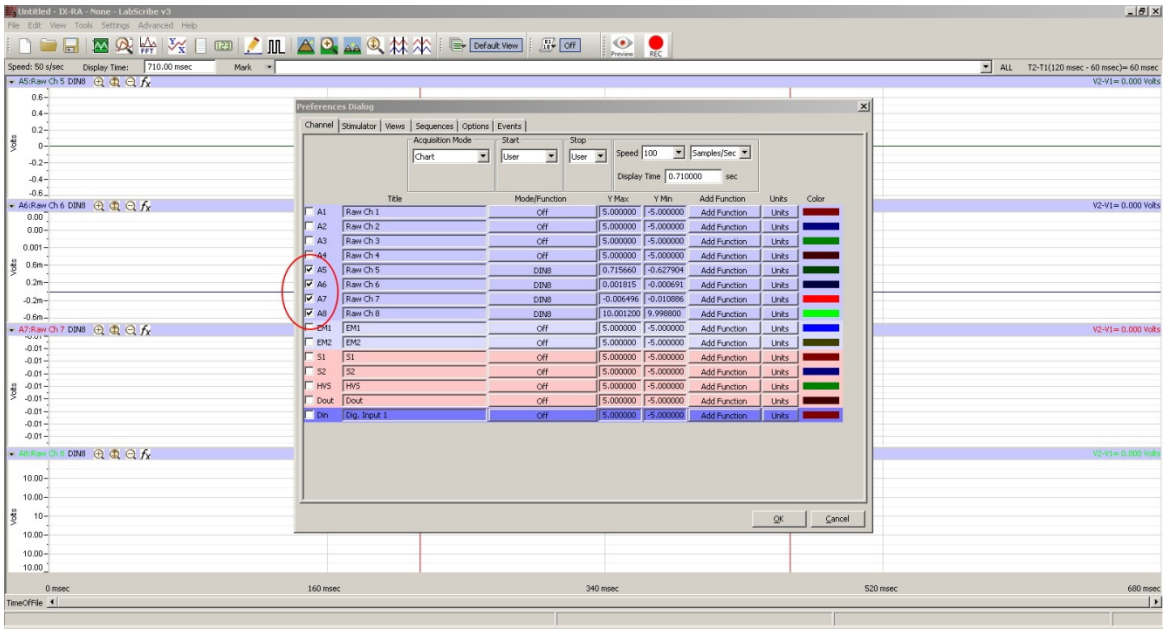
17308 Data EVO quick setup

1 – SELECT CHANNELS

On Menu “Edit” select “Preference” and chose your preamplifier channels from A5 to A8

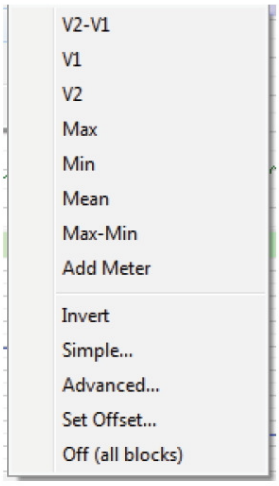


Units Conversion

When used with iWorx hardware, *LabScribe* functions as a calibrated voltmeter, which means the software will accurately display the exact voltage that the user presents to the analog-to-digital converter. The displayed (and default) units will always be volts. While this is useful in many cases, it is not always the appropriate unit for the data being recorded.

If *LabScribe* is used to record the output of a transducer designed to measure a physical parameter, such as force or pressure, other units are more appropriate. In these cases, volts can be converted into milligrams, grams, or any other units. *LabScribe* can handle these conversions easily, provided that the function that converts voltage into units appropriate to the transducer is linear.

LabScribe offers several options for Units Conversion. They are listed in the **Units** submenu of the **Channel Menu**.



The Units submenu.

The menu items above the horizontal line specify the data value to be displayed in that channel's **Value Display Area** and provide an option to add a meter value to the Meter display that is activated by clicking the **Meter** icon in the **Toolbar**.

