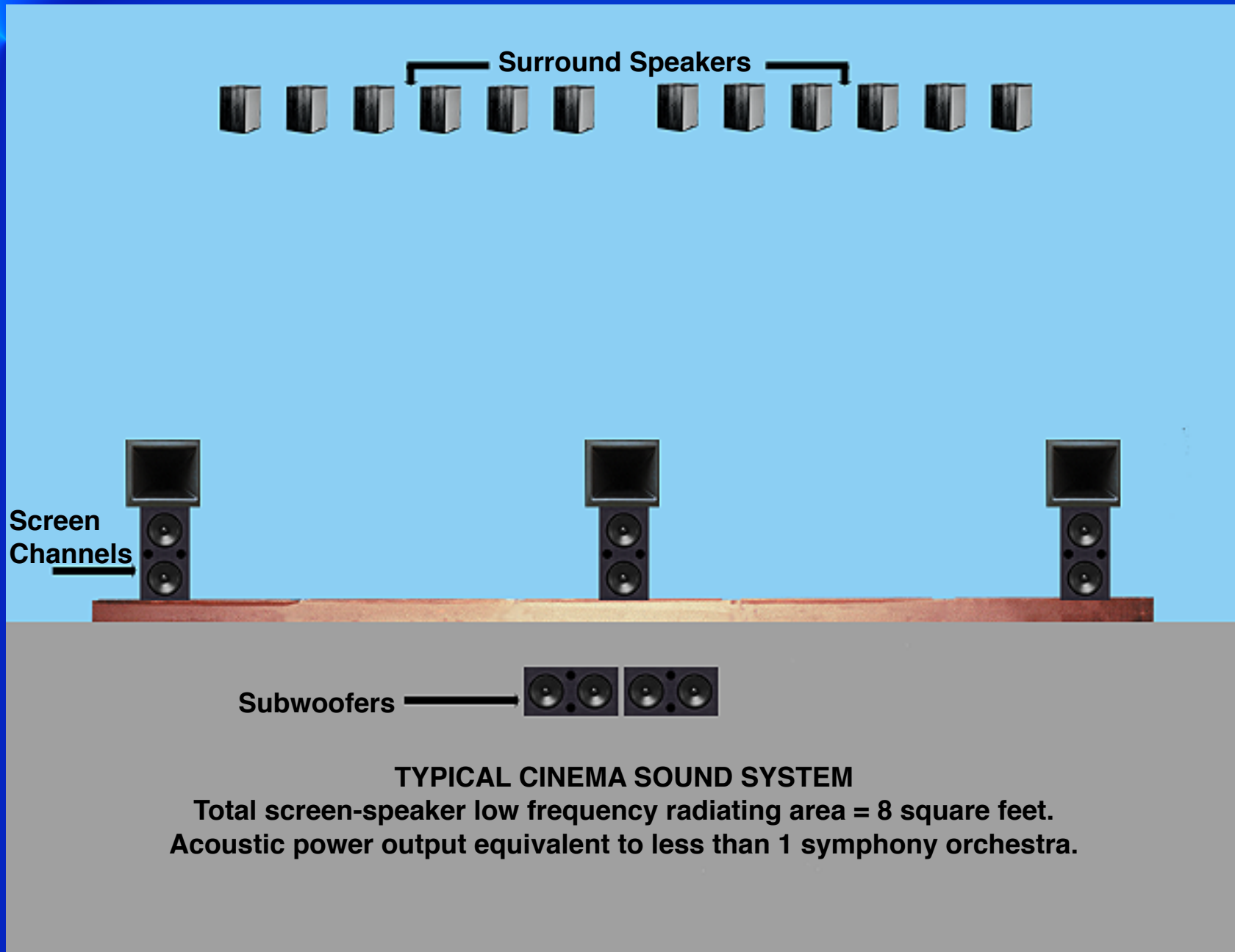


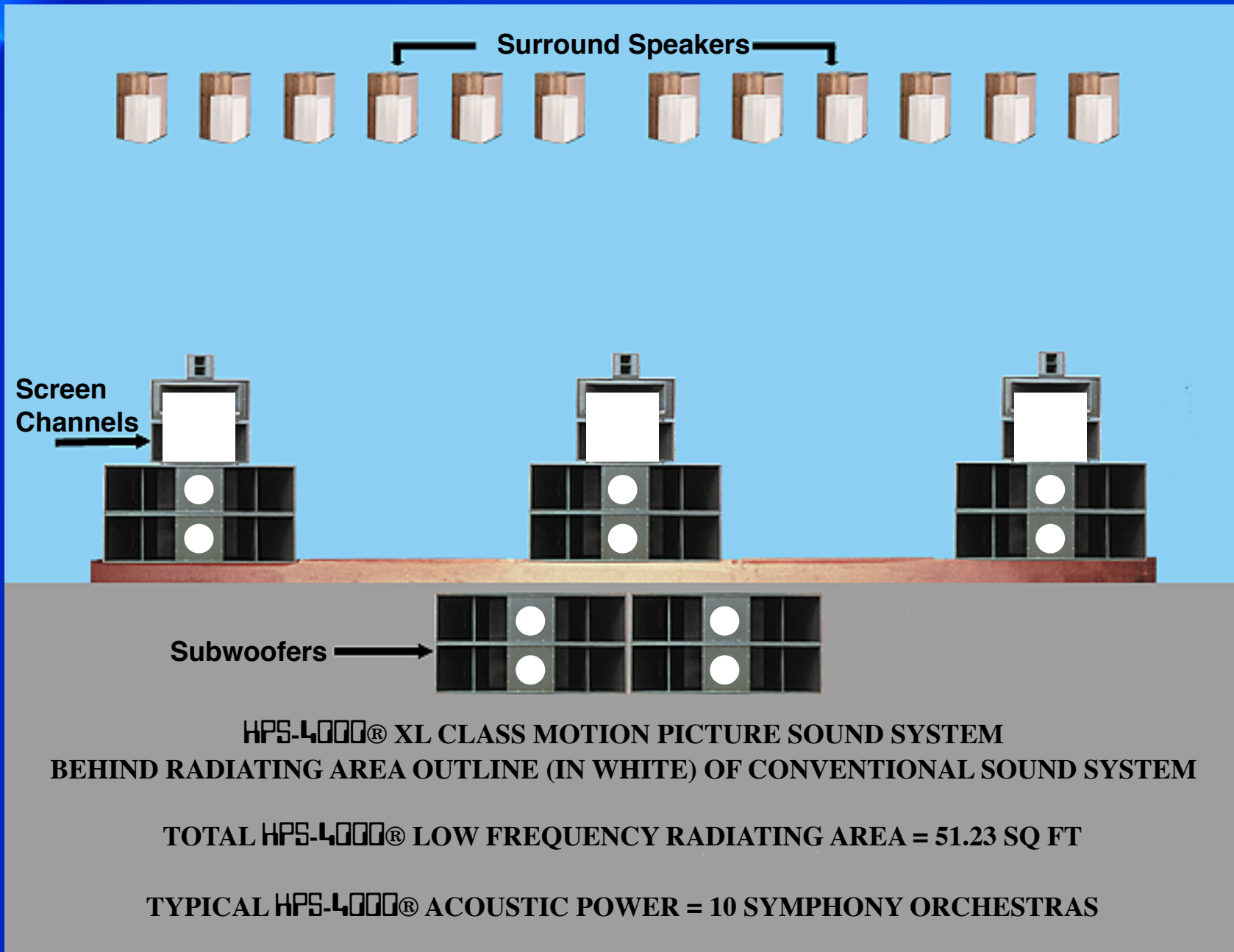
HPS-4000®

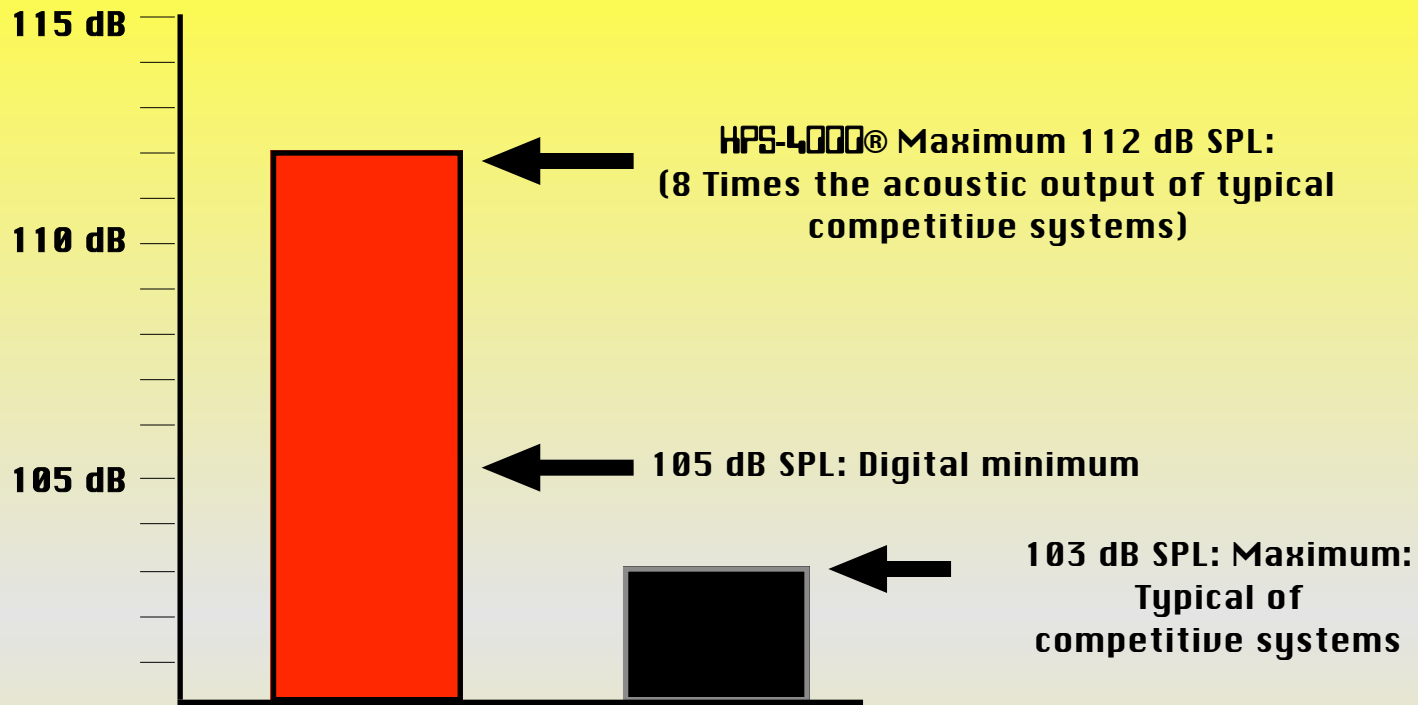
