



1394 Trade Association Wrap-up

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Brief 1394TA History

- ⦿ The 1394TA is now 15 years old
- ⦿ More than 1 billion 1394 ports have been shipped and are still shipping in large volumes
- ⦿ What started as a PC serial bus solution to replace parallel busses has grown up to be an aerospace, automotive, consumer, industrial, military and PC standard
- ⦿ The automotive movement started 9 years ago



Automotive Beginning

- ⦿ In 2000 IDB Forum and 1394 Trade Association formed the JOINT working group to create the automotive first 1394 network standard using plastic fiber interconnects
- ⦿ In 2001 the 1394TA also formed a strategic liaison with AMI-C to further our automotive effort
 - Both of these opportunities brought the best minds from automotive, military, computer and consumer electronic industries together
- ⦿ Both the IDB-Forum and AMI-C have disbanded and the 1394TA is the caretaker for all the legacy standards and our newest exciting one “1394 Automotive Copper Standard”
- ⦿ With the help of our members and valued contributors we will continue to upgrade and push the 1394 Auto envelop



Technical Contributors to the 1394 Automotive Standards

(Partial List)

- Alpine
- Alps
- Clarion
- Delphi
- Nissan
- Fujitsu Microelectronics
- Molex
- Mitsubishi Cable
- Sumitomo
- Texas Instruments
- Honda
- Yazaki
- Rosenberger
- Tyco
- Chrysler
- Daimler
- Eqcologic
- Ford
- Fiat
- General Motors
- Toyota
- Panasonic
- Peugeot
- Renault
- Sony
- Quantum Parametrics
- Microsoft
- WiPro
- Many other companies,
academics & standards groups



1394TA Standard Development



MB2



1394 Automotive Standards

- ⊙ The 1394TA have bundled all the various automotive standard into one package with:
 - 1394 Copper Automotive Standard TS2008001
 - BT.601 Transport Over IEEE-1394
 - AMI-C 2002 1.0.2 Draft Common Message Set
 - AMI-C 3013 Draft Power Management Architecture
 - AMI-C 3023 Draft Power Management Specification
 - AMI-C 3033 Draft Power Management EPOC System Description
 - AMI-C 3034 Draft Power Management Test Document
 - 1394 Automotive Specification (IDB-1394) 2001018

These will be available on our website for sale after the seminar as a package



High Speed 1394 Networks

High Speed Multimedia Networks are essential for implementing multimedia platforms for IT/ITS and entertainment applications: (Multiple DVDs, Navigation, Web Content, Real Time Camera, Displays, etc.).

1394 Auto Network provides high-quality transmission of all this data on one seamless bus with potential to bridge to other automotive technologies

