

# Smaart™

# SF Marketing Smaart Training

## Scheduling, Registration & Pricing Information

### Class Schedule:

All Smaart training classes are posted on our web site as soon as the class dates are confirmed and open for registration. For the most up-to-date listing of confirmed classes, please visit <http://www.sfm.ca/pages/proaudio/news.html>

Announcements for each class are also posted on Rational Acoustic's website at :  
<http://www.rationalacoustics.com/pages/training>

### Registration:

Class registration can be done via any of the three following methods :

**Email:** Complete the PDF Smaart Registration Form and email to [smaart@sfm.ca](mailto:smaart@sfm.ca)

**Fax:** Complete the PDF Smaart Registration Form and fax to (514)-780-2110 or 1-800-563-2948

**Direct:** Call us and register by phone at (514)-780-2070 or 1-800-363-8855 Ext.2292

### Pricing:

Fundamentals & Applications - \$490 CAD

Advanced User Practicum - \$275 CAD

Both Classes combined - \$650 CAD

Class fees include all class materials as well as light breakfast, lunch and coffee breaks on all class days.

A \$50 deposit is due at the time of registration. Cancellation with full refund will be permitted up to 72 hours prior to event. Registrants cancelling between 72 and 24 hours prior to event will only be eligible for a 50% reimbursement. Cancellations within 24 hours of the event will result in full forfeiture of payment.

Discounts for groups of 5+ people registering from the same company are available. Please contact us by email at [smaart@sfm.ca](mailto:smaart@sfm.ca).

### Class Attendee Product Discounts:

Attendees of SF Marketing Training Classes are eligible to receive discounts on Smaart software (both new licenses and upgrades) upon completion of their course. Please contact us directly for more information.

## Learn to make sense of the noise.....

Smaart is the most straightforward and widely used software for real-time sound system measurement, optimization and control. For over 12 years it has garnered a loyal following from every corner of the audio industry. And on a daily basis it helps audio professionals around the globe do their jobs better, faster and, of course, smarter.



But like any tool, Smaart is only as good as the person who wields it. Which is why training on a tool this powerful is so important.

A comprehensive series of Smaart Training Classes has been developed to provide students with a solid foundation in the application and utilization of Smaart in sound system measurement, optimization and acoustical analysis.

The courses are lead by veteran audiovisual consultant Arthur Skudra noted for his decades of professional audio experience and expertise (for a more complete bio, go to [www.rationalacoustics.com/pages/instructor-directory](http://www.rationalacoustics.com/pages/instructor-directory)). Classes are available in multiple levels from introductory overviews to advanced level real world practicums, allowing attendees to hone their skills no matter what level they are.

We offer classes on a nation-wide basis to accommodate Smaart's vast user base. We are also in the process of developing curriculum for classes exclusively in French. Please consult our website for more information as these classes become available.

“  
Thank you for building such a great tool for the tech kit and for  
developing a very helpful and educational class to teach it  
.-Eric Matland, NYC 2009 Smaart Class Attendee  
”

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# Smart Fundamentals and Applications

**Format: Classroom Lecture and Presentation**  
**Length: 2 Days (8 hours per day)**

## Overview

The **Fundamentals and Applications** course covers the basic principles and practices of setting up a Smart measurement rig and using it to make RTA, Spectrograph, Frequency Response (Transfer Function) and Impulse Response measurements. Special attention is paid throughout the course to the subject of how to make valid and useful measurements, as opposed to simply making cool squiggly lines appear on the screen. This course begins with an overview of both the general system measurement theory involved as well as the operational context in which Smart is used, namely in Sound System Engineering and Alignment. This course focuses on providing the attendee with a functional knowledge of how Smart operates as a tool before expanding to the application of that tool in sound system engineering, and as much as possible, examines data interpretation as much as acquisition.

This course uses a classroom lecture and lab format, and relies heavily on in-class measurements, utilizing a signal distribution system to distribute the instructor's stereo measurement signals to the entire class. Please note the "Attendee Equipment" section below.