HIGH PERFORMANCE STEREO

You Won't Believe What These Speakers Can Do

SOUND IS THE EXPERIENCE!™

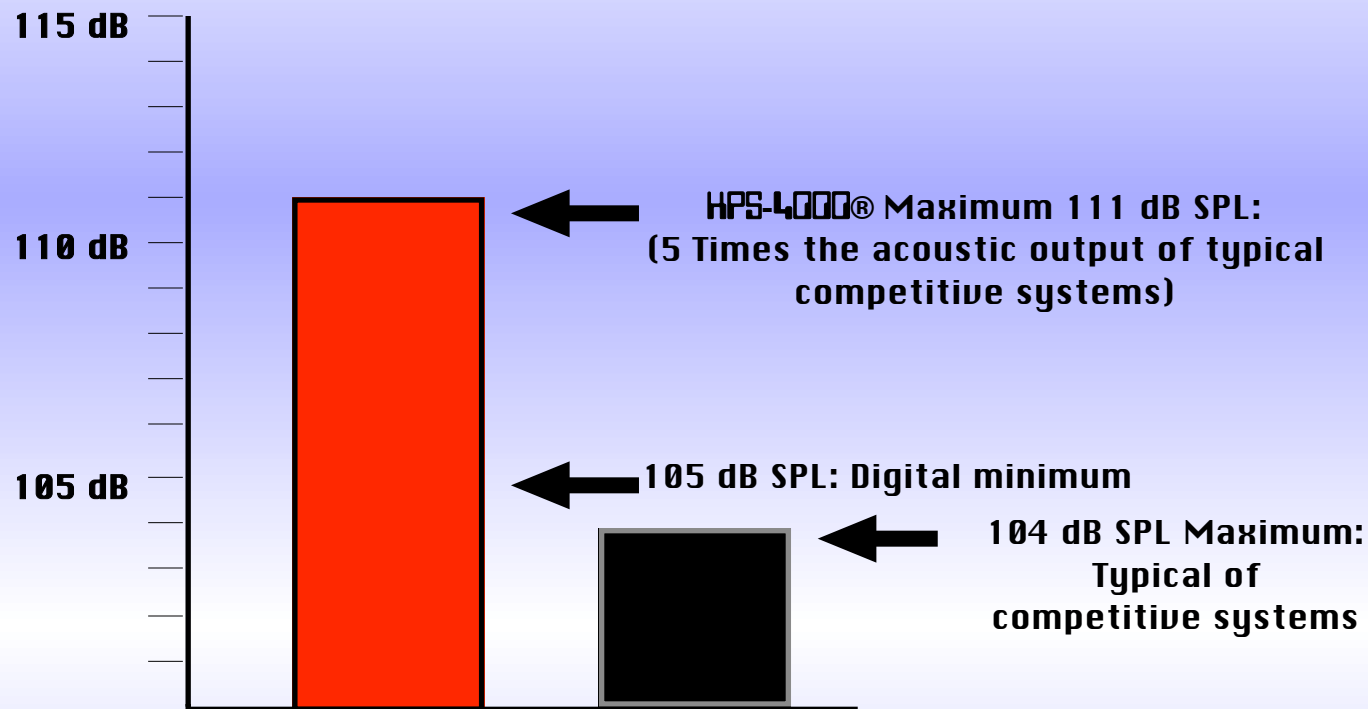






