

Main Identity

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To: "O'Reilly, Tom" <oreilly@mbari.org>
Cc: "Risi, Michael" <mrisi@mbari.org>
Sent: Thursday, November 20, 2003 11:47 AM
Subject: SIAM review notes

Tom,

Here are my mental notes from the review:

- (Ken Johnson) SIAM System should be configurable to the point that scientists can adjust the instrument sampling rate to any arbitrary value.
- (Dale ? - ?) Puck metadata might contain a value indicating instrument's highest possible sampling rate
- (Dale ? - ?) How is the 16 Byte UUID assigned and what's the difference between it and the other shorter ID presented in the puck memory block
- (Various) Puck commands should be distinguished from instrument commands by adding "puck_", or other arbitrary string, to beginning of command. This would be beneficial for embedding the puck in an instrument.
- (Andy - WHOI) Should the presented state machine be used when embedding the puck in an instrument. IOW, should the instruments only respond to the puck command set after a power cycle.
- (John Graybeal) Why can't the PUCK just monitor the controller <-> instrument's serial string and jump in when commanded
- (Mark Sibenac) Why not use the Analog Devices ADUM1100AR digital isolators instead of the isolation mechanism presented
- (Jeff ? - Agilent) Low-power pucks should be using microwatts in Instrument mode rather than milliwatts because the MSP430 only uses microwatts in sleep mode.
- (Mark Sibenac) Suggested using the Lantronix XPort devices for Ethernet puck functionality
- (various) If sampling parameters are adjusted from shore, and the system is power cycled, does the system use the parameters stored in the puck or those that had been adjusted. What is retained?
- (Mike ? - Hobilabs) Can the puck be rewritten from shore while on the buoy
- (Jeff ? - Agilent) Is the puck memory block erased or partially erased and if it's partially erased what is the software implementation for ensuring memory integrity
- (Mark Sibenac) What serial busses are the vendors planning on

implementing in their instruments in the future

- (Andy - WHOI) How to bypass puck to use OEM driver/software to talk directly to instrument. Perhaps add a timeout to the puck firmware to

switch comms to instrument after a minute.

- (Scott - Satlantic) Why not eliminate the puck and just store the drivers/metadata in the controller since the puck adds additional cost &

power consumption to the overall system

- (John - Seabird) Concerned that puck prototype doesn't supply power to

the instrument for high current/long cable runs. What good is the DC/DC

signal isolation without the embedded power supply?

- (Dale ? - ?) Why doesn't the puck completely leave the circuit to completely eliminate power consumption in instrument mode (i.e. relay on

power lines)

- (John - Seabird) Use a linear regulator design to reduce power consumption

That's it for now. I'll send you any more that I think of.

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