## Topics Covered Include (but not limited to):

### Fundamental Measurement Concepts:

Single channel vs. multi-channel measurements / Time domain vs. frequency domain analysis / Transforms: What the heck is an FFT? / System Engineering "Key Concepts"

### Smart Features overview / interface navigation:

Anatomy of a Smart measurement rig / Basic hardware requirements & troubleshooting

### RTA and Spectrograph Measurements:

Averaging and Banding / Feedback identification / Calibration for SPL

### Transfer Function Measurements:

Magnitude, Phase & Coherence / Data Thesholding Functions/ Measuring Relative Level and Phase Between Systems / Data Storage and Trace Averaging

### Impulse Response Measurements:

Using Linear IR to examine polarity / Measuring delay times for speaker system time alignment / Tips for improving IR measurement quality

## Prerequisites:

The Smart Fundamentals and Applications course is open to all interested persons. Prior system alignment experience is not required, but is definitely helpful. This course does assume a working knowledge of professional sound system engineering practices and basic audio fundamentals. If you have any questions concerning course prerequisites, please do not hesitate to contact SF Marketing prior to registration.

## Attendee Equipment:

All Fundamentals & Applications class attendees are **required** to

bring a laptop computer with a **stereo line level input** (either via built-in sound card or an external audio interface with Smart measurement software **already installed** (fully featured demo version are available online)\*. The measurement signals used in the instruction of the Fundamentals and Applications classes will be made available to the attendees via a stereo distribution system on XLRs or 1/8" TRS. Should your input device have alternate connector types than those listed, please bring appropriate adapters.

Bringing complete measurement rigs (including mixers, mics, etc..) is not necessary. If you have any questions concerning equipment requirements, please do not hesitate to contact [smaart@sfm.ca](mailto:smaart@sfm.ca) prior to registration.

# Smart Advanced User Practicum

**Format: Hands-On Workshop**  
**Length: 1 Day (7 hours)**

## Overview:

The **Advanced User Practicum** focuses on the application of Smart for system alignment and response optimization. These sessions seek to advance the synergy between an engineer and their measurement tools, concentrating heavily on measurement choices, data interpretation and alignment decisions/ compromises. Strong emphasis is placed upon developing a practical integration between listening and measurement skills, and reinforcing a systematic and scalable approach to sound system alignment. Advanced sessions are often held in actual performance venues to ensure appropriate "real world" data acquisition and interpretation practice. Class sizes are limited, and attendee conformance with prerequisites is mandatory.

## Topics Covered:

These sessions normally follow a basic system alignment scenario appropriate for the host venue, including: component/subsystem verification, system coverage verification, simple system EQ, alignment of coverage extension systems (fills and delays), and alignment and timing of subwoofer systems. Practicum sessions make heavy use of basic Spectrum, Frequency Response and Impulse Response measurement skills for determining and adjusting relative system levels and timing. Additional topics to be covered will be determined by class interests, venue specifics and whatever rears its head during the alignment process.

## Prerequisites:

Participation in this seminar assumes a full working knowledge of Smart, the ability to read Spectrum, Frequency Response (including Mag, Phase and Coh) and Impulse Response data, and either prior attendance of a Smart Fundamentals & Applications class, or at least six months working experience with Smart measurement software (or other dual-channel measurement systems.) Prior system alignment experience is a plus. This course also assumes a working knowledge of professional sound system engineering practices and basic audio fundamentals. If you have any questions concerning course prerequisites, please do not hesitate to contact us prior to registration.

## Attendee Equipment:

Unless otherwise noted, these sessions do not distribute class measurement signals, and do NOT require attendees to bring laptops and measurement rigs.

\* While many versions of Smart currently exist and are in circulation, as of January 2010, Smart Training Classes will be focused exclusively on Smart v.7. Attendees are encouraged to have this version installed on their laptops prior to arrival for the first day of the course.