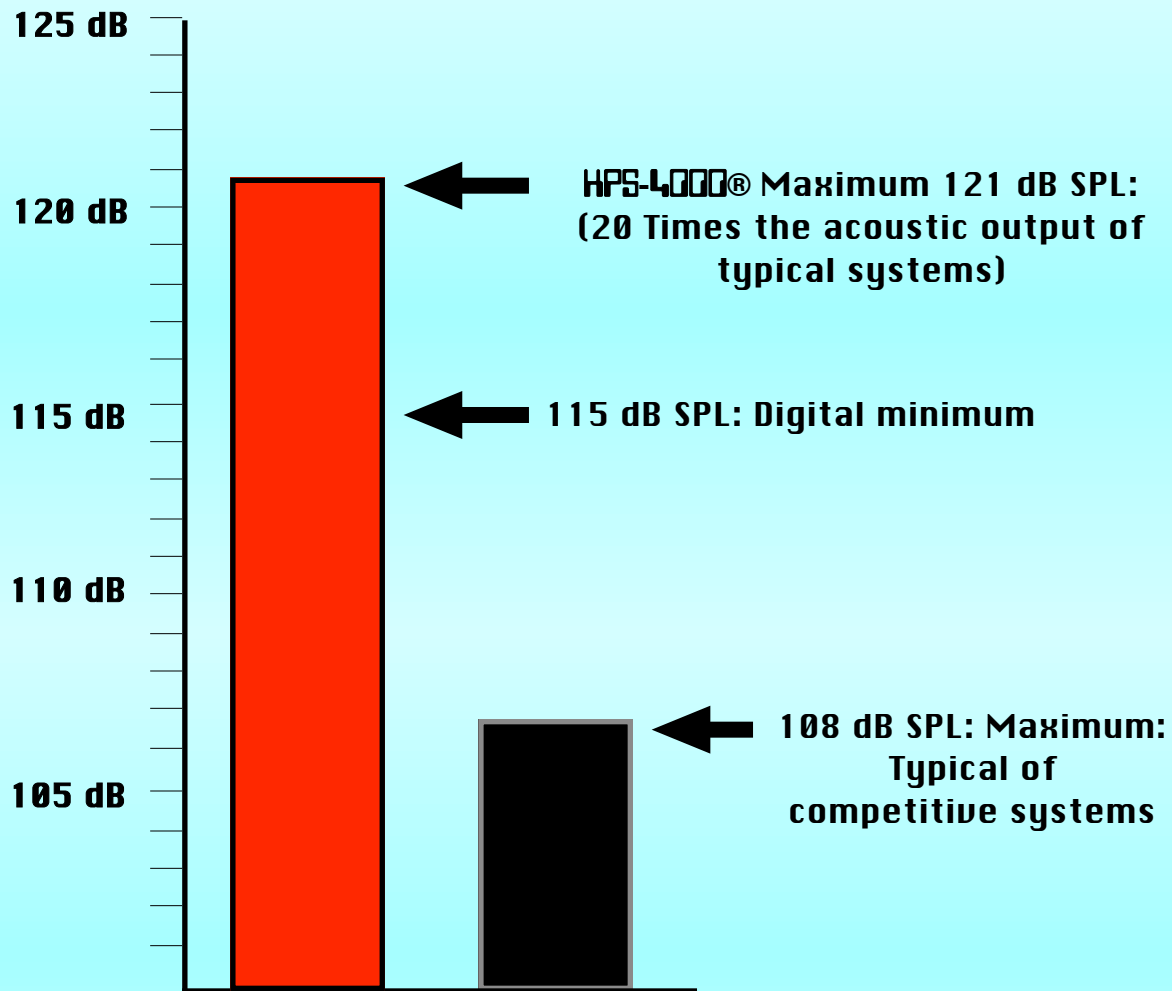
**Acoustic Output: Per Screen Speaker
HPS-4000® vs Competitive System**

