



# Real Time Mode QuickStart Guide

(Smaart Suite, RT, and LE)

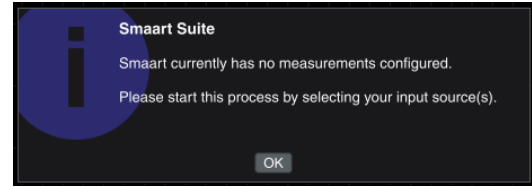
This is a step-by-step guide to initial input and measurement configuration using the Real Time Mode of Smaart; applicable to Smaart Suite, Smaart RT, and Smaart LE. To follow along with this guide, either launch Smaart for the first time, or head to the Config menu > Manage Configurations > Restore Defaults.

For licensing help and registration instructions, please refer to the Smaart Licensing Help Guide. The Smaart Licensing Help Guide is available at [www.support.rationalacoustics.com](http://www.support.rationalacoustics.com) under the “Smaart Documentation” category.

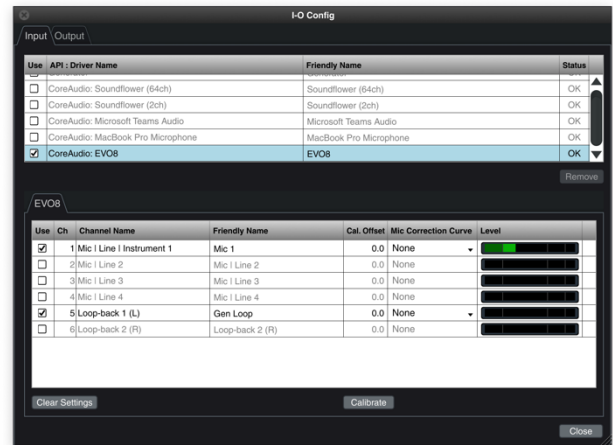
For additional assistance, please contact [support@rationalacoustics.com](mailto:support@rationalacoustics.com).

Before you start, we recommend connecting a recording interface to your computer, with a measurement microphone connected to a preamp with phantom power, as well as sending an output of your interface to a speaker system. By the time you are through with this guide, you will have spectrum and transfer function data.

1. After launching Smaart for the first time or restoring defaults, you will be prompted to select your input sources. Select OK and continue to the I-O Config dialog.

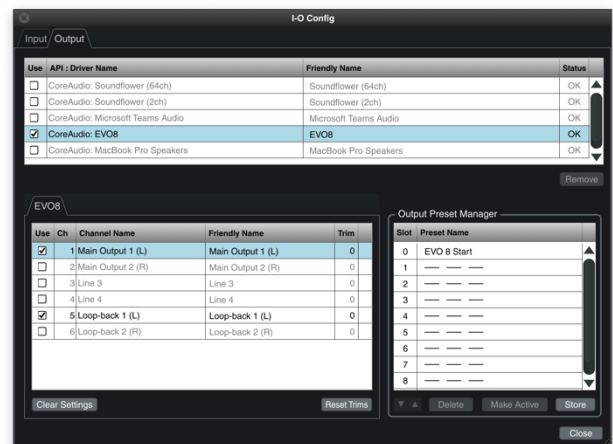


2. In the upper portion of the *Input* tab of I-O config, select the *device* you will be using for measurement. In this example: CoreAudio: EVO8. In the lower portion of this window, select the *input(s)* you wish to use for measurement. We have selected *Mic|Line|Instrument 1* (measurement microphone) and *Loop-back 1 (L)* which is the Audient EVO 8's internal loop feature. This channel will be used for Smaart's signal generator as well as our reference input for transfer function engines. It is helpful to also give your inputs a *Friendly Name* as that is what they will display as in Smaart – in this case, *Mic 1* and *Gen Loop*.



**Note:** *Cal. Offset* (SPL calibration) and *Mic Correction Curve* are not required for Real Time Mode's spectrum and transfer function measurement.

3. Navigate to the *Output* tab of I-O Config to route the signal generator outputs. For this example we are using the Audient EVO 8's *Main Output 1 (L)* to physically patch and send signal to our speaker system. We are also routing signal to *Loop-back 1 (L)* as our reference input.