The remaining menu items (described below) include:

- **Invert**: Inverts the trace.
- **Simple...** : Opens the **Simple Units Conversion** dialog.
- **Advanced...**: Opens the **Advanced Units Conversion Dialog**.
- **Set Offset...**: Allows the user to set an offset required by certain transducers.
- **Off (all blocks)**: Turns all units conversions off.

Invert the Trace

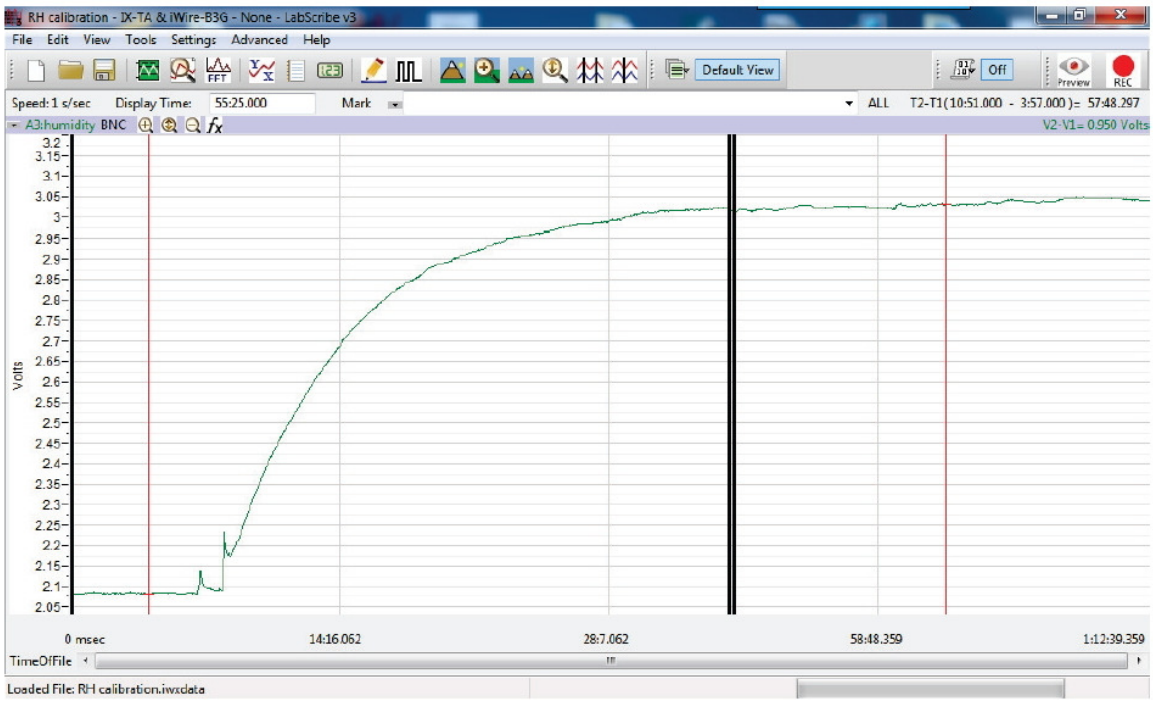
When recording physical parameters, such as temperature, pressure, or force, it is best if the polarity of the data display matches the real-world behavior of the parameter. For example, if the observed temperature goes up, the trace on the computer screen should go up. Increasing pressure or force should also produce a positive or upward deflection of the trace.

Depending how sensors and amplifiers are wired, this may or may not be the case. In the event that the data display has the wrong polarity, the trace can be inverted by selecting **Invert** from the **Channel Menu**, **Units** sub-menu, or the right-click menu in any data channel. The **Invert** function can be switched off at any time by selecting **Invert** a second time.

