

# Proposed IEEE-1394 Extension to Support VersaPHY

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Presented by

Richard Mourn



# VersaPHY Update

- Initial working being done within the 1394 Trade Association
  - 3rd Draft specification was submitted to 1394 Trade Association on January 31, 2007!
- Started two profiles using VersaPHY within the 1394 Trade Association
  - Power Management Profile (targeting automobile market)
  - GPIO Profile (targeting industrial market)
- VersaPHY Implementations
  - Quantum Parametrics LLC has first VersaPHY implementations complete
    - FPGA programmer (1394 to I2C)
    - Volume control
  - Apple Computer announced it will support VersaPHY in OS 10.5



# What is VersaPHY?

- VersaPHY is a **100% compatible** extension to IEEE-1394
  - VersaPHY devices coexist on the same 1394 network with any other 1394 devices
- VersaPHY extends the PHY layer and can be implemented with existing PHY silicon
  - **NO** new PHY silicon is needed
- VersaPHY provides PHY layer device identifiers and addressing (VP-Label)
  - Allows communication with PHY devices



# Why VersaPHY?

- The VersaPHY concept comes out of a need for
  - lower cost and
  - simpler 1394 implementations
- The VersaPHY accomplishes this by
  - simplifying and in some cases eliminating device discovery after bus reset,
  - providing a simple means for control and data delivery and
  - a simple means for stream control



# What's new with VersaPHY?

- To make this happen a few new 1394 facilities are defined. The new facilities are:
  - Remotely and locally readable/writable PHY registers
    - Extended and scalable PHY register map
  - Read/write VersaPHY packets
  - VersaPHY labels
  - VersaPHY label management
- Note: The new facilities can be implemented using existing PHY silicon with external logic and/or software. No new PHY silicon is required however at some point it could be integrated to reduce costs and size further.

