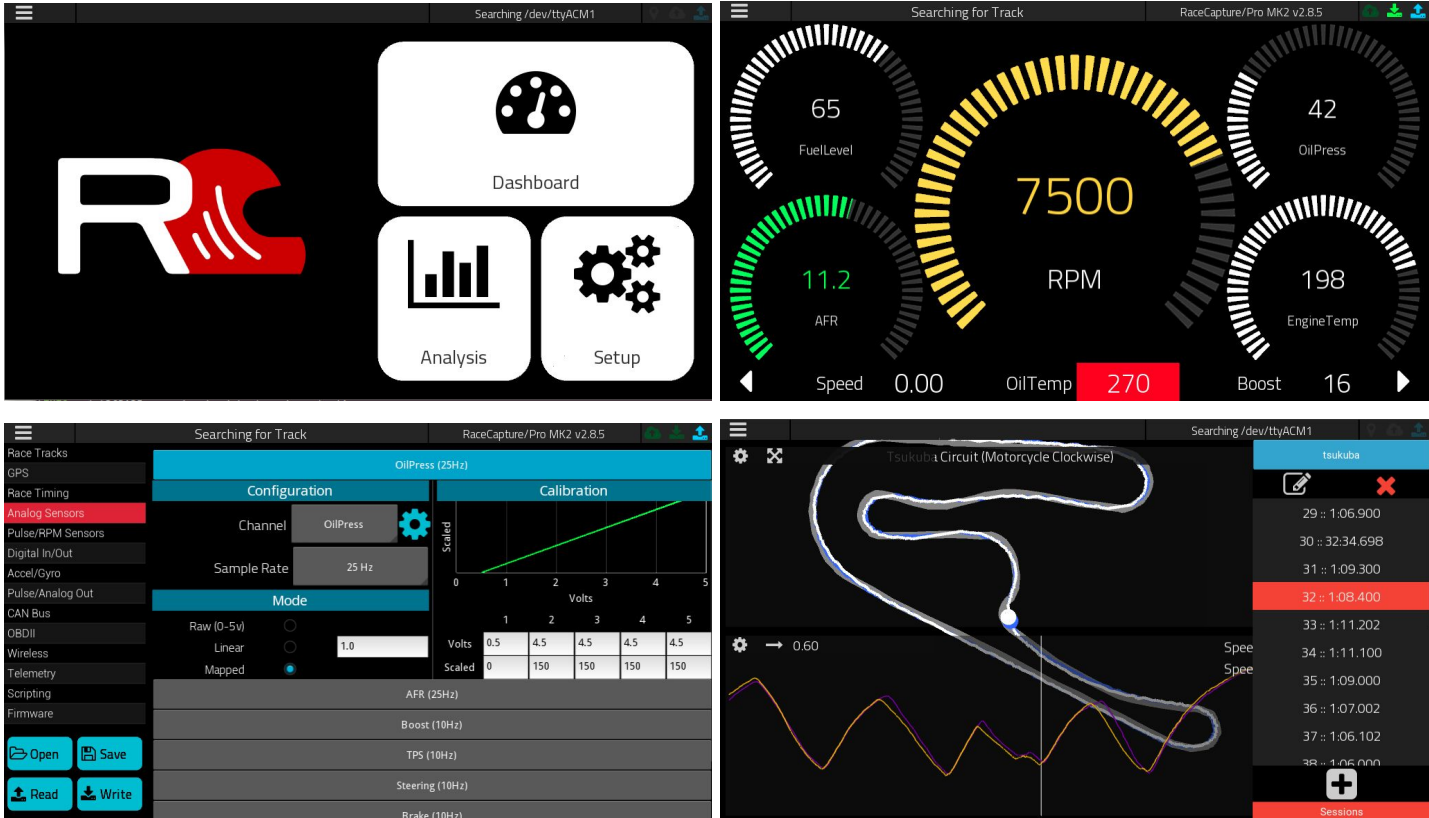
Features at a glance

Wireless everything

WiFi and Bluetooth 2.0 are integrated onboard for connectivity to the RaceCapture app on Android and iOS.

Optional 3.5G Cellular Telemetry

The optional on-board, high performance, worldwide-capable 3.5G GSM cellular module provides real-time streaming of telemetry data to the Podium cloud platform. You can monitor engine sensor data, chassis data or perform real-time driver coaching on a lap-by-lap basis - to the pits or anywhere in the world. Visit http://podium.live for details.

High performance GPS

An internal GPS module provides native GPS sample rates at 1/5/10/25/50 Hz. Position, speed, altitude, distance and GPS statistics are included.

Predictive Lap Timing

100's of tracks available worldwide combined with on-board predictive lap timing provides real-time feedback to the driver.

6 Axis IMU

A precision 3 channel accelerometer and 3 channel yaw sensor is included on board.