**OUTPUT PER SCREEN CHANNEL IN dB SPL AT CENTER OF A 30M / 100 FT LONG THEATRE,
500 WATTS OF AMPLIFIER POWER ASSUMED**



**Acoustic Output: Surround Speakers
HPS-4000® vs Competitive System**

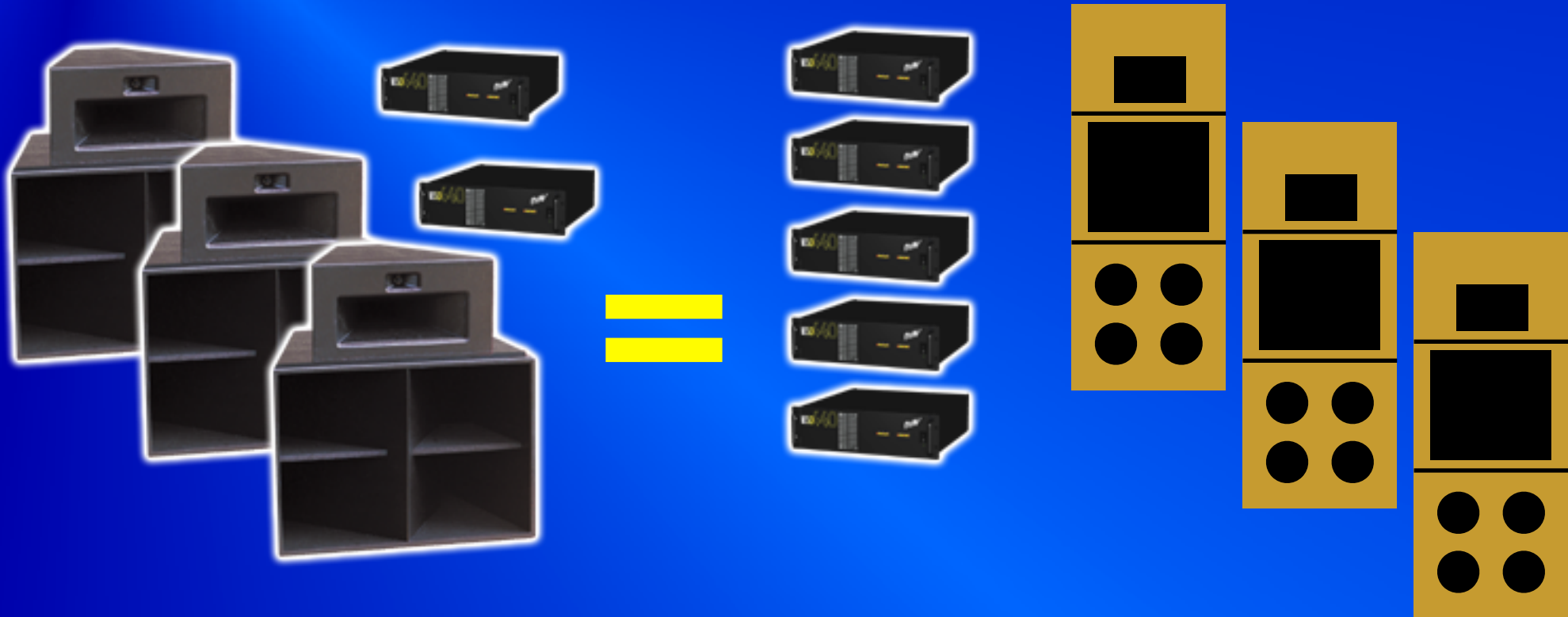
**OUTPUT PER SURROUND ARRAY IN dB SPL AT CENTER OF A 15 M / 50 FT WIDE THEATRE,
1200 WATTS OF AMPLIFIER POWER ASSUMED**



**Acoustic Output: Subwoofers
HPS-4000® vs Competitive System**

**TWO-CABINET SUBWOOFER CHANNEL OUTPUT IN dB SPL AT CENTER OF A
30 M / 100 FT LONG THEATRE, 2000 WATTS OF AMPLIFIER POWER ASSUMED**

Compare



Small HPS-4000®
screen system

Largest competitive system equals
output of small HPS-4000® system

**Maximum output per channel at
35 ft 10.7 M = 112 dB SPL**



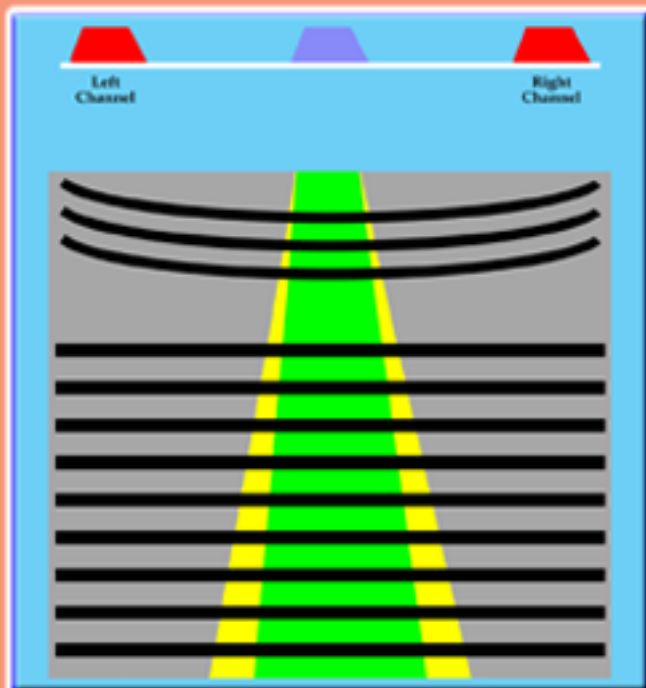
**HPS-4000®
SUBWOOFER SYSTEM**

**COMPETITIVE SUBWOOFER SYSTEM
WITH SIMILAR OUTPUT AND RADIATING AREA**

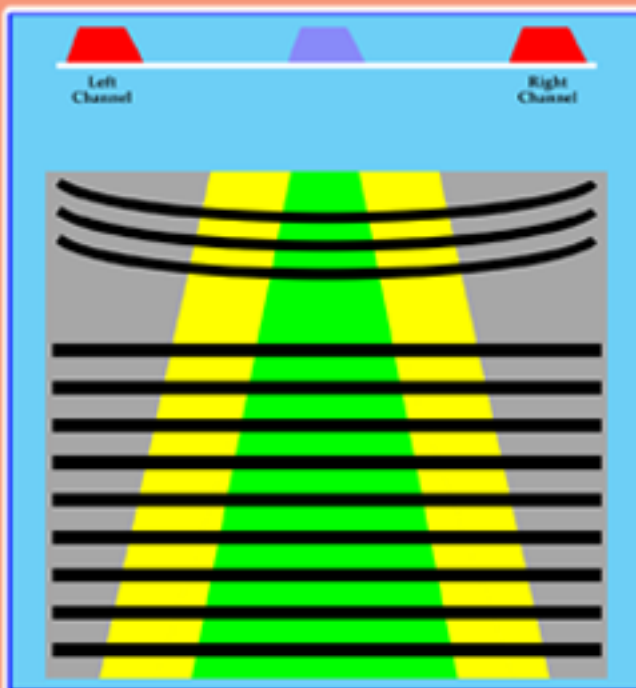
MAXIMUM OUTPUT AT 50 FT / 15 M = 121 dB SPL

THE BEST SEATS IN THE HOUSE ARE NO LONGER JUST IN THE MIDDLE!