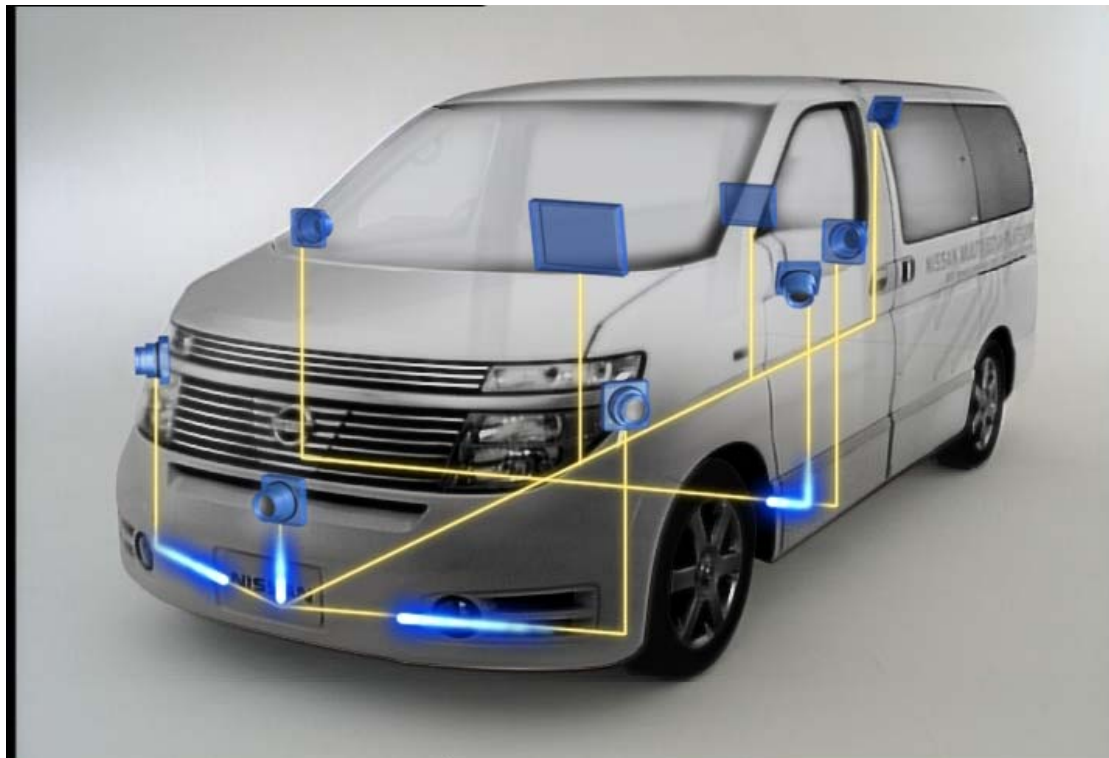


Photo courtesy of Nissan



Roadmap for 1394 Auto

- ⦿ Roll out the completed standards bodies of work that enable 1394 in-vehicle networks today
- ⦿ Add to the portfolio of standards with new protocol bridging capabilities to USB, MOST, CAN, DSRC and FlexRay to name a few
- ⦿ Develop an automotive grade 1394 miniature and sealed connectors for new applications
- ⦿ Faster speed S1600/3200 silicon
- ⦿ Implement automotive specific camera protocol specification
- ⦿ *Come join us at the 1394TA to help make this happen!*



Demonstrations

I394AUTO ACCELERATES INFOTAINMENT NETWORKS

- Superior bandwidth (1 gigabit silicon shipping today)
- Extensible in bandwidth and topology for future needs
- Enables single-to-rich feature and content networks
- Simultaneous transport of multiple A/V and data streams (up to HD quality)
- Uses industry approved Content Protection schemes
- Supports numerous compression protocols (Smart CODEC, Motion JPEG, MPEG-2, etc...)
- Components meet Automotive EMI/EMC requirements
- Multiple proven automotive interconnect solutions
 - Flexible cabling options (STP, STP-coax, fiber) offer manufacturing savings

Typical Applications

- Navigation
- Multiple DVD/Blu-ray
- Digital Audio
- DTV viewing
- Internet use (web browsing)
- Portable Audio Players (MP3 players, iPod)
- Personal Media Players (iPod, Zune, PSP)

1394 Bus
1394 Repeater
Legacy Attachment

EXTENSIBLE FLEXIBLE SECURE FAST CONNECTED

FUJITSU **Quantum** **molex** **Universal**
ROSENBERGER **YAZAKI** **I394**

I394AUTO ACCELERATES WEB & CONNECTED SERVICES NETWORKS

- More than a decade of support for Internet Protocol with 1394
- IP over 1394 included natively in mainstream Operating Systems (Mac, Windows, Linux, embedded)
- 1394 can do what Ethernet can do, only better and faster
- Enables telematics, travel assistance, system updates and diagnostics
- Ability to download A/V content to vehicle for local storage and playback
- Facilitates web browsing

1394 Bus
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Legacy Attachment

EXTENSIBLE FLEXIBLE SECURE FAST CONNECTED

Apple **LSI** **Quantum** **Electromechanics** **I394**
PARAMETRICS **TECHNOLOGY** **CELL** **Quantum**
INSTRUMENTS **Electromechanics** **unibrain** **I394**

I394AUTO ACCELERATES DRIVER ASSIST (CAMERA) NETWORKS

- Guaranteed bandwidth
- Time synchronized camera operation
- Accepts scalable video quality (supports compressed and uncompressed video)
- Allows real-time sensing and display
- Can be part of an infotainment network, or a stand-alone upgradable system
- Flexible topology allows optimal wire harness configuration
- 1394 VersaPHY enables simple low cost automotive cameras
 - No need for 1394 software, processor, or memory in camera
 - Zero configuration network capability

1394 Bus
1394 Repeater
Legacy Attachment

EXTENSIBLE FLEXIBLE SECURE FAST CONNECTED

POINT GREY **dap** **CELL** **Quantum**
INSTRUMENTS **Electromechanics** **unibrain** **I394**

I394AUTO ACCELERATES 1394TA PROJECTS UNDER EVALUATION

- Power over Cables Specifications
 - Shielded Twisted Quad (STQ) - Sponsored by Rosenberger
 - Shielded Twisted Pair (STP) - Sponsored by Molex
 - Coax - Sponsored by Esabologic
- Connector Specifications
 - Sealed (Water Tight)
 - Camera (Miniature)
- I394AUTO Reference Design Guideline
- Bridging over 1394 Specifications
 - **USB**
 - **MOST**
 - **CAN**

1394 Bus
1394 Repeater
1394-to-line Connector

EXTENSIBLE FLEXIBLE SECURE FAST CONNECTED

Rosenberger **Quantum** **molex** **I394**
PARAMETRICS **TECHNOLOGY** **CELL** **Quantum**
INSTRUMENTS **Electromechanics** **unibrain** **I394**

1394 AUTOMOTIVE TECH SEMINAR + APRIL 30th, 2009 + DEARBORN, MICHIGAN





**Beam it in!
Bring it in!
and/or Build it in!**

**It's all better with 1394 Auto!
THANK YOU**

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