



Sea-Bird Electronics, Inc.
13431 NE 20th Street
Bellevue, WA 98005
USA

Phone: (425) 643-9866
Fax: (425) 643-9954
E-mail: seabird@seabird.com
Web: www.seabird.com

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SBE 37-SI / 37-SIP MicroCAT Data Storage Error

Equipment Affected

All SBE 37-SI and 37-SIP with RS-232 interface and firmware versions 3.0, 3.0a, 3.0b, 3.0c, and 3.0d; the firmware version is shown in the first line of the status (DS) response (see example below):

```
S>DS
SBE 37SI-RS232 3.0d SERIAL NO. 6017 20 Aug 2008 14:23:06
. . .
```

Description of Problem

A firmware bug causes the MicroCAT to **not** store data in FLASH memory when **StoreData=** is set to yes, if power is removed from the MicroCAT at any time after the **StoreData=** command is sent. The **DS** and **GetCD** replies continue to show that the MicroCAT is configured to store data, but the MicroCAT will not store data in FLASH memory after power is removed and reapplied.

This bug has no impact on the real-time data output by the MicroCAT.

Solution

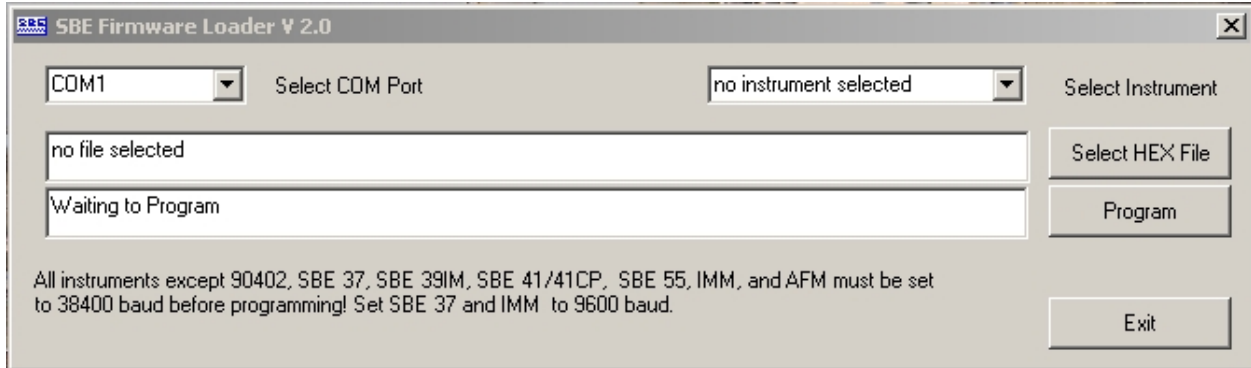
Files were placed on our website to allow customers to update their MicroCATs' firmware. Download:

- **SI-232.txt** (www.seabird.com/download/firmware/SBE37SI-SIP_RS232_FirmwareUpdate/) - version 3.0e firmware to be loaded into SBE 37-SI or 37-SIP
- **LoadFirmwareV*_*.exe** (www.seabird.com/download/firmware/) - software to use to download new firmware into SBE 37-SI or 37-SIP

Update and test the firmware in your instrument with the following simple procedure (time required to update the firmware is several minutes, in addition to setup and testing time).

1. Connect the data I/O cable to the MicroCAT and to an RS-232 COM port on the computer.
2. Record the current setup of the MicroCAT and verify / set the baud rate in Seaterm as follows:
 - A. In the Configure menu, select the SBE 37. In the dialog box, select the COM port and current baud rate that the MicroCAT is programmed to use for communication. Click OK.
 - B. Click Connect. You should get an S> prompt or an <Executed/> tag, depending on the MicroCAT's setup.
 - C. Record the current MicroCAT setup for re-entry after the firmware update --
 - Click Capture. Enter the desired file name and location to record the current setup.
 - Click Status. Seaterm sends the status (DS) command and shows the response from the MicroCAT.
 - D. Verify the baud rate the MicroCAT is using for communication by looking at the baud in the status bar at the bottom of the Seaterm window. If the MicroCAT is communicating at a rate other than 9600 baud, change the baud --
 - Type **BaudRate=9600** and press Enter.
 - In the Communications menu, select Baud Rate, and select 9600.
 - Type **BaudRate=9600** and press Enter again to reset the baud.
 - The MicroCAT should now be communicating at 9600 baud; verify this by looking at the status bar again.
 - E. Click Capture to end capturing of the session.

3. Type **OutputExecutedTag=Y** and press Enter; the MicroCAT must display XML Executed and Executing tags while using the firmware loader.
4. Close Seaterm to free the COM port for use with the firmware loader.
5. Double click on FirmwareLoaderV2_0.exe. The software will lead you through the installation process. As a default, the software will be installed in c:\Program Files\Sea-Bird\FirmwareLoader.
6. Double click on LoadFirmware.exe. The following appears:



- A. Select the computer COM port for communication with the MicroCAT.
 - B. Select the instrument - SBE 37-RS-232. Notice that the *Select HEX File* button changes to *Select TXT File*.
 - C. Click *Select TXT File* and select the appropriate .txt file – **SI-232.txt**.
 - D. Click *Program*. The status field changes from *Waiting to Program*, and shows the download progress.
 - E. When done, the status field shows *successful firmware update*. Click Exit.
7. Test the MicroCAT in Seaterm to verify that the new firmware is installed properly:
 - A. Click Connect. You should get an <Executed/> tag.
 - B. Click Status. Seaterm sends the status (**DS**) command and shows the response from the instrument. Verify that the firmware version on the first line of the status response is **3.0e**.
 8. Set up / reset the MicroCAT in Seaterm for your intended sampling scheme. Do not forget to reset the baud rate to the desired rate for the deployment (**BaudRate=**), and to turn off the Executed tags if desired (**OutputExecutedTag=N**).