

Chrysler Group Brings Electronic Evolution to Mainstream Automotive Markets

October 18, 2004, Auburn Hills, Mich. -

The Chrysler Group is redesigning its vehicle electrical systems from the ground up to give customers more convenience and features.

"Designing the most sophisticated electrical system is a fair challenge," said Bill Mattingly, Vice President – Electrical/Electronics Engineering Core, Chrysler Group. "But it's a much greater challenge to design and integrate a high-tech system in mainstream sedans and SUVs at a cost/benefit ratio that's right for the customer."

Mattingly participated in a panel today at the Society of Automotive Engineers (SAE) Convergence Conference at Cobo Hall in Detroit, Mich. The Convergence panel brought together the top electrical engineers from six of the world's major carmakers.

"In an environment where the only thing constant is change, we are constantly faced with furthering the electrical capabilities in our vehicles while minimizing cost and continuing to deliver stringent reliability," said Mattingly. "Efforts to increase global electrical engineering standards, supplier involvement and quality gains remain challenges we all face as an industry."

The Chrysler Group continues to enhance its electrical communication systems. In 2004, the company implemented a high-speed Controller Area Network (CAN) bus system, CAN-C, for powertrain and chassis applications, and a low-speed CAN-B for body applications. These changes enable systems to do more calculations at a much higher rate, allow the use of smart sensors and generally add flexibility and capability to a vehicle electrical system.

"The electrical system is asked to do more, and we continue to provide more and more features in the car," said Mattingly. "At the same time, we are finding more efficient ways to accomplish this."

Numerous initiatives include consolidating features from separate modules to create one group of systems rather than multiple separate systems. For example, the Chrysler 300 and Dodge Magnum include a Cluster Compartment Node (CCN), which combines the following major content:

- Door locking system
- Vehicle security
- Interior lighting control
- Audible warnings
- Exterior lighting control
- Graphic/text displays
- Indicators/warnings
- Gauges
- CAN-B messages
- Rear wiper/washer

Additionally, the Chrysler Group has adopted an aggressive Infotainment strategy bringing customer-feature electronics predominantly into the vehicle. Radio-based multimedia applications, such as UConnect hands-free telephone capability, Navigation, DVD, SIRIUS Satellite radio and MP3, are readily available factory-installed options within select Chrysler, Jeep® and Dodge vehicles.

"As vehicle electronics continue to grow with the needs of our customers," said Mattingly. "We continue to find smarter ways to meet those needs."

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