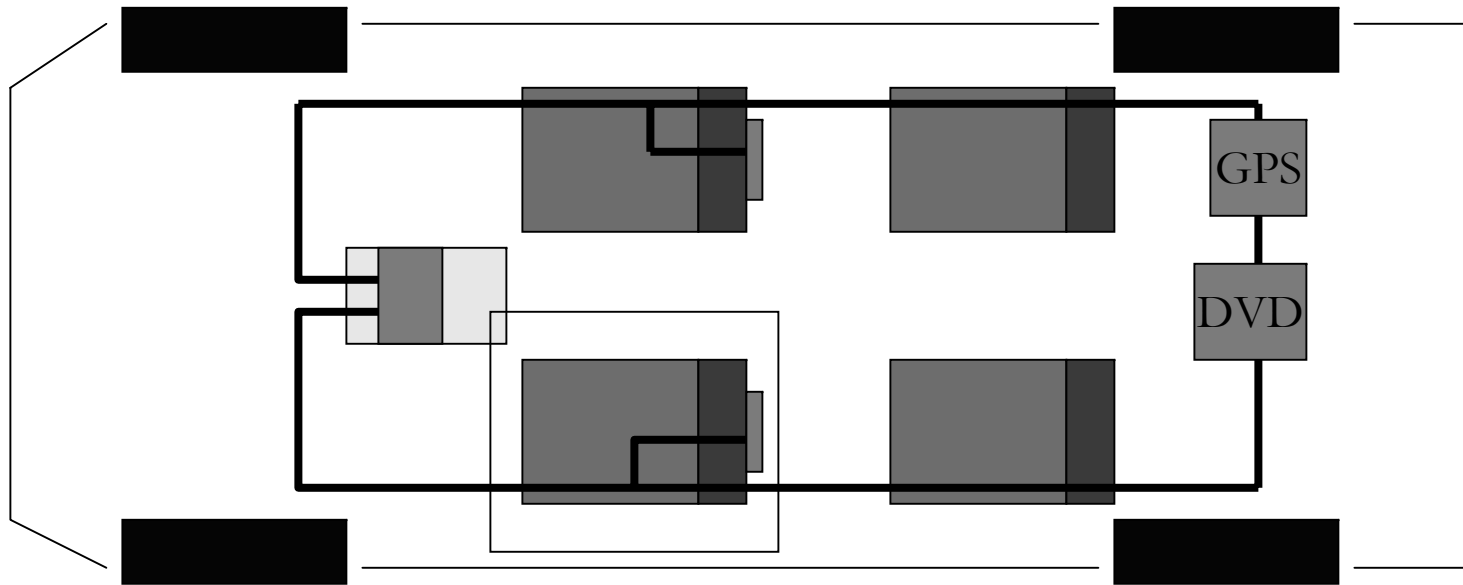


# Reduced Cabling!

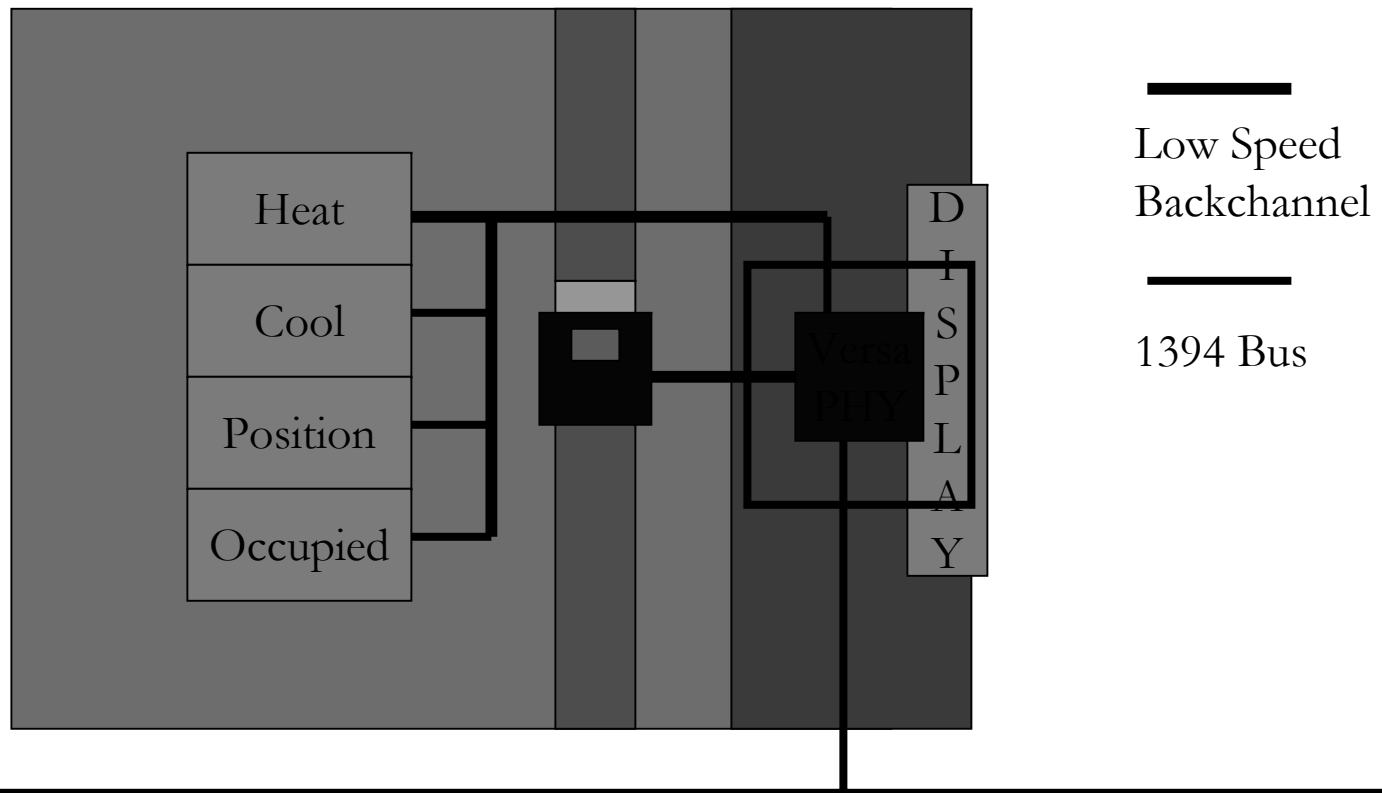
- If we assume 1394 is being used for other purposes in the system (AV network) VersaPHY enables simple devices to connect to the 1394 bus at a minimal cost!
- This reduces the number of cables and connectors, reducing cost and increasing reliability



