

● Vehicle Measurement System (VMS) Measurement Items

▼ Measurement	▼ Sensor/signal	▼ No. of sensors
Wheel 6-component force	WFS (Wheel component sensor)	4
Wheel rotation angle/speed	WFS (Wheel component sensor)	4
Wheel position (relative value with vehicle body)	WPS (Wheel position sensor)	4
Wheel steering angle	WFS/WPS	1
Unsprung vibration	Inertia sensor with GPS/3-axis accelerometer	1/1
Sprung vibration	3-axis accelerometer	1
Throttle openness	ECU input voltage	1
Vehicle body movement	Inertia sensor with GPS (angle speed/acceleration/dynamic position angle/latitude & longitude)	2
Wind direction/wind speed	Wind speed/wind direction meter	1
Engine rotating speed	ECU input pulse	1
Vehicle speed	ECU input pulse	1
Gear position	ECU input voltage	2
Engine/transmission temperature	Thermocouple	8
Brake operation force	Brake pedal force meter	1
Intake air temperature	ECU input voltage	1
Air intake volume	ECU input voltage	1
Fuel injection	Valve open/close signal	1
Vehicle battery voltage	Battery terminal voltage	1
Measurement battery voltage	Battery terminal voltage	1
Steering angle/steering force	Steering wheel sensor	1
Acceleration pedal position	Accelerator pedal sensor	1
Brake hydraulic	Pressure sensor	1

VMS

Vehicle Measurement System



See all the movements a running vehicle makes

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●For proper use, read the instruction manuals carefully before use.



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A&D Company, Limited
3-23-14 Higashi Ikebukuro Toshima Ku, Tokyo 170-0013 JAPAN
Telephone:[81](3) 5391-6132 Fax:[81](3) 5391-6148
<http://www.aandd.jp>

A&D Technology, Inc.
4622 Runway Blvd. Ann Arbor, MI 48108 U.S.A
Telephone:[1](734) 973-1111 Fax:[1](734) 973-1103
<http://www.aanddtech.com>

A&D Instruments, Ltd.
Unit 24/26 Blacklands Way Abingdon Business Park,
Abingdon, Oxon OX14 1DY UNITED KINGDOM
Telephone:[44](1235) 550420 Fax:[44](1235) 550485

A&D Technology Trading (Shanghai) Co., Ltd.
Room 101, No.1 Fu Hai Business Building, No. 289,
Zhang Jiang Bi Sheng Road, Shanghai 201204, CHINA
Telephone:[86](21) 3393-2340 Fax:[86](21) 3393-2347

A&D Europe GmbH
Im Leuschnerpark 4, D-64347 Griesheim, GERMANY
Telephone:[49](6155) 605 227 Fax:[49](6155) 605 100

●Appearance and/or specifications subject to change for improvement without notice.
●Contents of this catalog last updated March 2009.