If your interface does not support internal loop-back, simply use a short patch cable to physical wire one of the interface outputs to one of the interface inputs. Close the I-O Config dialog.

**Note:** Signal Generator Suite/RT vs LE

Smaart LE does not support Output Presets and uses a condensed version of the signal generator's main controls where: selecting on the output type acts as the *On* button and selecting in the dB readout area accesses the Signal Generator settings dialog directly.



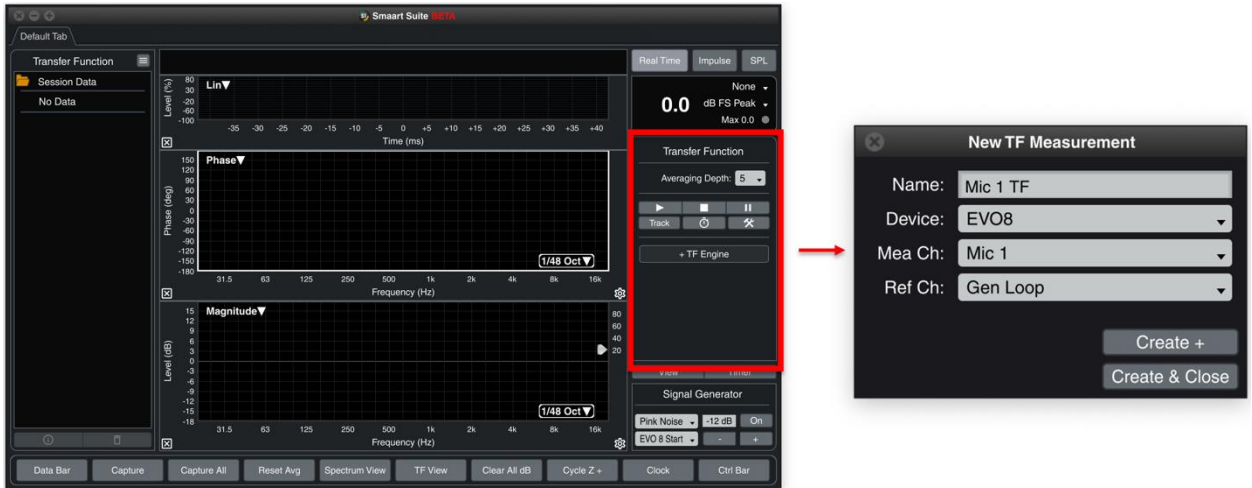
4. You will now be presented with Smaart's Real Time Mode GUI, with spectrum engines automatically created and placed in the control bar on the right most portion of the interface.

Select the triangle *Run* buttons to activate the spectrum engines and begin plotting data on the screen.

Turn on the signal generator by pressing the hot-key [G], or selecting the *On/Noise Type* button in the signal generator control block in the bottom right of the GUI. Adjust the signal generator output/speaker level until you reach your desired loudness. In combination with the interface preamps, we recommend targeting -12 dB FS on Smaart's signal meters – the point where green turns to yellow.



5. Next, configure Smaart for transfer function measurement. Navigate to transfer function view using the hot-key [T] or selecting *TF View* in the command bar. You will be presented with the default transfer function view – consisting of a 3-graph plot area with Live IR, Phase, and Magnitude. Unlike spectrum engines, transfer function engines are not automatically configured. Select on the *+ TF Engine* button in the TF control bar to configure a transfer function engine.



Enter a name for the engine, ensure that the correct device is selected, and assign your measurement and reference channels. In this example, the measurement input is the measurement microphone, and the reference input is the signal generator loop-back. If you have multiple inputs for multiple transfer function engines, select *Create +* to configure more transfer function engines. Otherwise, select *Create & Close* to exit the *New TF Configuration* dialog.

6. Turn on the signal generator again to begin generating noise through your audio system and select the triangular *Run* button inside the TF engine. Select the *Track* button to apply reference delay to the measurement, compensating for system latency.



7. If you have multiple transfer function measurement engines, you can create a *Live TF Average* by using the hot-key [Shift + Cmd/Ctrl + T] or navigating to the Config Menu > *New TF Avg...* Follow the prompts in the dialog to name the engine and select the TF engine contributors.