Dual CAN bus

Two CAN 2.0 compliant channels are available, providing baud rates up to 1MBPS. CAN bus data can be mapped to channels using built in OBD-II, direct CAN channel mapping, or custom logic mapping via Lua scripting.   Both CAN channels are available on the RJ45 bus and the molex connector.

Analog, Digital, and GPIO output capabilities

8 external 0-5v analog inputs with 12 bit ADC, 4 channel timers for measuring RPM or frequency and 3 general purpose I/O ports for low speed inputs or controlling outputs up to 1A. (open drain)

Onboard SD card logging

A micro-SD card slot is provided for on-board data acquisition file recording. 32GB SDHC cards are supported.

USB Connectivity

A standard USB interface for direct connection for configuration, telemetry monitoring, and firmware upgrades.

GoPro™ Camera Control

Use the built-in WiFi capabilities to control a WiFi enabled GoPro camera using a speed-based trigger, allowing precise synchronization between data and video.

Extensibility through Lua Scripting

Design your own custom behaviors using the simple on-board Lua scripting. Trigger a fan or pump based on sensor readings, activate warning lights, create real-time calculated channels, communicate with ECUs and other devices using CAN and RS232 serial communications. The sky's the limit!
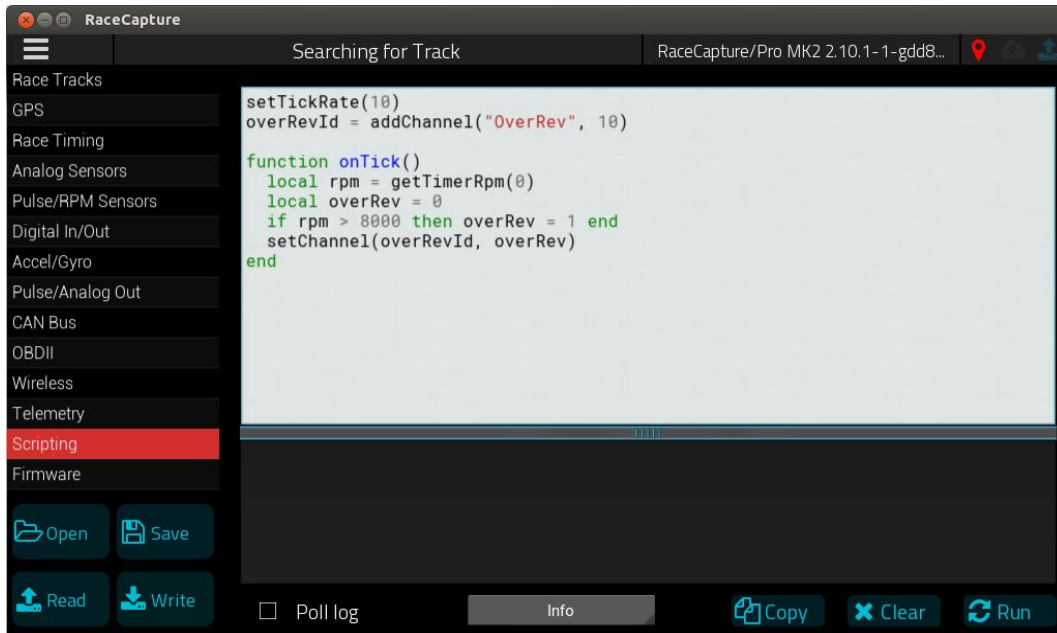