Simple Units Conversion

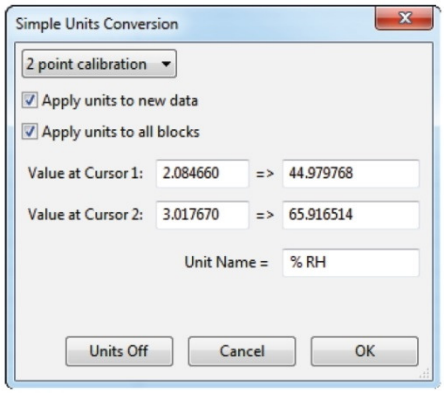
To convert voltage input to real units in the **Simple Units Conversion** dialog using **2 point calibration**:

- Record a portion of data at two known values. In the case of a humidity probe, record the output at two known humidities. The recorded trace may look something like the figure below.



Data file from humidity sensor with cursors positioned at two known humidities.

- Once recording is complete, proceed to **Two Cursor Mode** in the **Main Window** by clicking on the **Two Cursor** icon in the **Toolbar**. The **Units Conversion** dialog window cannot be entered without being in **Two Cursor Mode**.
- Position **Cursor 1** over one of the known values, and **Cursor 2** over the other known value.
- Open the **Channel Menu** by clicking on the arrow on the left end of the **Channel Bar** or right-click anywhere in the data channel and select **Units** from the **Channel Menu**. The **Units** menu can also be accessed by left-clicking on the **Value Display Area** of the **Channel Bar**.
- Select **Simple...**. to open the **Simple Units Conversion** dialog window.
- Select **2-point calibration** from the drop-down menu of the **Simple Units Conversion** dialog.
- Below that menu is an area where the values for the positions of the cursors are listed. The values on the left are the voltage values at the positions of **Cursors 1** and **2**. Enter the corresponding values in real units into the two value boxes on the right.
- In the **Name** area, enter the name of the unit to be displayed on the Y-axis. If a unit name is not entered, volts will be used as the default name.
- The units are always applied to the selected data block(s). To apply the units to all blocks, select the **Apply units to all blocks** checkbox. To apply units to new data which will be recorded select the **Apply units to new data** checkbox.



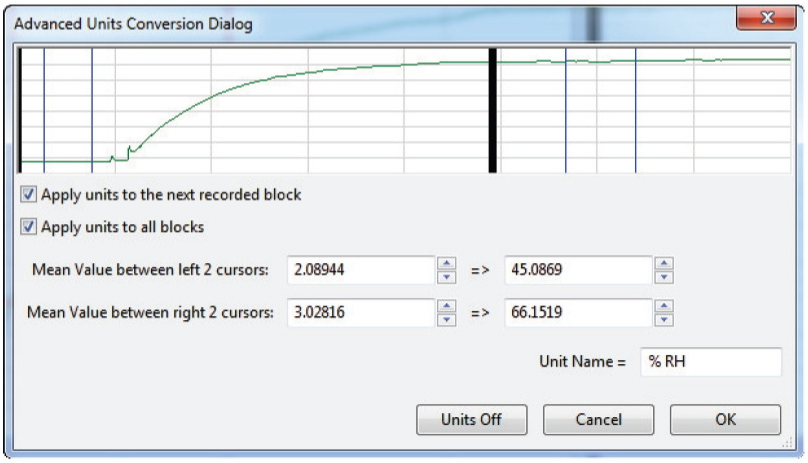
The Units Conversion dialog window showing the 2-point calibration configuration.

- Click **OK** to exit the dialog.

Advanced Units Conversion

For some recordings, it may be more accurate to use the mean of a small range of data to set the calibration values, The **Advanced Units Conversion Dialog** makes this possible. To use the **Advanced Units Conversion Dialog** to make a 2 point calibration:

- Choose **Advanced...** in the **Units** submenu.
- Use the two cursors on the left to bracket an area of known average value, and the two on the right to bracket the second area of known average value. LabScribe will display the mean of the bracketed areas. In this way, it is possible to get representative values in recordings with some degree of amplitude fluctuation.



The Advanced Units Conversion Dialog.

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