StudioLive™ gets Smaart®

## PHASE ONE

NOW SHIPPING WITH
UNIVERSAL CONTROL 1.6

What is Smaart® Spectra™?

Smaart Spectra for Studio-Live Phase 1 is a subset of Rational Acoustics' highly-acclaimed Smaart v7 measurement and analysis program.

It provides dynamic, real-time visualization of frequency distribution that's simply not possible with traditional metering.

This allows you to not only measure the "spectral signature" of the input signal, but also pin-point and correct feedback and see the continuous sound level in a room.

Smaart Spectrograph and RTA are exclusive to PreSonus' StudioLive.

What is Smaart® Spectrograph?
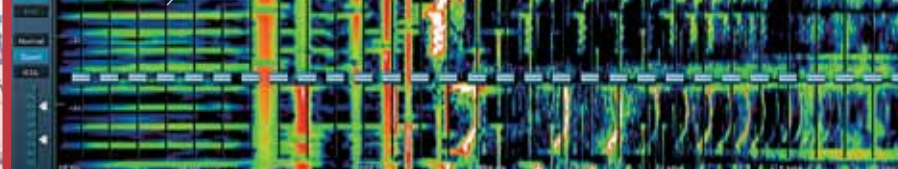
Many audio signals that are encountered in the field are highly dynamic: musical signals, speech, and even environmental noise contain significant changes in spectral content as a function of *time*.

While the classic RTA spectrum display is useful for viewing the time-averaged spectral content of a signal, a "3D" display technique is required to enable the analysis of the incoming frequency spectrum over time.

The Spectrograph fulfills this requirement, providing a three-dimensional view of the incoming signal: energy versus frequency versus *time*. The spectrograph can be thought of as a record of multiple RTA spectrums taken over time, with color representing amplitude.
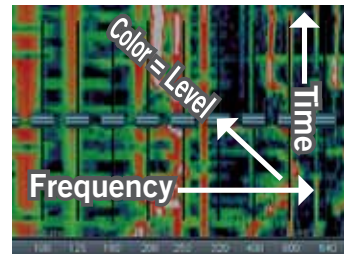
Using this function-

Color = Level

Time

Frequency

Who is Rational Acoustics?

Rational Acoustics was launched in 2008 with the specific purposes of ensuring the continued development of the Smaart measurement platform and substantially enhancing the educational efforts and support that back it.

In the mid 1990s, the laptop computer finally became powerful enough to run the mathematical algorithms lurking in those expensive hardware / DSP-based dual-channel analyzers. In 1995, Smaart was born.

Over the next 17 years, Smaart software continually developed and evolved, leveraging the growth of computer-processing power and the refinement of audio gear.
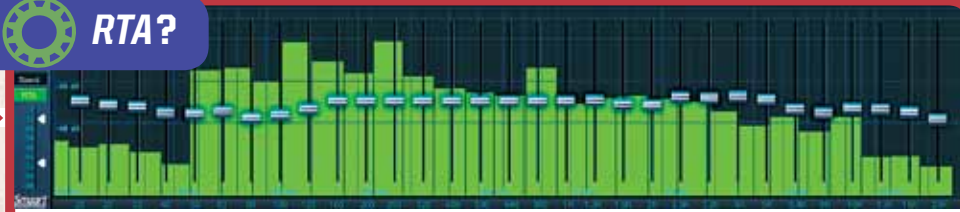
Rational Acoustics has expanded their collective experience, understanding, and techniques for applying these measurement technologies to the sound-reinforcement industry.

rational acoustics

PreSonus™
www.presonus.com

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What is Smaart RTA?

The real-time analyzer, or RTA, is a familiar tool to audio professionals. By adjusting the scale, a user is able refine their measurement's resolution and responsiveness to fit the task at hand.

Smaart RTA can provide you with a view of the long-term spectrum of a signal. A traditional measure of the "spectral signature" of the input signal, Smaart RTA's 1/3rd-octave display shows an average of a musical performance over time.

This technique is also useful for capturing a stable measure of the continuous noise level in a room.

Smaart Spectrograph

...ality, the spectral content of the input signal is recorded as it changes in time, allowing the user to view and analyze time-varying trends in the input signal.

In Smaart, this graph is fundamentally governed by setting the threshold level at which data begins to appear on the graph.

When a frequency band in the spectrum is over the lower threshold, it shows up on the plot, starting with a dark blue color at lower levels, through green, yellow, orange and red with higher level – eventually showing up as white if the level reaches or exceeds the upper threshold.

How does Smaart work with StudioLive?

Smaart Spectrograph and RTA are built into the Graphic Equalizer (GEQ) screens of Virtual StudioLive (VSL), our mixer control system for Mac and Windows, which in turn is part of Universal Control 1.6.

Any time you access a StudioLive 16.0.2, 16.4.2 or 24.4.2 GEQ from inside VSL, you can put Smaart to work.

That includes main outputs (for shaping overall PA output) and auxes (for ringing out feedback in individual floor wedge monitor mixes).

