



Hermann Strass

MOST effective multimedia networking

City of science and technology

Karlsruhe, a quaint city on the northern edge of the Black Forest, houses Germany's oldest technical university, which was recently recognized as one of the top three elite universities in Germany. Heinrich Hertz, the physicist who discovered Hertzian waves and laid the foundation for telecommunications technology, was a professor at the University of Karlsruhe from 1885 to 1889. His nephew, Gustav Hertz, and fellow German physicist James Franck received the Nobel Prize in Physics in 1925 for their work confirming the Bohr model of the atom.

The city is home to many world-class scientific institutes as well as several embedded electronics organizations and companies such as Siemens Automation. Some of Germany's largest Internet service providers' computer centers and the German national Internet domain management agency are located in Karlsruhe.

Faster digital content transmission

The organization that develops and promotes Media-Oriented System Transport (MOST), a multimedia interconnect used in automobiles, is also based in Karlsruhe. MOST Cooperation recently introduced the third generation of MOST standards, which features faster data rates of 150 Mbps and uses the well-known MOST25 1 mm step index polymer optical fiber. Diagnostic capabilities, such as ring-break, sudden signal off, and failure mode effects analysis are significantly enhanced in this release of the specification. More than 100,000 variations of test suites were simulated and tested to fine-tune these capabilities. Figure 1 illustrates a MOST configuration in a car.



Figure 1

Using MOST, audio and video signals can be transported efficiently without any overhead for addressing, collision detection/recovery, or broadcast. MOST150 offers a transfer capacity that packet-switched networks can only achieve with much higher gross bandwidth. The multimedia interconnect can transmit multiple HD video streams and multichannel surround sound with premium quality of service while simultaneously transmitting high loads of unmodified TCP/IP packet data.

MOST150 enables direct isochronous transport without bit stuffing or transcoding. It supports approved content protection schemes and thus enables DVD audio, DVD video, and Blu-ray digital content transmission. MOST was the first network to be fully approved by the DVD Copy Control Association to carry content compliant with the Digital Transmission Content Protection specification. Many embedded electronic devices and systems, such as hard disks, DVD players, Ethernet gateways, SDTV, and HDTV video screens participate in a MOST system network.

Carmakers BMW and Daimler collaborated with Harman/Becker Automotive Systems and SMSC more than 10 years ago to define and design MOST technology. Audi joined the effort shortly thereafter. In 2001, BMW introduced the 7 Series as the first MOST-enabled automobile. The following year, 13 more models implemented the MOST infotainment backbone.

Today, MOST is integrated in more than 55 models from the 16 MOST automaker members, including the first Asian models from Toyota and Hyundai Kia Automotive Group. NV Melexis SA, Belgium, produces MOST150 transceivers for the new standard (see

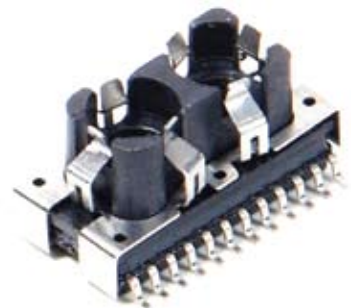


Figure 2

Figure 2). Many other companies, including Altera, Fujitsu, SMSC, and GOEPEL electronic offer chips, test equipment, hardware, and software for MOST applications. To download the MOST specification and find information on MOST Forum 2008 and other events, visit www.mostcooperation.com.