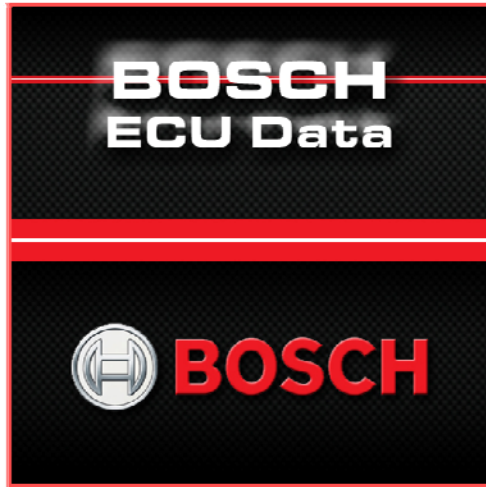




Race-Keeper Bosch ECU Data Module User Guide v1.1
January 2012



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exclusively in soft format*



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Document Version Control

Current version highlighted in RED.

Document Version #	Release Date DD/MM/YY	Revision(s)
v1. 0 – February 2011	15/02/11	Initial release
v1.1 – January 2012	03/01/12	Page 9 – Refined instructions for connecting ECU interface cable to the Race-Keeper HE system





Race-Keeper Bosch ECU Data Module

Race-Keeper Bosch ECU Data Module is a software add-on and an accompanying ECU interface cable that enable your Race-Keeper on-board system to capture data from Bosch ECUs, including MS 3.1 and MS 4.3.



Bosch ECU data traces are synced automatically with video and are displayed automatically in Race-Keeper Comparo.

Expanded Bosch ECU Data

The Race-Keeper Bosch ECU data module acquires driver and engine inputs:

Driver Inputs

- Speed
- RPM
- Throttle
- Steering angle
- Gear

Engine Inputs

- Water temp
- Oil temp
- Intake air temp
- Fuel pressure
- Oil pressure
- Exhaust temp
- Brake pressure (rear)
- Brake pressure (front)
- Vehicle yaw rate



What You Need

- Race-Keeper video data system
- Race-Keeper Comparo software (available to registered users for free at www.race-keeper.com)
- Race-Keeper Bosch ECU Data Module software license (available at www.race-keeper.com/store)
- Race-Keeper CAN ECU interface cable

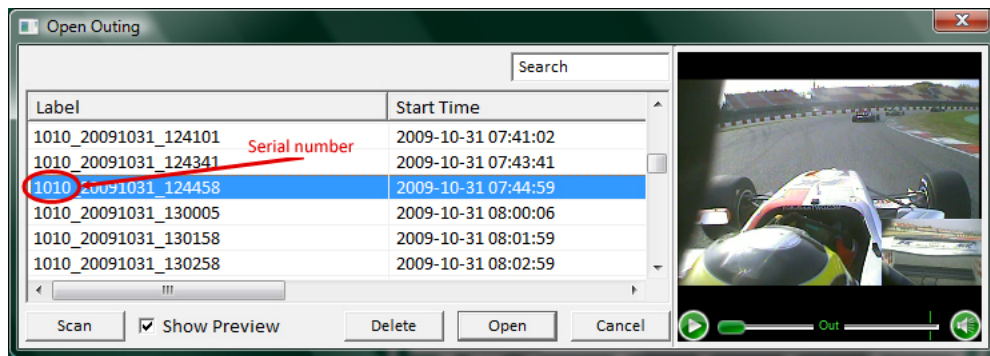
Before You Begin

Your Race-Keeper system serial number is required to activate your Race-Keeper software license.