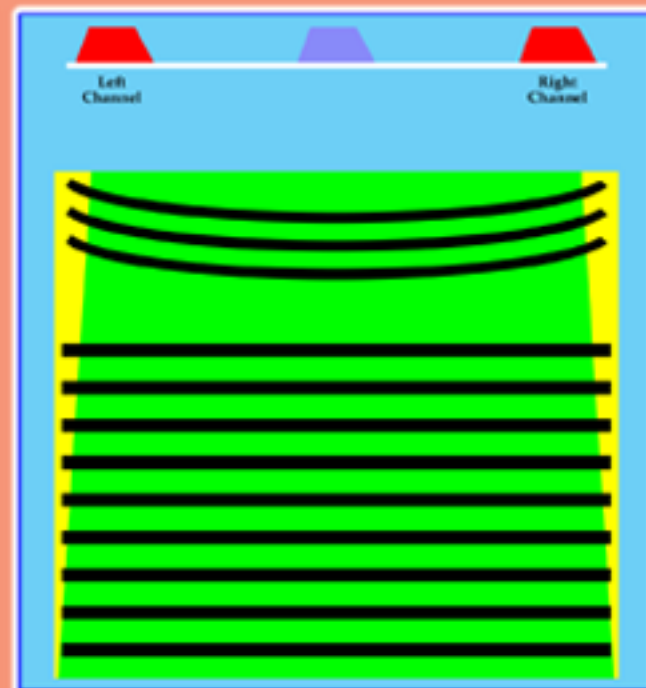
STEREO COVERAGE PROVIDED FROM LEFT AND RIGHT SPEAKERS






**TYPICAL STEREO COVERAGE IN
CONVENTIONAL THEATRES**
Too few seats hear full stereo.



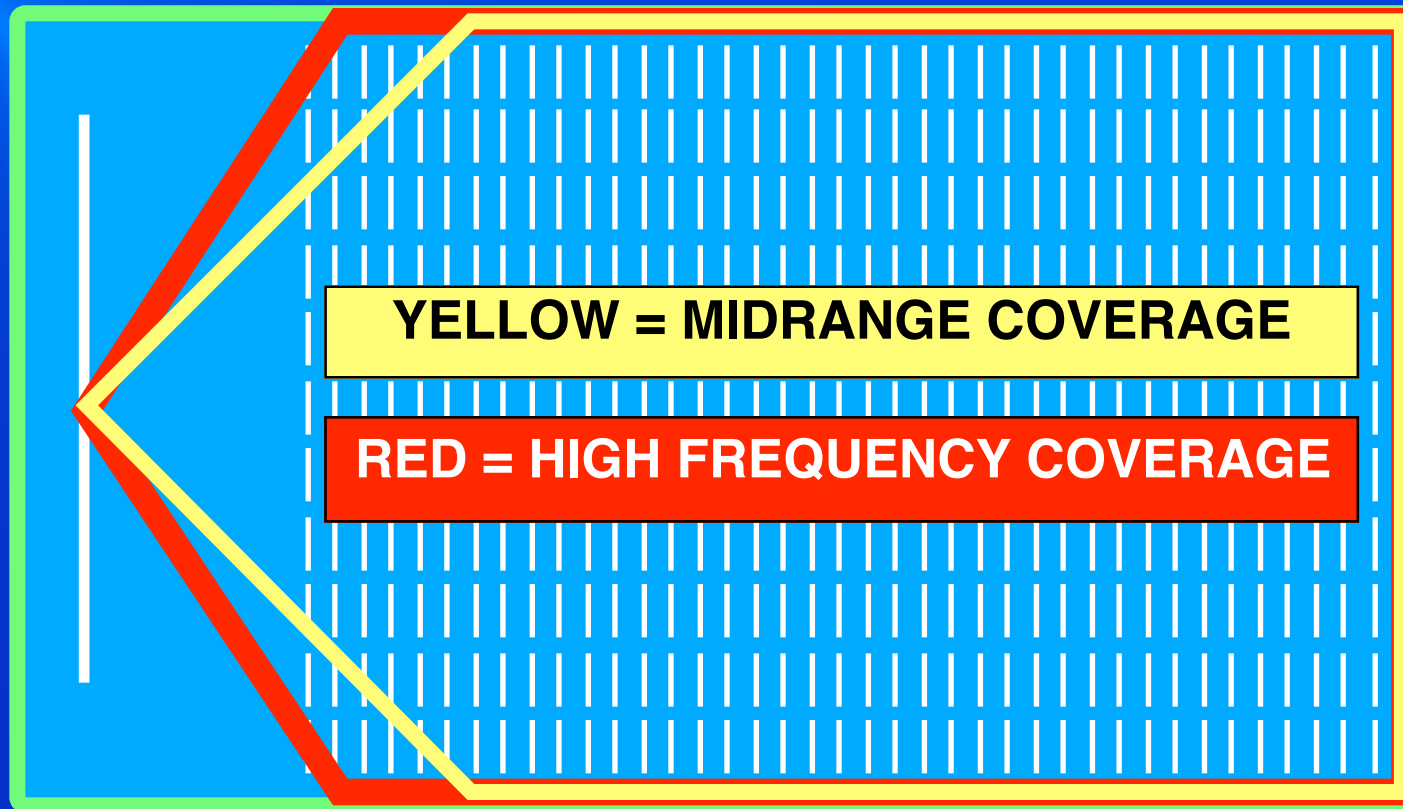
**TYPICAL STEREO COVERAGE
IN HPS-4000® THEATRES**
Better than conventional theatres.