Powerful ECU integration

In addition to CAN OBDII support, RaceCapture/Pro MK3 also supports mapping of channels from CAN data streams, allowing direct integration with CAN enabled ECU such as Motec, Link, AEM, Megasquirt - including direct integration to OEM-specific CAN networks, such as found on the BMW E46. You'll be able to map data from two different CAN bus channels for maximum flexibility.
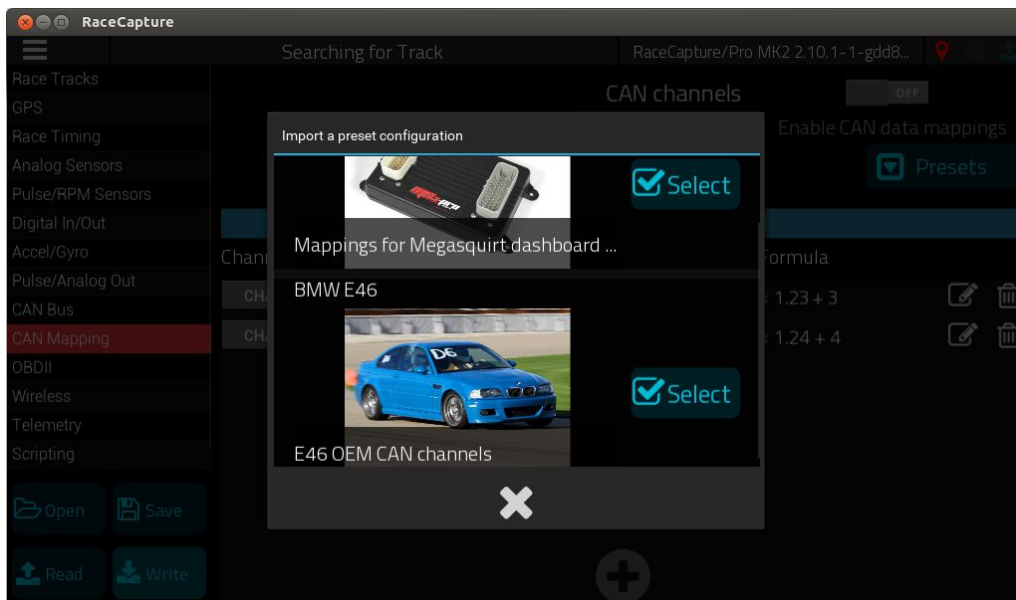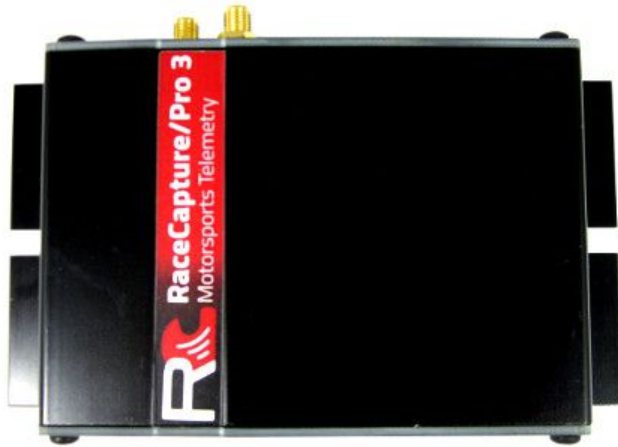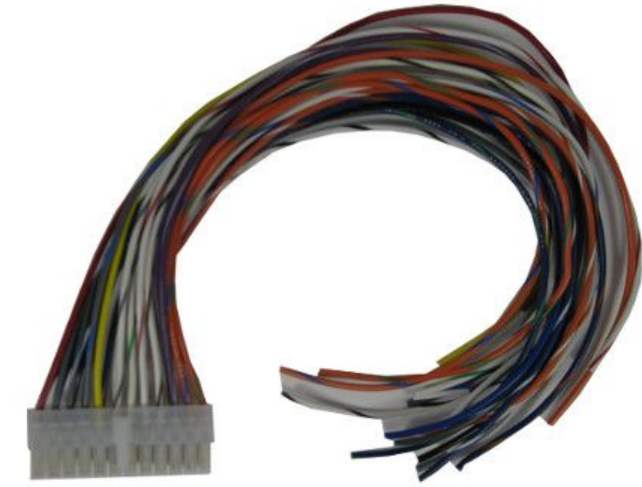
Convenient wiring and connections

A single molex plug, antenna, and cellular connections all on one end of the unit makes for a clean installation.
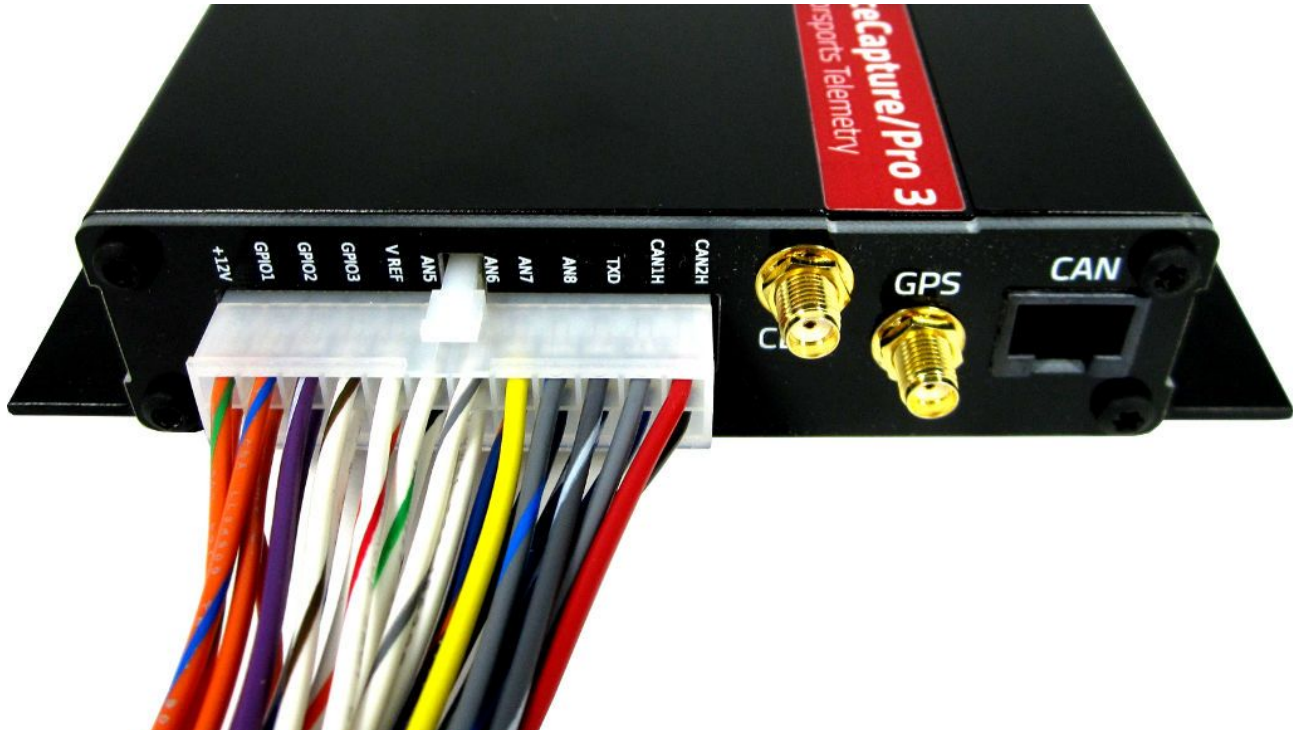
Included in the package

