

In-Vehicle Broadband Network System for Multi-video Streaming

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Abstract

As for information and AV system in vehicles, individual cables are used to transmit the video, the audio, and the command respectively. The IDB-1394^(*) is paid to attention as the in-vehicle information system network where these are integrated now. Compression technology named “SmartCODEC[®]”^(*) dedicated for in-vehicle video transmission enables the high image quality, low latency, and low-cost. The IDB-1394 controller LSI:MB88388A^(*) which built-in SmartCODEC achieved wideband and the low latency transmission such as the car navigation system image and DVD contents simultaneously. This technology enables us the high quality rear seat entertainment (RSE) system and the multi-camera system for the driving support. The integration of networks of information and AV system will become possible by this technology.

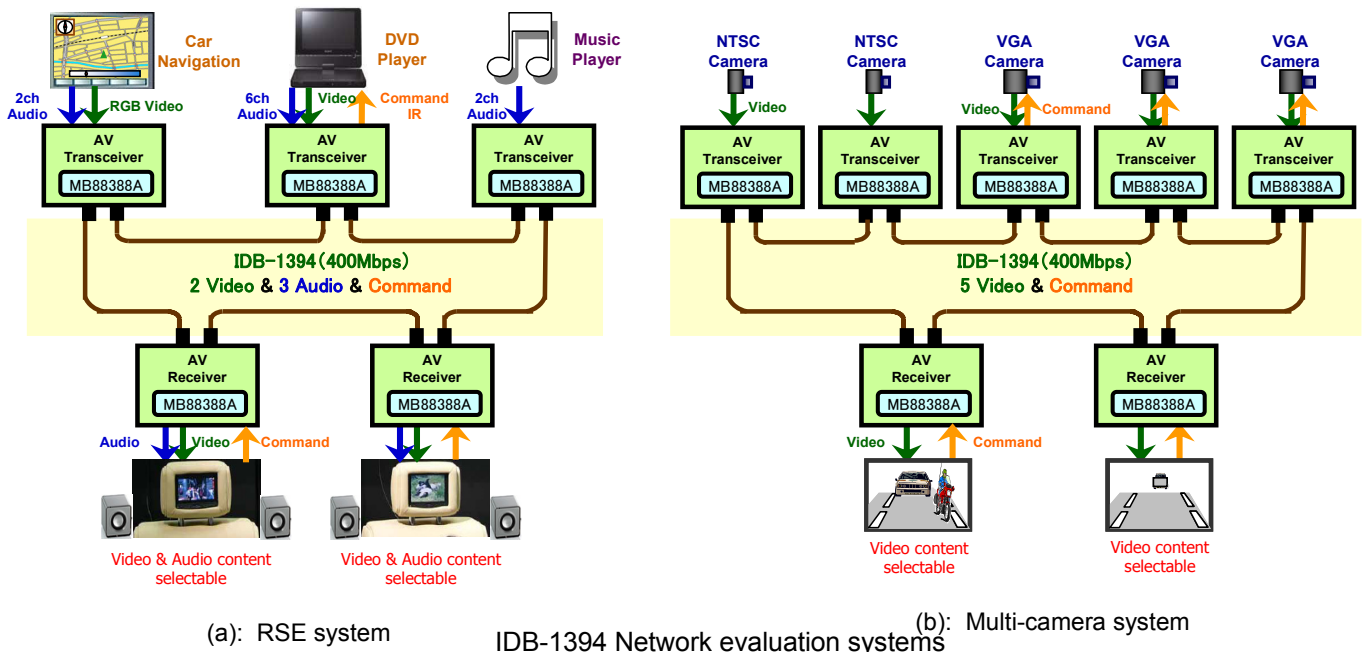
Technology

IDB-1394 (bandwidth of 400Mbps) controller LSI:MB88388A which built in SmartCODEC[®] achieves about 1Gbps raw video-image transmission with the negligible delay of 3msec. This in-vehicle broadband network technology enables the real-time high quality multi-video streaming and integration of information & AV systems.

We developed the evaluation systems of a RSE (Rear Sheet Entertainment) system including car navigation system, and a multi-camera system, and demonstrated real-time high quality multi-video streaming systems as the world’s first, at in-vehicle systems.

Application Examples

- In-vehicle AV systems such as RSE system
- In-vehicle multi-camera system for driver assistance



Related Links

- [FUJITSU SCIENTIFIC & TECHNICAL JOURNAL 2007-10 (Vol.43, No.4)] Video Compression Technology for In-vehicle Image Transmission: SmartCODEC
<http://www.fujitsu.com/downloads/MAG/vol43-4/paper05.pdf>

Glossary

1 IDB-1394 (ITS Data Bus-1394):

A network protocol standard for high-speed in-vehicle multimedia applications, established by the automotive working group of the 1394 Trade Association. Currently, the transmission speed for such applications is up to 400 Mbps.

2 SmartCODEC®:

Compression technology dedicated for in-vehicle image transmission, developed by Fujitsu Laboratories Ltd..

- [PRESS RELEASE September 21, 2006] Fujitsu Develops SmartCODEC™ Streamlined Image Compression Technology for Automotive Applications -Enables Transmission of Multiple Digital Images on In-Vehicle Networks-

<http://www.fujitsu.com/global/news/pr/archives/month/2006/20060921-01.html>

3 IDB-1394 controller LSI:MB88388A:

Fujitsu and Fujitsu VLSI Limited co-developed the MB88388A navigation-imaging and video transmission controller.

- [PRESS RELEASE November 5, 2007] Fujitsu to Launch IDB-1394-Compliant LSIs Featuring Embedded Multimedia Functions -World's first chips to enable genuine rear-seat entertainment using IDB-1394-compliant high-speed transmission of car navigation video images-

<http://www.fujitsu.com/global/news/pr/archives/month/2007/20071105-01.html>

- [FIND Vol.26 No.1 2008] In-vehicle Multimedia LAN IDB-1394 Controllers MB88388A/MB88389

<http://www.fujitsu.com/downloads/EDG/binary/pdf/find/26-1e/7.pdf>