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For immediate release

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Sioux Falls SD - Sencore Electronics, a leading manufacturer of test and calibration equipment for the Home Theater industry, announces the release of their **Installer's Guide to Home Theater Audio**. This interactive, CD-based training tool is designed to provide professional Home Theater installers with the practical information they need to optimize the sound in every installation.

SoundPro *Installer's Guide to Home Theater Audio* **SENCORE**
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Theory 101

- Audio
- Acoustics
- System

SP295

- Operation
- Application

Home Theater

- Setup
- Calibration

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For best results:

- View at 1024 x 768 video resolution.
- Use a stereo sound card with L and R speakers.
- If your sound card has 3D wide mode, turn it off (Mute output in Volume Control panel).

TC600 CD opening screen

The training presentation is divided into three main sections; 1) Concepts and Theory, 2) Step-by-step Home Theater Setup & Calibration, and 3) Operation and Application of Sencore's SP295 SoundPro Audio Analyzer. Each concept includes interactive audio clips that allows learners to relate the concept to what they hear inside of the theater room.

- The Concepts and Theory section provides practical, down-to-earth information that will help new comers to audio as well as seasoned installers better understand these aspects of home theater:
 - Audio fundamentals - including soundwaves, timbre, pitch, octaves, critical bands, SPL, audio amplifiers and loudspeakers
 - Room Acoustics - including room soundfields, early & late reflections, reverberation, room resonance and noise criteria,
 - Surround Sound Systems - including surround sound fundamentals and speaker placement
- The Step-by-step Home Theater Setup & Calibration guide provides a complete guide for setting up and calibrating any home theater system to achieve optimum sound performance. Detailed procedures include component placement and installation, calibrating speaker level balance, calibrating time delay, optimizing subwoofer S/N, identifying and controlling reflections, and equalizing low frequency response. Each step includes detailed information and photos showing how to perform the test or alignment.
- A special section is provided for installers who use Sencore's SP295 SoundPro. This section is an excellent tool for getting new installers up to speed on the SP295. It provides an overview of the SP295's operation as well as step-by-step information on using the SoundPro.

The CD-based format allows the learner to fully experience multimedia training. It contains over 350 photos, illustrations and animations that clearly illustrate each concept,

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Noise Bandwidth

- Full Audio Bandwidth
- 5 Octaves
- 4 Octaves
- 3 Octaves
- 2 Octaves
- 1 Octave
- 1/2 Octave
- 1/3 Octave
- 1/6 Octave
- 1/8 Octave
- 1/12 Octave
- 1/24 Octave

dB

Hz: 110, 220, 440, 880, 1780, 3520, 7040, 14080

The ear's critical bandwidth affects how we hear noise (sounds made up of many individual, closely spaced tones, each at the same amplitude). The perceived loudness of noise is not the sum of the sound pressures of each individual frequency, but, instead, depends on the noise bandwidth. Broadband noise sounds much louder than narrow band noise. When the bandwidth is decreased to less than the critical band of our ears, we can no longer hear a change in loudness, as you can hear by

Critical Bands: step 3 of 4

test procedure and calibration step. Audio segments illustrate important acoustic and audio principles such as critical bands, reverberation, reflections, decibels, timbre, phase, octaves, harmonics, room resonance, and many others.

Several interactive calculators are included throughout the training. These calculators will help you better understand such things as decibels, octave bands, the effects of room size, speaker placement and room treatment. Each calculator can be quickly accessed and used as a tool while performing an installation.

The screenshot shows three calculator sections:

- Calculate Upper and Lower band frequencies:** Includes input fields for Center Frequency (Hz) and Interval (i.e. enter 3 for 1/3), a Calculate button, and output fields for Lower frequency and Upper frequency.
- Calculate New Octave Frequency:** Includes input fields for Fundamental Frequency (Hz) and Interval, a Calculate button, and an output field for Octave Frequency.
- Calculate Band Center frequency:** Includes input fields for Upper/Lower Limit (Hz) with radio buttons for Lower Limit and Upper Limit, Interval, a Calculate button, and an output field for Center frequency.

At the bottom, there is a "Select Desired Calculator" section with a grid of buttons:

Room Mode	Reverberation	Wavelength	dB Power
Pressure (Pa)	SPL vs Distance	Volts vs Gain	Octaves

The screenshot shows a "Room Dimensions" calculator with input fields for Length (24 Feet, 0 Inches), Width (20 Feet, 0 Inches), and Height (10 Feet, 0 Inches). It includes a Calculate button and buttons for Mode Location, Mode Frequency, and Mode Map.

Below the input fields are three graphs showing room modes:

- Front to Back:** Shows modes at 3 ft (94 Hz), 4.01 ft (71 Hz), 6 ft (47 Hz), 9 ft, 12 ft (24 Hz), 18 ft, 18 ft, 20.02 ft, and 20.99 ft.
- Side to Side:** Shows modes at 2.5 ft (113 Hz), 3.34 ft (85 Hz), 5 ft (57 Hz), 7.5 ft, 10 ft (28 Hz), 15 ft, 15 ft, 16.67 ft, and 17.5 ft.
- Floor to Ceiling:** Shows modes at 1.25 ft (226 Hz), 1.67 ft (170 Hz), 2.5 ft (113 Hz), 3.75 ft, 5 ft (57 Hz), 7.5 ft, 7.5 ft, 8.34 ft, and 8.75 ft.

At the bottom, there is a "Select Desired Calculator" section with a grid of buttons:

Room Mode	Reverberation	Wavelength	dB Power
Pressure (Pa)	SPL vs Distance	Volts vs Gain	Octaves

The **Installer's Guide to Home Theater Audio** is produced by Sencore's TechTraining division, which has been producing and presenting practical, technician-based training for over 30 years. Sencore produced this training CD in response to overwhelming requests for practical, hands-on training that is needed to help ease the shortage of qualified home theater installers. The TC6000CD is available from Sencore beginning April 1st. It can be purchased for \$495 (MSRP), or for \$xxx if purchased in conjunction with Sencore's SP295 SoundPro Audio Analyzer.