How do I adjust the Smaart displays?

The key to creating a useful spectrograph is to set the dynamic range for the display.

Set the range too wide and the display loses definition, and important features may get lost. Set it too narrow or the lower threshold too high and data might get missed altogether.

One of the powerful new Smaart v7 features incorporated into StudioLive is the Threshold Adjustment Handles on the left axis of RTA and Spectrograph plots. You can adjust spectrograph thresholds dynamically – in real time without having to reacquire the data.

Spectrograph or RTA are options when you select a GEQ in Virtual StudioLive.
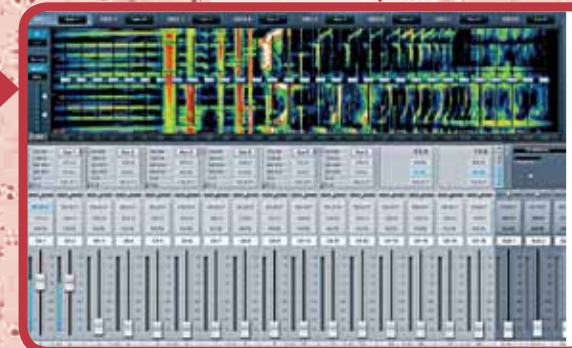
All GEQs are Smaart

16.4.2: One stereo and 6 mono 31-band graphic equalizers. Stereo GEQ available on main outputs only; mono GEQs available on each of the 6 aux outputs only

24.4.2: Eight 31-band GEQs, assignable in four stereo pairs to main outputs, aux outputs, subgroup outputs, mono or stereo operation

16.0.2: One stereo 31-band graphic equalizer preset as a stereo pair on main outputs only

What is Universal Control?

Please face the blackboard and take notes. You'll be tested on this.

UNIVERSAL CONTROL 1.6

Virtual StudioLive

PERMISSIONS

StudioLive Remote for iPad | QMix for iPhone / iPod touch | Smaart Spectra & RTA

Universal Control is the PreSonus software that handles interaction between your Mac® or PC and your StudioLive mixer.

Built into Universal Control is Virtual StudioLive (VSL), our mixer remote-controller/editor/librarian, QMix™ for iPhone, and StudioLive Remote for iPad.

What else is new in Universal Control 1.6?

Universal Control 1.6 also updates the Windows and Mac drivers for StudioLive with greatly improved performance across the board on Windows systems. Concurrently we're releasing an update to SL Remote for iPad, which adds control over Talkback assignments, Talkback routing, and Scene recall.

UNIVERSAL CONTROL 1.6

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Use case: Ringing out feedback with Smaart Spectrograph
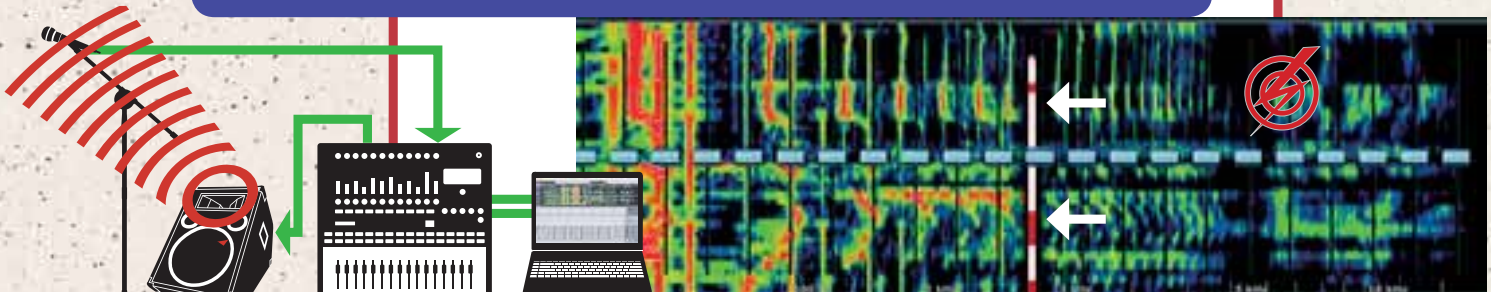
Because Smaart Spectrograph is a continuous "stream" of real-time frequency information, feedback is instantly visible in Smaart Spectrograph as a vivid white/red "streak" moving up the display stream..

Just reduce the corresponding 31-band GEQ slider to instantly kill the feedback. It works with aux monitor mixes and floor wedges. It works with PA mains. Far better than any other feedback suppression method.

Optimize system EQ
with Ratio- nal Acoustics' **Smaart™ Spectrograph** & **RTA** (included)

Full laptop control
with **Virtual StudioLive™** for Mac and PC (included)

Record multitrack
in just two mouse clicks with **Capture™** (included)

Edit and produce
with **Studio One Artist™** DAW (included)

iPhone® monitor mix control
with **QMix™** (free download)

iPad® mix control
with **SL Remote™** (free download)

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