- RaceCapture/Pro MK3
- Wiring harness with 12" flying leads
- External magnetic mount GPS antenna
- GSM antenna (if optioned with 3.5G cellular)
- USB cable
- Quick start guide

Orderable SKUs

RaceCapture/Pro MK3 base system	RCP_MK3
RaceCapture/Pro MK3 with 3.5G cellular	RCP_MK3_3G

RaceCapture/Pro MK3 Specifications

Specifications are preliminary and subject to change

Sensors	
Analog Inputs	
Channels	9 (8 external + 1 internal battery/supply voltage)
Voltage range	0-5v
Input impedance	Greater than 1M ohm
Voltage Protection	400v (intermittent)
ADC precision	12 bit
Maximum sample rate	1000Hz
Mapping	Raw / linear formula / interpolated map
Digital I/O	
Channels	3
Output mode type	Open drain
Output current capacity	1A, inductively clamped
Input mode voltage range	0-12v
Input voltage protection	0-40v
Maximum sample rate	1000Hz
Timer inputs (RPM / Frequency)	
Channels	4
Input voltage protection	400v (intermittent)

Maximum sample rate	1000Hz
Mapping	RPM, frequency

Voltage Reference	
Output voltage / capacity	5v / 500mA

CAN Bus	
CAN channels	2
CAN Baud rate	125K, 250K, 500K, 1M Baud
CAN filters	14 per channel
Protocol support	OBDII PID, custom CAN mapping
CAN bus	CAN 2.0 compatible, 1M baud
CAN termination	Software controlled

Serial	
Aux Serial	RS232
Max Baud Rate	230400

Optional Cellular Telemetry	
Cellular	3.5G GSM worldwide compatible
Maximum sample rate	10Hz

Wireless	
WiFi	802.11bgn
WiFi modes	Access Point, Infrastructure
Bluetooth	Bluetooth 2.0
Maximum sample rate	50Hz (Bluetooth and WiFi)

GPS	
GPS Type	External active antenna
Sample rates supported	1 / 5 / 10 / 25 / 50Hz
GPS accuracy	2.5M CEP

Internal Motion Unit	
Accelerometer Channels	3 (X/Y/Z) (+/- 4G full scale)
Gyro Channels	3 (Yaw/Pitch/Roll) (+/- 250 degrees/sec full scale)

Storage	

Micro SD	Up to 32GB (SDHC)
CAN bus direct mapping	30 direct CAN mapping channels
Capabilities	
Channel support	200
Predictive lap timing	Built-in
Track mapping	Circuit and point-point
Track maps	200 built in for autonomous auto-detection; unlimited via RaceCapture app. Interactive track map builder
Sectors per track	20
Analysis	Included in the RaceCapture App
Export data format	Plain CSV (RaceRender compatible)
Physical	
Dimensions	150 x 85 x 30mm (5.9 x 3.35 x 1.18in)
Temperature range	-40 to 85c
Environmental	IP50 rated
Weight	255g (12 oz)
Connections	Molex Connector, 24 pins SMA for external GPS antenna SMA for cellular module
Power Consumption (max)	Main System: 0.6W With Wireless: 1.6W With Cellular Telemetry: 8.6W With Cellular Telemetry and Wireless active: 9.6W

For more information and dealer inquiry visit autosportlabs.com