

VC4000DAQ performance computer



Over **25 years** of research and development have gone into the design of the Vericom VC4000DAQ making it the most innovative instrument for measuring tire to road friction and vehicle performance. Vericom's reputation for excellence is truly displayed within the workings for the VC4000DAQ. Vericom is known world-wide for its accuracy in calculating vehicle speed and distance from acceleration and time. Now with OBDII and 5 HZ GPS interface the VC4000DAQ is its own working test module. Several more innovative enhancements have also been added.

The **Accelerometer** is a tri axis (X, Y, & Z) selectable range 2G to 6G with a variable sample rate of 1Hz, 10Hz, 100Hz, 500Hz or 1000Hz. Resolution is 16 bits with a bandwidth of 2,469Hz.

Mounting is now even easier. Utilizing the RAM mount, only one suction cup is needed. Digital leveling (self-leveling) is done automatically. A variety of mounting brackets are now available including a handlebar mount for motorcycles and bicycles. The complete unit comes in smaller camera-type case which is convenient to transport.

For **Traffic Crash Investigation** a built in yaw rate sensor and magnetometer (compass) have been added to aid in the investigation of CSYs and spin outs.

Formulas for calculating vehicle speed have been expanded to include an acceptable range table to aid in court room presentations.

More **Sensor ports**, up to 18 sensors using the quick connect plug and play feature may be easily installed. Profile© will support all 16 sensors including 4 tachometer inputs, GPS and OBDII.

One **Analog output port** is available to connect a sensor to another data acquisition system.

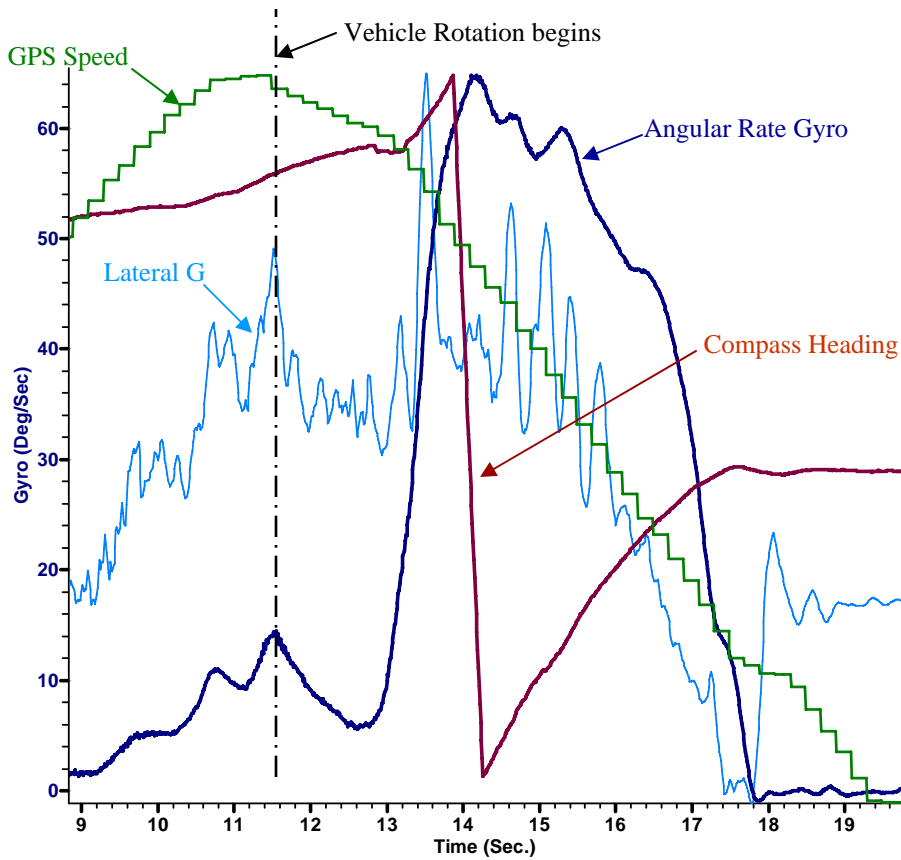
Profile 5© software is a powerful graphic software that allows the user to graph, overlay, table, display and store the data. You can easily analyze and compare information using the preprogrammed graphs and tables or design your own reports and graphs for presentations and courtroom testifying. The software may be used on several computers without any additional cost.

Firmware (the software that runs the Vericom) is a menu select format and all upgrades can be made from the internet.

Simple **calibration check** procedures are displayed on the screen with step by step instructions.