# Automotive Example



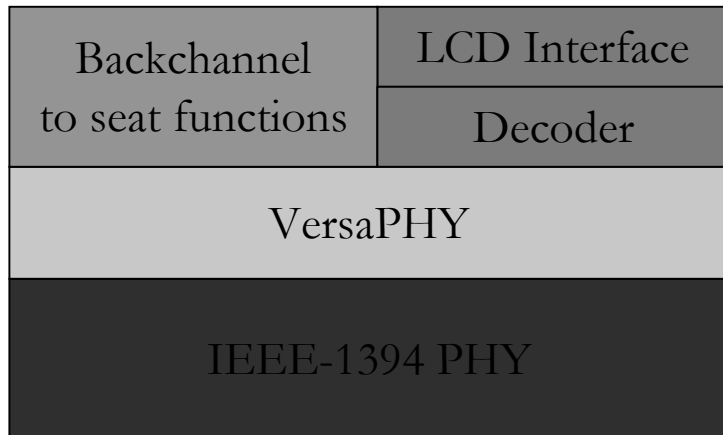
# Automotive Example (continued)



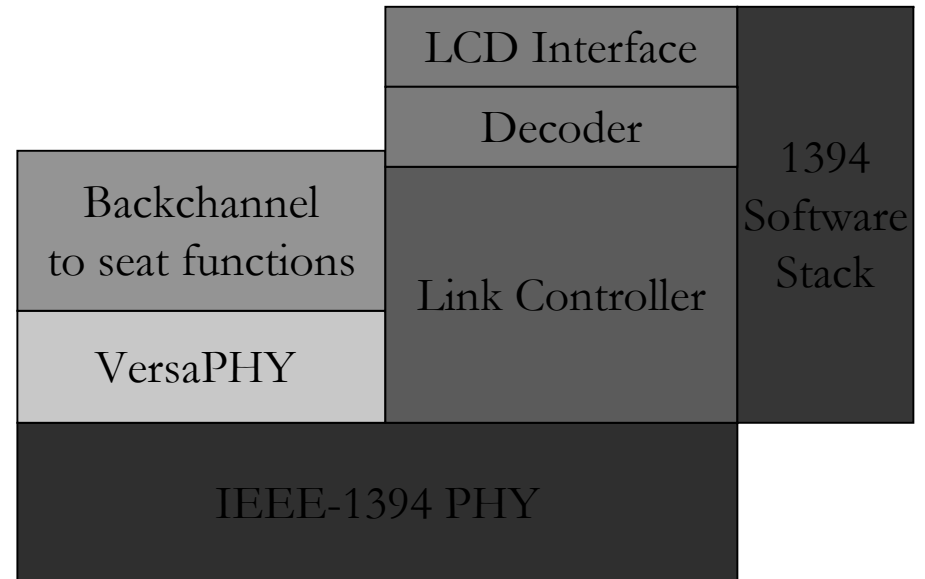


# Automotive Example (continued)

Implementation 1



Implementation 2



# Thank You!

Richard Mourn

Quantum Parametrics LLC

[rmourn@quantumparametrics.com](mailto:rmourn@quantumparametrics.com)

719.592.1394