

SDI-12 Support Group
165 East 500 South
River Heights, Utah 84321
435-752-4200

Minutes from the 2010 Technical Committee Meeting

The SDI-12 Support Group's Technical Committee held its annual meeting on Monday, November 1, 2010. This meeting was held in conjunction with the American Water Resources Association's (AWRA) yearly conference, which was held at the Lowes Hotel, in Philadelphia, Pennsylvania. The posted agenda for the meeting was:

Welcome and Introductions

Status of an open issue about extending the cable length beyond 200 feet

Review of all comments received in the past year

Discussion about the apparent inconsistency between the text that describes the concurrent command and the sensor flow chart

Open discussion on SDI-12

Selection of technical committee members for the upcoming year

Companies on the Technical Committee Represented at the Meeting

Sutron Corporation, Jerry Calhoun, Chairman of the Technical Committee
NR Systems, Inc., Mike Jablonski, Chairman of the SDI-12 Support Group
Hach Company, Scott Janson, representing Ott Hydrometry and Hach Company
Campbell Scientific, Joe Thurston, Technical Committee Member

Jerry Calhoun called the meeting to session at 9:00 A.M. Introductions were made to Scott Janson, as this was his first attendance at an SDI-12 Support Group meeting.

Review of the Minutes from the Last Meeting (Fall, 2008)

Jerry Calhoun reviewed the minutes from the last meeting, which was held in November of 2008. Jerry pointed out that the SDI-12 Specification was updated in response to the conclusions made at the 2008 meeting. That update is dated January 12, 2009.

Review of Comments Received During the Year

Mike Jablonski reported that he had received a comment about the SDI-12 Verifier's C command reset test. The comment was that the firmware was not sending a break prior to the SDI-12 command used to abort a concurrent measurement and that a break should precede the command, according to the SDI-12 sensor flow chart in Appendix B of the SDI-12 specification. All present agreed that a C command is aborted not by a break, but by another command addressed to the sensor taking the concurrent measurement. This comment led to a detailed discussion on the next agenda item. See below.

No other comments about SDI-12 were received since the last meeting of the Group in 2008.

Discussion About the Apparent Inconsistency Between the Text that Describes the Concurrent Command and the Sensor Flow Chart

After much discussion it was agreed that the sensor flow chart in Appendix B of the SDI-12 specification is incorrect in showing that a break must always be issued to abort a concurrent measurement command. If less than 100 milliseconds have elapsed since the C command was issued, then a break is not needed.

All present agreed to make the following changes to the sensor flow chart, to correct this issue. It was also decided that the term "buffer," as used on the flow chart, caused unneeded confusion.

- a) top left rectangle: delete the text "in its buffer"
- b) top left oval: change "making" to "marking."
- c) bottom left rectangle: delete the phrase "empty buffer so"
- d) bottom right rectangle: changed the text so that it matches the text in the bottom left rectangle
- e) the "yes" branch of the "C command" decision should go to the oval "look for address, break, or 100 msec timeout while processing the command," rather than the oval "look for break while processing the command" oval
- f) the "no" branch of "valid command" in the C command processing section should go to the oval "look for address, break, or 100 msec timeout while processing the command," rather than the oval "look for break while processing the command" oval
- g) switch the positions of the two columns of logic for the C command logic to minimize the crossing of lines

(A copy of the revised SDI-12 sensor flow chart is append to these minutes.)

Cable Length

An open item from the 2008 meeting is the development of a computer program to indicate the maximum cable length as a function of the cable gauge, resistance, and capacitance, with capacitance being the limiting factor. In 2008 a representative from the Hach Company discussed the program and volunteered to work on it.

Joe Thurston said that the output of such a program should be a yes or no answer, reporting that a cable length of a specified distance will work or will not work, as a function of the cable gauge, resistance, and capacitance, rather than indicating that the cable length may work.

This issue remains an open item.

Open discussion on SDI-12

All present agreed to make the following clarifications to the SDI-12 specification:

- 1) Page 5, Section 4.0. Reference to page 14 change to reference to section 4.4.7.
- 2) Page 12, Section 4.4.5.1. Delete the sentence, "It must also empty its buffer so that no data are returned in response to a D command."

- 3) Page 14, Section 4.4.7.1. Delete the sentence, "It must also empty is buffer so that no data are returned in response to a D command."
- 4) Page 16, Section 4.4.8.3. Reference to section 4.4 change to section 4.4.8.
- 5) Page 16, Section 4.4.8.3. Circular reference to section 4.4.8.3, change to section 4.4.8.4.
- 6) Page 23, Section 4.4.13. Correct typographical error. Deleted the letter s from "extendeds."
- 7) Format all paragraph headings in bold.

