

Smart Basics Course Description

Overview

The 2-day *Smart Basics* class is designed to guide users through the essential tasks of configuring and running Smart v.8 for Real-Time RTA, Spectrograph and Transfer-Function Measurements.

A shorter, more condensed version of the 3-day *Smart Operator: Fundamentals* class, *Smart Basics* provides only an overview of the Impulse Response mode functionality of Smart and focuses less on system measurement theory and more on practical application and deployment of Smart in everyday system engineering tasks.

Live measurements are featured throughout the class to demonstrate how and why specific features function as they do, as well as how to interpret the data obtained to achieve reliable measurements. Hands-on practical application exercises using the standard Smart v.8 platform are featured throughout the course. Smart Di users may use the v.8 demo for instructional purposes, and apply the techniques and processes used for essential system engineering tasks to their work environment.

Topics Covered Include (but not limited to):

Context: Why & How we use Smart:

What is sound and how do we analyze it? / Waveform, Transforms & FFT / Time Domain vs. Frequency Domain / What measurements do we make: Dual-Channel vs. Single-Channel Measurements / Spectrum & Transfer Function Measurements/Physical Measurement Configurations

Smart v.8:

Interface Overview/ Input Device Configuration / Measurement Control / Data Capture/ View Control /Single Channel Measurements (RTA & Spectrograph) /SPL Calibration/ Dual-Channel Measurements (Transfer Function) / Multi-Channel Measurement Issues/Impulse Response Mode

Measurement Exercises :

RTA long term response analysis & spotting trends / Spectrograph spotting feedback and resonances / Determining relative level/ Multi-position averaging /Loudspeaker equalization / Polarity vs. Phase / Delay Systems / Subwoofer Alignment (time permitting).

Prerequisites:

Smaart Basics is open to all interested persons. Prior measurement / system alignment experience is not required but is helpful. This course does assume a working knowledge of professional sound system engineering practices and basic audio fundamentals.

Required Equipment:

The measurement signals used in the instruction of the *Smaart Basics* class will be distributed using a Dante audio network. Class attendees must bring a laptop computer with both the latest version of Smaart v8 measurement software and Dante Virtual Sound Card (DVS) installed.

Attendance Limitations

Attendance is limited to 20 people per class to ensure the maximum amount of time and attention from the presenter and ample time for questions and discussion.

Class Schedule

- **Day 1 schedule:** Class starts at 9AM, with a lite breakfast and coffee provided by Rational Acoustics. Lunch will be at 12:30 (lunch provided). The class will conclude at 5pm. We recommend arriving a little bit early on Day 1 so everyone can get their computers set up and be ready to go at 9.
- **Day 2 Schedule:** Class starts at 9AM, with a lite breakfast and coffee provided by Rational Acoustics. Lunch will be at 12:30 (lunch provided). The class will conclude at 5pm.