*VMS-ADCC-01-BP1-10202



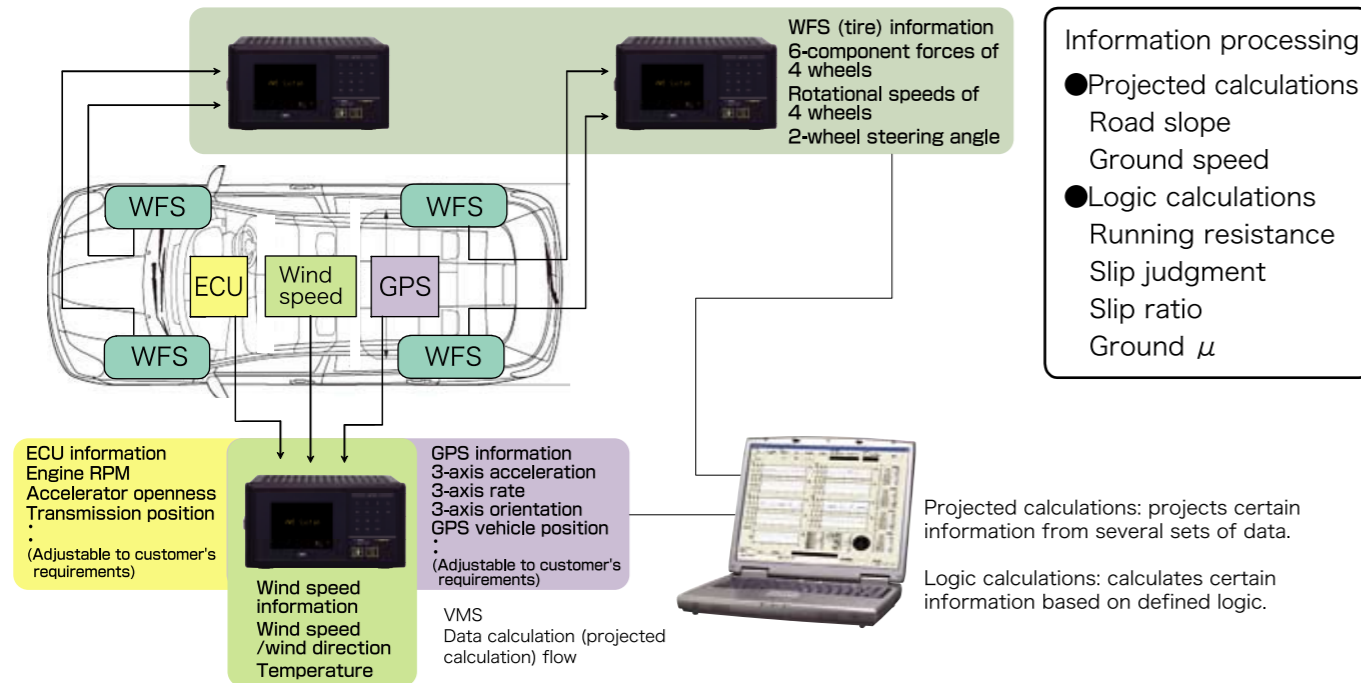
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VMS: Vehicle Measurement System