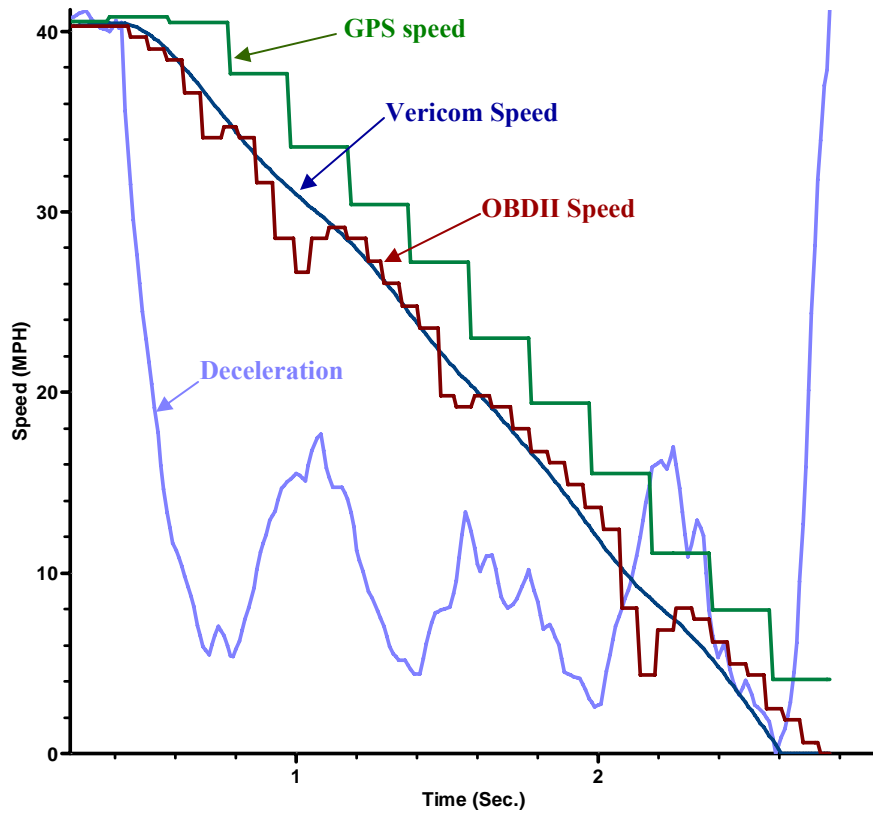
PC interface has been upgraded from USB & RS232 to include Bluetooth, SD flash memory card and streaming data for unlimited memory.

Streaming data joined with Bluetooth technology and profile 4© software allow remote control and monitoring of the VC4000DAQ from your laptop up to 300 feet away. All sensors including accelerometers, angular rate gyro and GPS can be monitored in real time.



Vehicle spin out

30 mph GPS Speed
 65 deg/sec. peak angular rate
 .54 peak lateral G
 300° thru 158° (218°) rotation



Vehicle Braking

GPS Speed 40.30 mph
 Vericom Speed 40.23
 OBDII Speed 40.57 mph
 Average G .850

Typical formula solving report

<p>Key E</p> <p>D = Distanance in Feet = 140.00</p> <p>f = Drag Factor in G = 0.85</p> <p>S = Speed in MPH = 59.66</p>	<p>quation</p> $S = \sqrt{29.915 * D * f}$ $S = \sqrt{29.915 * 140 * 0.85}$ $S = \sqrt{3559.89}$ $S = 59.66$
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Range Table	
f	Speed Result
0.80	57.88
0.81	58.24
0.81	58.60
0.83	58.96
0.84	59.31
0.85	59.66
0.86	60.01
0.87	60.36
0.88	60.71
0.89	61.05
0.90	61.39

Profile© Professional software is a powerful graphic software that creates tables, line graphs, analog meters, overlays, stores data and performs calculations with range tables. Profile© Professions is designed for courtroom presentations. It is an essential requirement for comparing ABS to standard brakes and lateral G applications. Profile© Professional software is not licensed and may be installed on several computers at no extra cost.

Display Average Table 2/18/2008

Date & Time	Run No.	Time Sec	Acceleration Average G	Speed MPH	Distance Feet
9/24/2002 09:18 AM	4	1.95	-0.891	38.10	56.6
9/24/2002 09:19 AM	5	1.95	-0.887	37.95	55.8
9/24/2002 09:21 AM	6	1.95	-0.882	37.74	56.2
9/24/2002 09:22 AM	7	3.46	-0.897	68.07	178.5
9/24/2002 09:23 AM	8	3.41	-0.897	67.06	172.4
9/24/2002 09:25 AM	9	3.35	-0.895	65.74	168.4
9/24/2002 09:27 AM	10	4.13	-0.892	80.80	253.4
Average of Runs		2.89	-0.891	56.50	134.5

The VC4000DAQ is a complete stand alone unit however some users still require more. Several options are available to meet your specific test procedure requirements. These options allow you to design your own test instrumentation. If you would like assistance in deciding which options pertain to your application, do not hesitate to contact our staff immediately.

All New Features

- 3-axis accelerometer
- Variable sample rate 1 to 1000Hz
- Resolution 16 bits
- Bandwidth: 2,469Hz
- Selectable G range of 2 or 6 G
- Auto digital leveling (self-leveling)
- Profile 5© Professional Software
- Charging indicator + LED on front
- Can delete individual files
- Menu selection software
- Single vacuum cup mount
- Summation of X+Y+Z vectors
- Analog output
- Small soft sided carrying case
- Simple calibration check

Standard Features

- Brake tests mode
- Acceleration tests mode
- Measures vehicle cornering
- USB Port & RS232 port
- Monitor G-force or sensors
- Audible G alarm
- Audible G alarm threshold
- Calculates adjusted braking distance
- Variable sample rate 1, 10, 100, 500, 1000Hz
- Streaming data to Profile
- 18 additional sensor inputs

All new sensors included

- Magnetometer (Compass)
- Angular rate gyro
- OBDII input, CAN or RS232
- 3 RS232 ports
- CAN interface
- 2 extra digital inputs
- GPS compatible
- 4 tachometer inputs
- 12 sensor input
- 1 Junction box included

All new Communication Features

- Bluetooth communication
- SD flash memory card
- 58 minutes of data storage
- Compatible with XP & Vista
- Streaming data
- Firmware updateable via user's computer

Optional Sensors

- Brake pedal force
- 100G accelerometer
- OBDII connector
- Air pressure sensor
- Fluid pressure sensor
- Temperature sensors
- Several activation switches are available including reaction time.

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