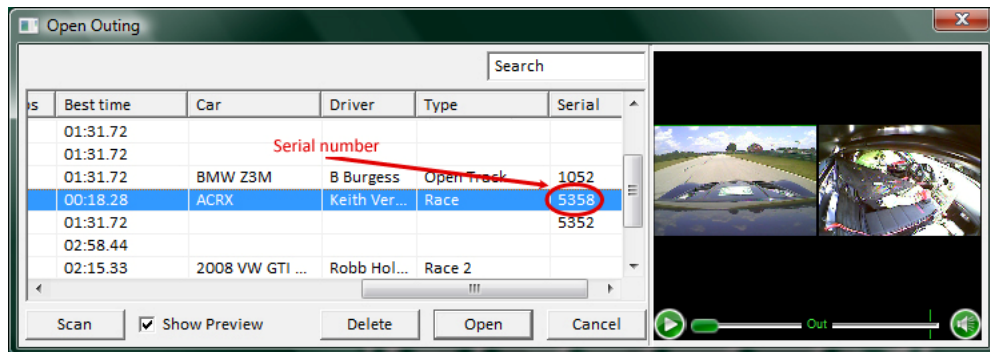
- Your serial number is four digits, starting with 1 (Race-Keeper SE) or 5 (Race-Keeper HE)
- Your serial number is located on your Race-Keeper video data system *and* on all track session folders

To quickly obtain your serial number, open Race-Keeper Comparo software and select File → Open Outing.

If you don't rename your track sessions before importing, your session names include your serial number.



You can also identify your serial number by scrolling to the right.





When You're Ready

Follow these **SIX STEPS** to purchase, activate and update your system for Race-Keeper Bosch ECU Data Module.

1. Update Your Race-Keeper System Software (2.5.7.3 or later)
2. Purchase Race-Keeper Bosch ECU Data Module Software License (www.race-keeper.com/store)
3. Open Race-Keeper Comparo and Activate Bosch ECU Data Module Software License
4. Copy License File to Your Race-Keeper System
5. Use Race-Keeper Comparo to Configure Your System to Capture Bosch ECU Data
6. Update Your Race-Keeper System Configuration

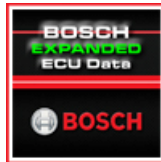
Race-Keeper Bosch ECU Data Module Software

1. Update Your Race-Keeper System Software

- *Note: This step is not required if you already are using v2.5.7.3 or later version(s).*
- Open Race-Keeper Comparo software and select Help → Check for Race-Keeper System Updates OR
 - Go to www.race-keeper.com/support/downloads to download current system software to SD
- Power on your Race-Keeper video data system and wait until the system boots
- **DO NOT REMOVE OR INTERRUPT POWER DURING THE SYSTEM SOFTWARE UPDATE PROCESS.**
- Insert SD into the Race-Keeper system
- Transfer LED will illuminate solid for up to several minutes
- System should automatically reboot and continue the update sequence
- System update may require the system to update and restart twice
 - If system has been unresponsive for five minutes, reboot your Race-Keeper system manually and permit the system to continue updating
- When system has booted up and is ready, your system has been properly updated
- Delete system update file(s) from SD before attempting to record a video data session to that media

2. Purchase Race-Keeper Bosch ECU Data Module Software License

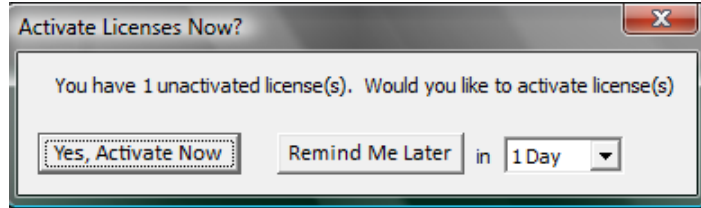
- Go to the Race-Keeper web site store
 - Log in with your user account OR create a user account and then log in
- Select and purchase Race-Keeper Bosch ECU Data Module (in Race-Keeper Software Add-Ons)