Vehicle Measurement System

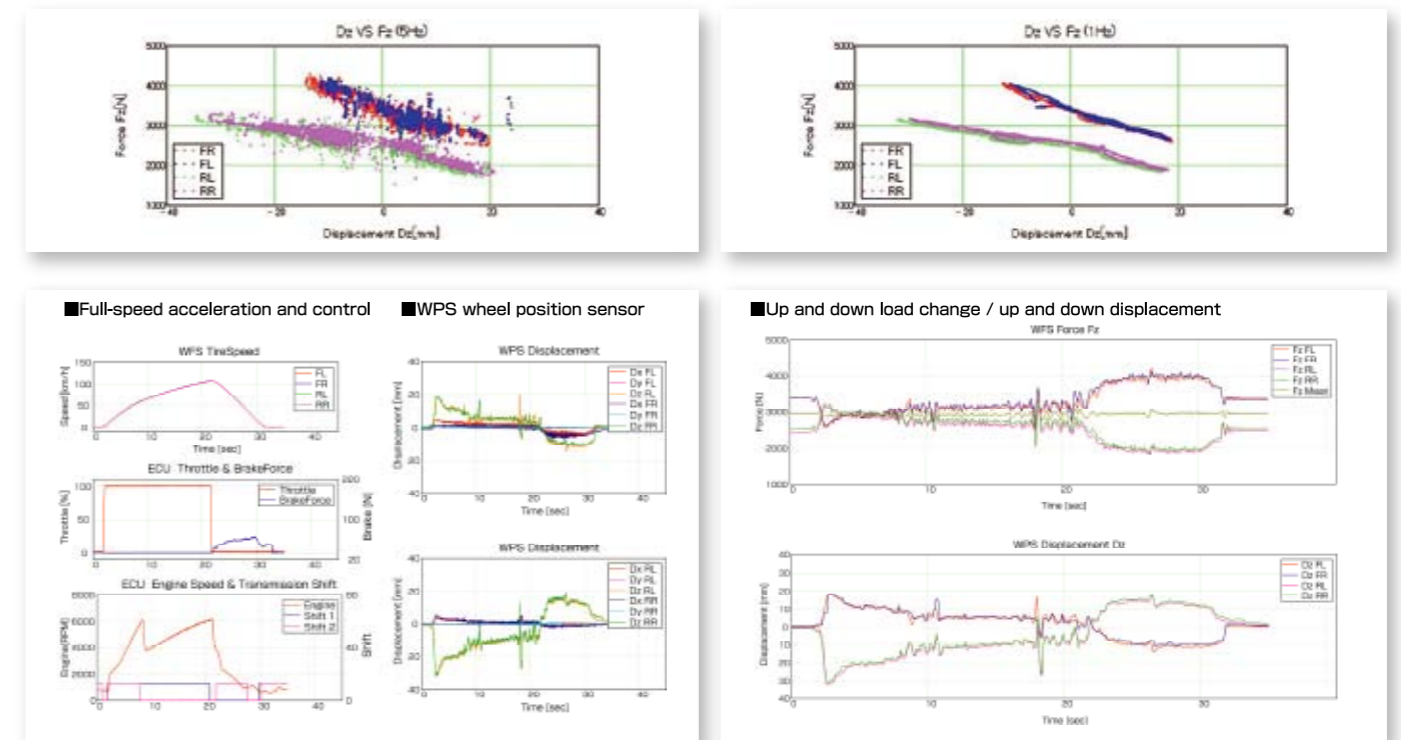


The VMS utilizes A&D's ADX controller to measure signals from the wheel force sensors (WFS) and ECU in an integrated way. This complete measurement system collects and synchronizes a wide range of signals that are typically measured separately and processes the integrated measurement data to calculate road slope, road friction coefficient μ , and other parameters under conditions such as snow-covered roads. We make measurement software by MATLAB/Simulink, so we can customize calculation logic and CAN settings to build systems that meet users' requirements.

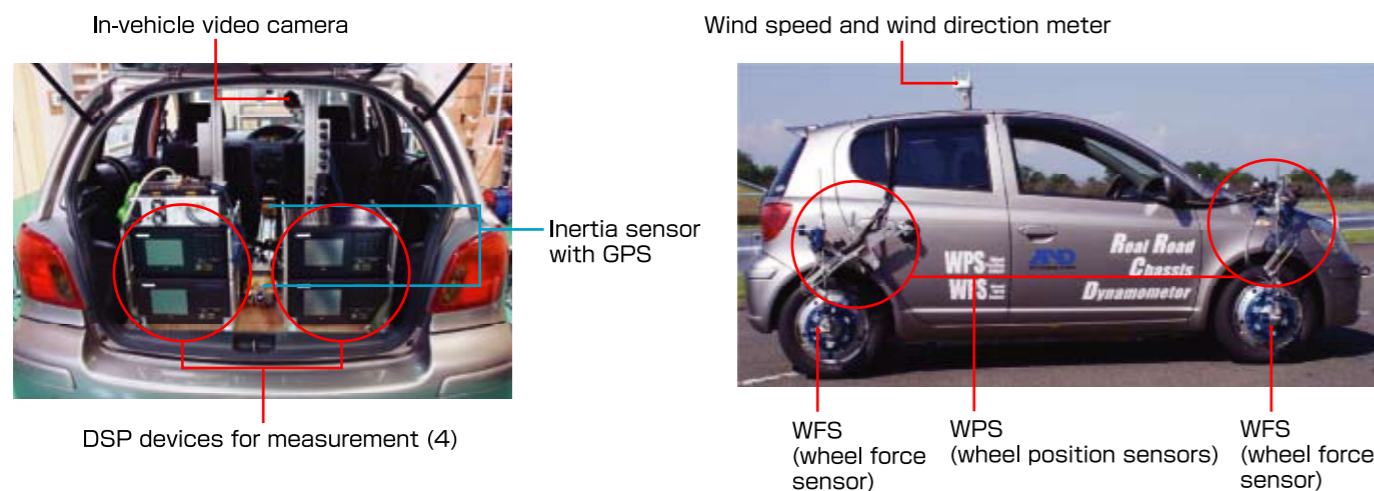


Measurement results

From the WFS up and down force and WPS up and down displacement while the vehicle is running, you can evaluate the dynamic suspension characteristics, the difference in front and rear wheel spring factors, and change by stroke.



Exterior view of VMS



System Schematic