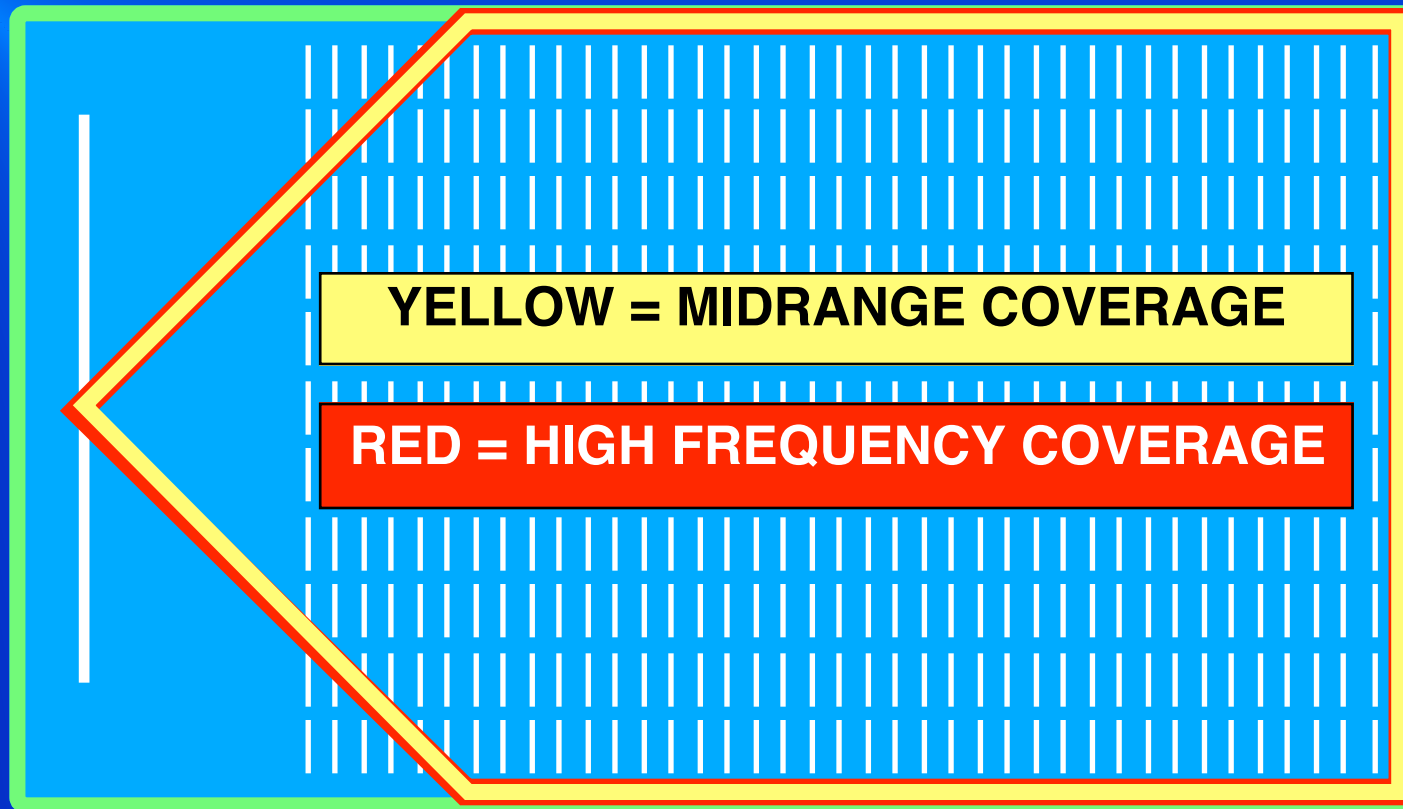
NEW HPS-4000®
MORE SEATS HEAR STEREO™

-  Area covered in full stereo
-  Area covered in minimal stereo
-  Area not covered in full stereo