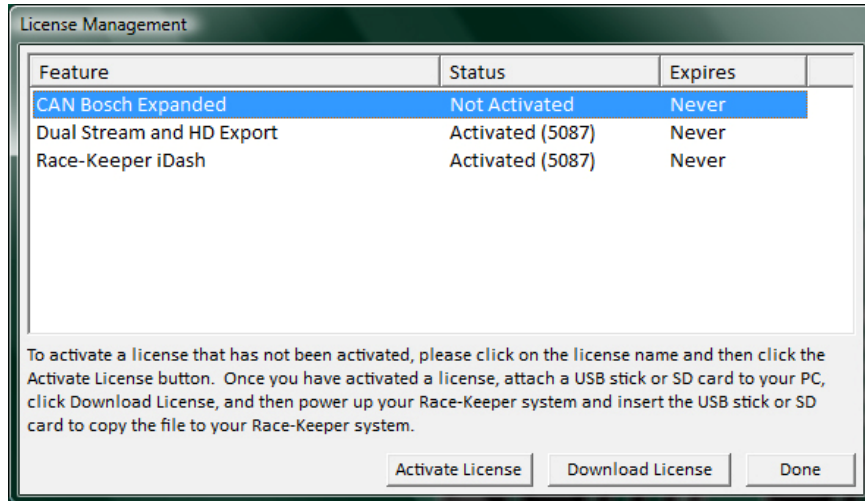
- Upon purchase, software license will be available in Race-Keeper Comparo

3. Open Race-Keeper Comparo and Activate Race-Keeper Bosch ECU Data Module Software License

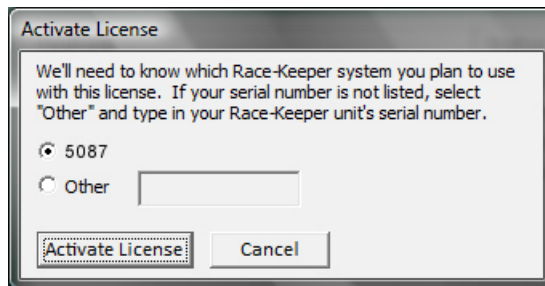
- Open Race-Keeper Comparo and follow instructions to activate your Bosch ECU Data Module software license using your Race-Keeper serial number
- Note: If Race-Keeper Comparo doesn't display an alert about licensing when the application starts, select Configure → License Manager and enter your Race-Keeper.com username and password when prompted
- When Race-Keeper displays the following prompt, Select "Yes, Activate Now"



- When Race-Keeper displays the following prompt, click on the license name and then click on "Activate License"



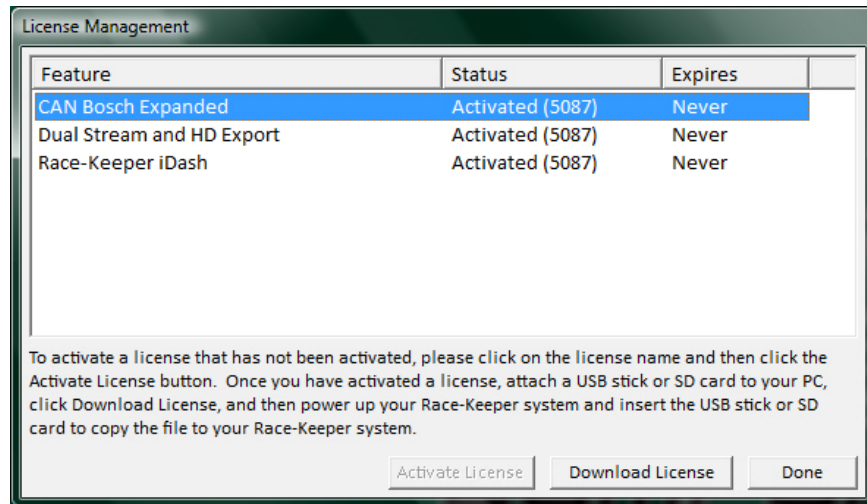
- When Race-Keeper displays the following prompt, enter the serial number from your Race-Keeper video data system and then click on "Activate License"



- Note: The easiest method to determine your serial number is to navigate to one of your recorded track sessions; your serial number is always the first four digits of every folder name. The Race-Keeper serial number also is printed on the bottom on your Race-Keeper video data system.



- When Race-Keeper displays the following prompt, click on “Download License” to download the update file to an SD card or USB stick.

