

9480 Carroll Park Dr., San Diego, CA 92121-5201  
Phone (858) 657-9800 Fax: (858) 657-9818 Toll Free 1800 324-5190  
E-mail: [sda\\_techsupport@teledyne.com](mailto:sda_techsupport@teledyne.com) Website: <http://www.teledyne-api.com>

**14-001**

**24 February 2014**

**INFORMATIONAL NOTE ON THE MODEL 633 “ATN0 BUG”**

**I. PURPOSE: This is an Informational Note**

A miscalculation has been identified in the Model 633 Aethalometer instrument software versions 1.0.5.3 to 1.0.7.2. The problem is related to a software timing issue that happens for the first measurement immediately following a tape advance. The miscalculation does not affect the raw measurement data, but instead affects the compensation algorithm which affects the compensated BC data.

The error is noticed by a single very large spike in the BC compensated measurement. It is caused by a timing error during the adjustment of the LED's during the tape advance procedure causing the initial ATN measurement of the new filter spot to be incorrect. This usually happens in Ch7, sometimes also for lower channels. Since measurements are based on a differential measurement, all data following the initial one are correct.

A re-calculator program has been developed to correct the missing line of data and provides a correct compensated measurement. If you suspect that you may have bad data, please email [SDA\\_techsupport@teledyne.com](mailto:SDA_techsupport@teledyne.com) to receive the re-calculator program. Instructions are included within the software program through the side bar panel on the left hand side.

A new version of instrument software will be released shortly and may be included with this service note. This software will fix this bug, and also introduce some new features. This software will be distributed to all users pre-loaded onto a CF card which can be installed directly into your Model 633 Aethalometer instrument. We will ask for you to return the old CF card once you receive the new one.

The update also includes a new revision of instrument firmware (ver. 513 for S0x and ver. 421 for P2x production series instruments). The instrument software works universally on all production series instruments, providing identical performance, functionality, and user interface.

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