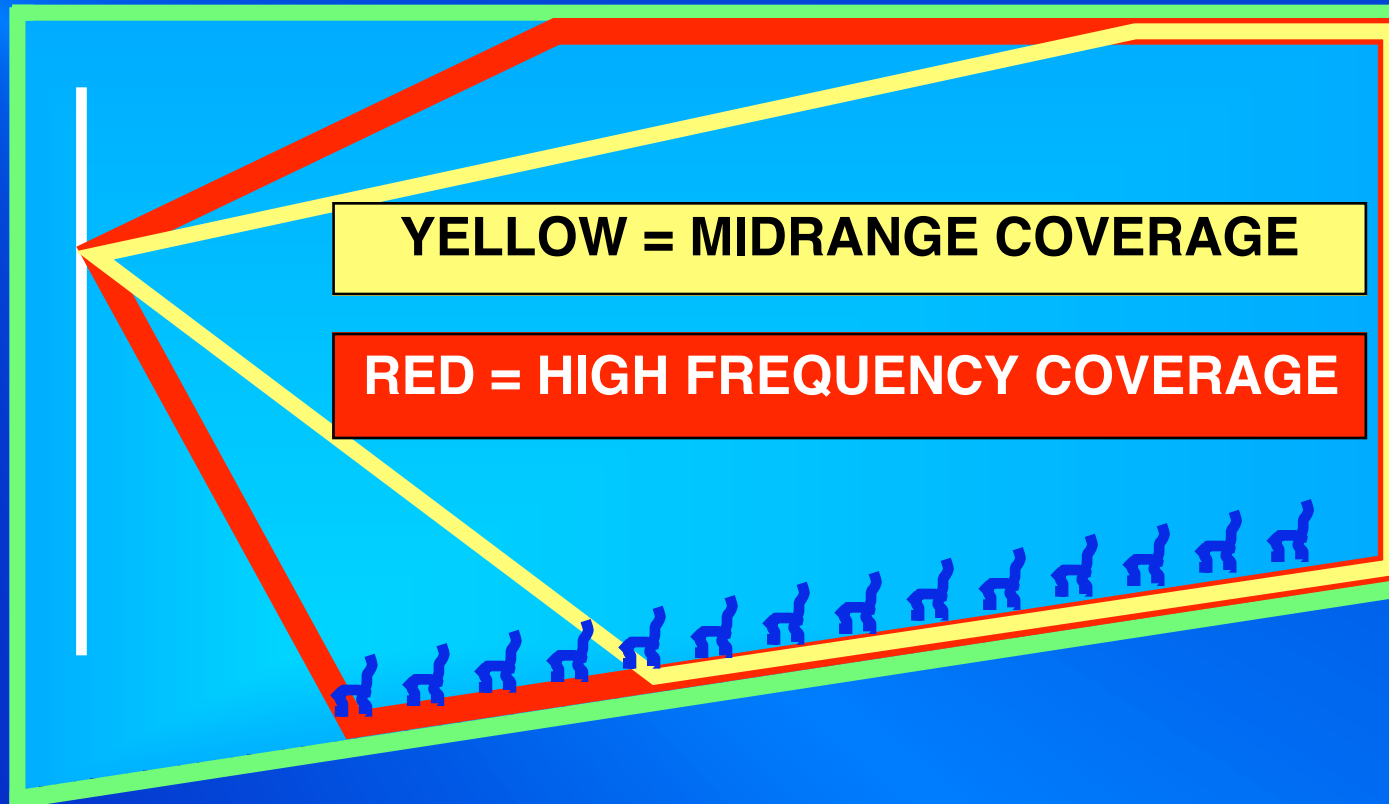




**CONSTANT DIRECTIVITY HORN COVERAGE
THROUGH A SCREEN. NOTE: NO CORRECTION
FOR HIGH FREQUENCY BEAMWIDTH DISTORTION.**

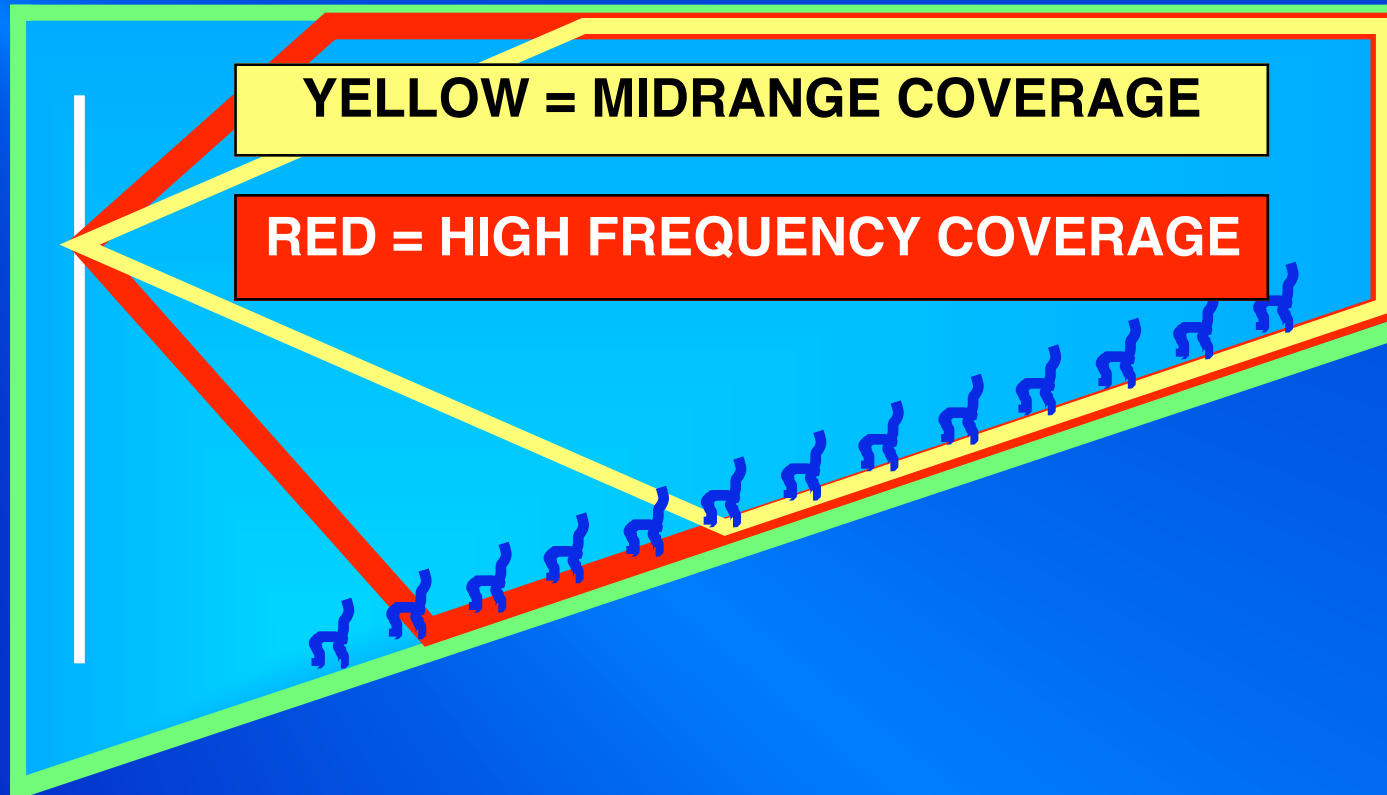


**COVERAGE THROUGH A SCREEN WITH
EXCLUSIVE HPS-4000® BEAMWIDTH CORRECTION**



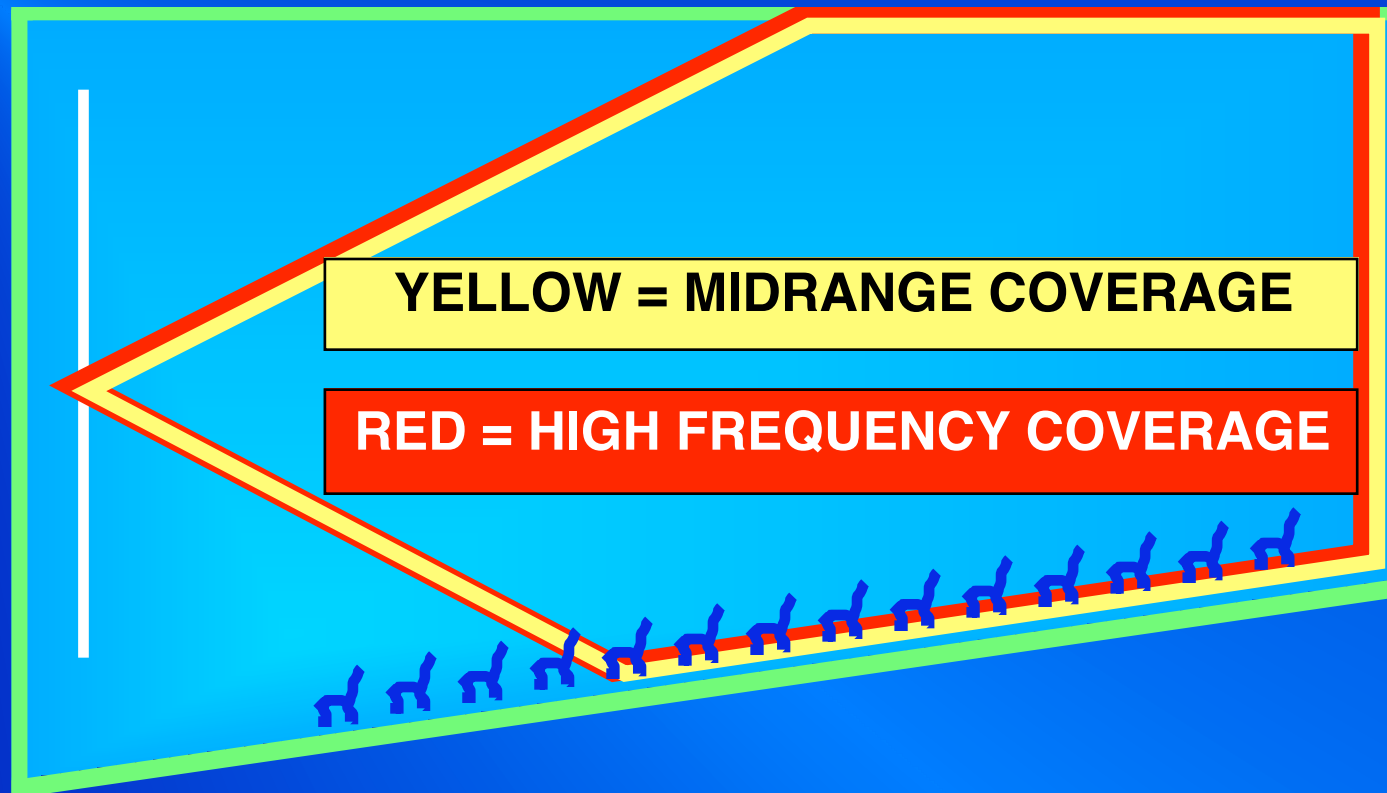
**VERTICAL COVERAGE THROUGH A SCREEN
WITH CONSTANT DIRECTIVITY HORN.
NOTE: EXCESSIVE HIGH FREQUENCIES IN FRONT ROWS**