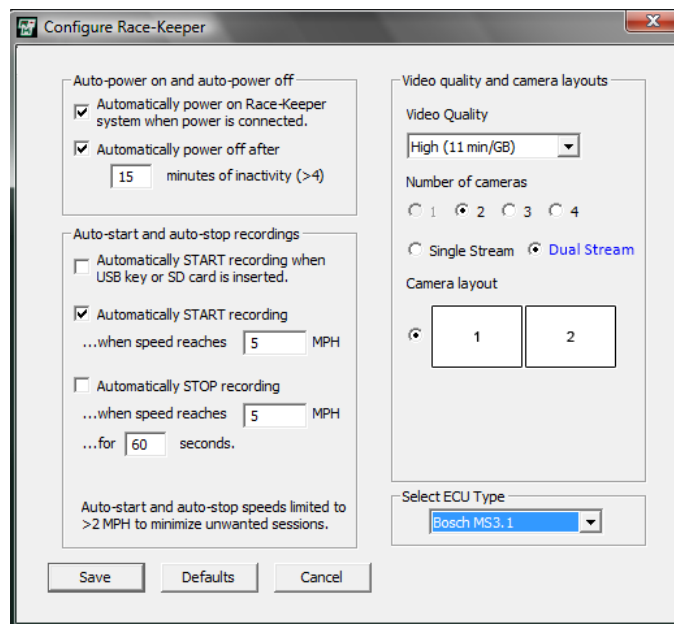


4. Copy License File to Your Race-Keeper System

- Power on your Race-Keeper video data system and wait until the system boots
- Insert the SD card or USB stick with the license file into the Race-Keeper system
 - Note: The Transfer LED will illuminate momentarily when the Race-Keeper system copies the license file from the SD card or USB stick

5. Use Race-Keeper Comparo to Configure Your System to Capture Bosch ECU Data

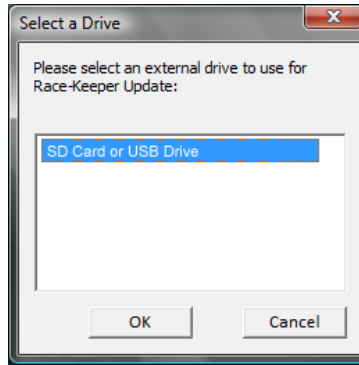
- Open Race-Keeper Comparo and select Configure → Configure Race-Keeper
- Select your Bosch ECU model from the “Select ECU Type” pull-down menu
 - Note: If you make any other changes to your configuration (e.g., auto-start, auto-stop), the configuration file will include the changes.



- Click Save to save the configuration



- Insert a blank SD or USB, select the SD or USB, and click OK to save the update file to SD or USB



6. Copy Configuration Update File to Race-Keeper System

- Power on your Race-Keeper system and wait until the system is ready.
- Insert SD or USB into the Race-Keeper system.
- Transfer LED will illuminate solid for several seconds.
- When Transfer LED turns off, configuration is complete.
- Delete configuration update file from SD or USB before attempting to record a video data session to that media.



Connecting Your Race-Keeper System to Your ECU

To connect the CAN ECU stream from your vehicle to your Race-Keeper system:

- Power off your Race-Keeper system
- Connect the ECU interface cable to your ECU's CAN output
 - Race-Keeper's CAN ECU interface cable is supplied with three bare wires for connection to your vehicle's ECU: CAN high, CAN low and CAN ground, each of which is clearly marked
 - Refer to your Bosch ECU documentation to locate the correct connector and pins on the vehicle wiring harness
 - Solder or crimp the three connections on the Race-Keeper CAN cable to the Bosch CAN high, CAN low and CAN ground signals on the vehicle wiring harness
- Connect the other end of the ECU interface cable to the Race-Keeper system
 - If you use Race-Keeper SE, attach the RJ-45 Ethernet connector to the CAN/OBD-II port
 - If you use Race-Keeper HE, attach the ECU interface cable to the CAN connector on the HE power harness; If you don't have a CAN connection on your HE power harness, contact us at info@trivinci.com. Note: The CAN connector on the HE unit is *not* for ECU communications.

Acquiring ECU Data

To acquire ECU data:

- Power on your vehicle (i.e., turn key to ignition or switch power isolator on)
- Power on your Race-Keeper system
- Conduct a test recording and review data using Race-Keeper Comparo
- All available Bosch ECU channels will be displayed in the bottom right cursor window
- Availability of data channel depends on the specific vehicle ECU installation; some channels may not be available if the required sensor is not installed (e.g., yaw angle channel requires a yaw sensor to be installed and connected to the ECU)