Other Topics

Joe Thurston suggested that sample C code for the Texas Instruments (TI) MSP430 micro-controller be written for the SDI-12 sensor algorithm and posted on the SDI-12 Support Group's web page. It also suggested that TI may also allow that code to be posted on their web site along with other sample C programs for the MSP430 micro-controller.

Selection of technical committee members for the upcoming year

The meeting concluded with an agreement to recommend reinstatement of the existing technical committee for another year. Members of the SDI-12 Support Group's Technical Committee are:

Albrecht Dorr, Ott Messtechnik
Jerry Calhoun, Sutron Corp.
Joe Thurston, Campbell Scientific
Mike Jablonski, NR Systems
Paul-Emile Bergeron, Environment Canada
Roy Johnson, USGS

SDI-12 Support Group
165 East 500 South
River Heights, Utah 84321
435-752-4200

Minutes from the 2010 General Meeting of the SDI-12 Support Group

The SDI-12 Support Group's Technical Committee held its annual meeting on Tuesday, November 2, 2010. This meeting was held in conjunction with the American Water Resources Association's (AWRA) yearly conference, which was held at the Lowes Hotel, in Philadelphia, Pennsylvania. The posted agenda for the meeting was:

The posted agenda for the meeting was:

- Welcome and Introductions
- Report from the Technical Committee and Open Discussion on SDI-12
- Report on the Status of the SDI-12 Support Group
- Financial Report
- Selection of Board Members for 2010-2011

Welcome and Introductions

Mike Jablonski, NR Systems, Inc. Chairman of the SDI-12 Support Group
Jerry Calhoun, Sutron Corporation, Chairman of the Technical Committee
Jeff Adams, Campbell Scientific, Inc.

Report from the Technical Committee

Jerry Calhoun presented a brief summary of yesterday's technical committee meeting to Jeff Adams.

Report on the Status of the SDI-12 Support Group

Mike Jablonski reported that he had not filed federal tax returns for the Support Group for many years. This is because they were not required for non-profit corporations with revenue less than \$25,000 per year. Federal tax regulations, however, changed, and non-profit corporations are now required to file federal tax returns each year. These regulations took effect in 2007.

The SDI-12 Support group was listed by the Internal Revenue Service (IRS) as delinquent in filing tax returns for 2007, 2008, and 2009. The IRS, however, has recognized that many non-profit corporations were delinquent and granted a grace period to all delinquent non-profit corporations so long as they filed tax returns for 2007, 2008, and 2009 by October 15, 2010. A failure to file the returns would result in a loss of the non-profit status of the SDI-12 Support Group.

Mike Jablonski reported that he responded to this offer by the IRS and filed all of the required tax returns by October 15.

Issue Resolved: the SDI-12 Support Group subsequently received notice dated October 27, 2010 stating: "We've accepted your request to participate in the Voluntary Compliance Program for Organizations Eligible to file Form 990-EZ. As a result, your organization will keep its tax-exempt status as long as your check for the compliances fee clears and the funds are

transferred to the U.S. Treasury. (There was a \$100 filing fee.)

Mike reported that the SDI-12 Corporation remains a registered corporation in the state of Utah, in good standing.

Mike reported that membership in the Group has declined, although hundreds of copies of the SDI-12 specification have been downloaded from his web site for the SDI-12 Verifier in the last year. In addition, he said, sales of the SDI-12 continue to quite good, with companies new to SDI-12 purchasing them.

It was agreed to reach out to all previous members of the Group and ask them for continued support.

Financial Report

Mike reported that the Group has \$5,267 in cash. He also reported receiving membership dues in 2010, to date, of \$ 1,472. Expenses thus far in 2010 were \$ 625.00 to date in expenses:

- \$ 525 paid to AWRA for attendance at this conference
- \$ 100 file fee to the IRS for the three years of tax returns

Subsequent expenses for the year 2010 will be travel expenses for Board Members Mike Jablonski and Jerry Calhoun for attendance at the meetings in Philadelphia.

Mike also made a motion to contribute \$200 to AWRA for their annual scholarship fund. All present agreed to make the donation to AWRA.

Selection of Board Members for 2010-2011

Mike Jablonski agreed to continue as the Chairman of the SDI-12 Support Group for another year. Jerry Calhoun agreed to serve for another year as the Chairman of the technical committee. Jeff Adams offered his support for another term for both Mike and Jerry. The members of the technical committee were reinstated for another year. The meeting adjourned.

###