Vertical coverage in a non-stadium theatre. Note the excessive treble for the people in the front of the theatre.



**VERTICAL COVERAGE THROUGH A SCREEN
WITH CONSTANT DIRECTIVITY HORN.
NOTE: EXCESSIVE HIGH FREQUENCIES IN FRONT ROWS**

Vertical coverage in a stadium theatre. Note the excessive treble for the people in the front of the theatre.



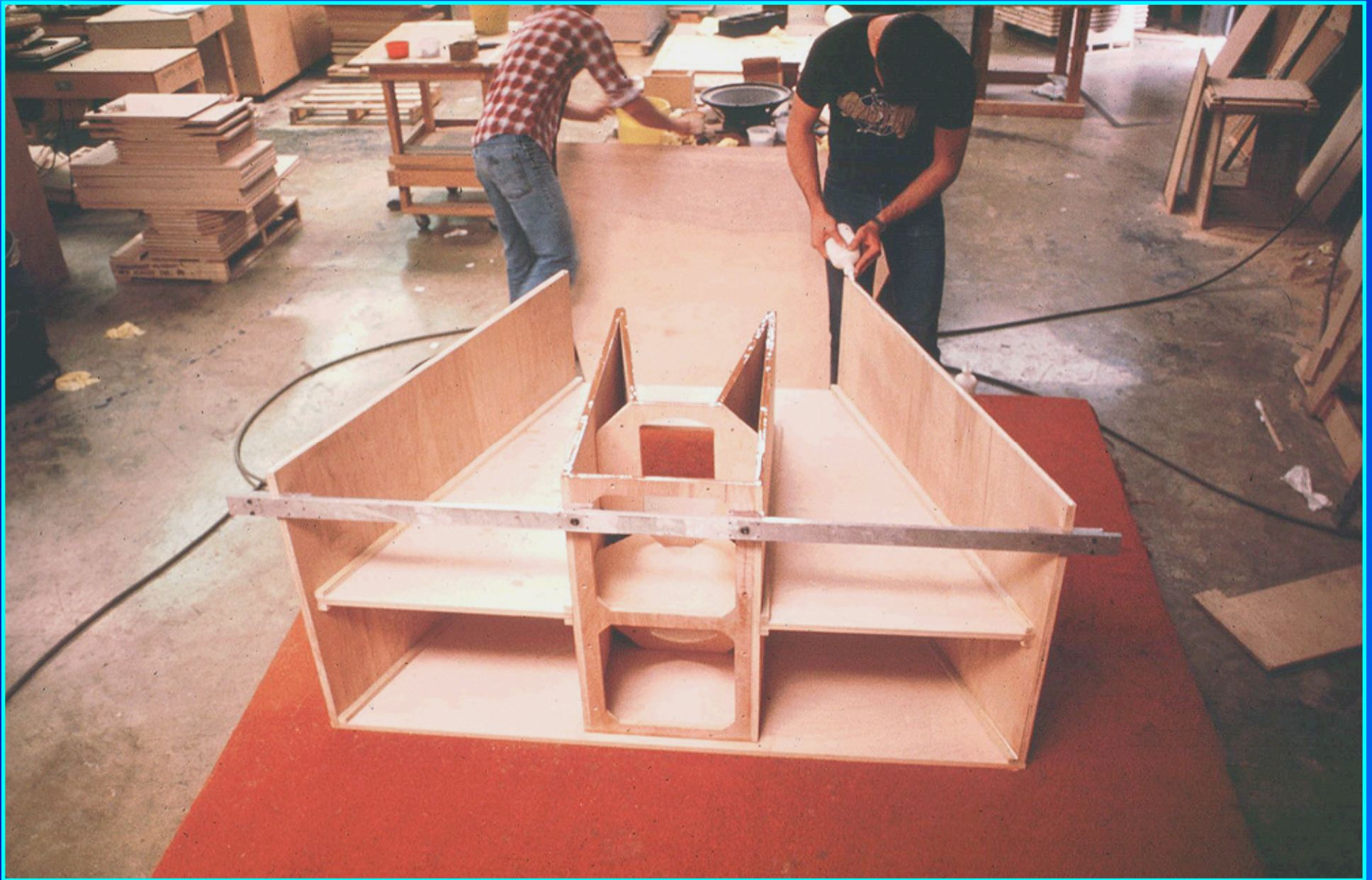
VERTICAL COVERAGE THROUGH A SCREEN WITH EXCLUSIVE HPS-4000® BEAMWIDTH CORRECTION

The HPS-4000® systems provide exceptionally uniform coverage.

COVERAGE DEVIATION

FREQUENCY	TWO-WAY SYSTEMS	HPS-4000®
2,000 HZ	+10°	-5°
2,500 HZ	0°	0°
3,200 HZ	0°	0°
4,000 HZ	0°	0°
5,000 HZ	+10°	-2°
6,300 HZ	+10°	-5°
8,000 HZ	+20°	0°
10,000 HZ	+25°	-2°
12,500 HZ	+25°	-2°
16,000 HZ	-25°	-2°

This chart shows the amazingly small coverage angle distortion (+0° – 5°) caused by a movie screen when employing HPS-4000® loudspeakers versus a typical two-way “constant directivity” horn type system (±25°).



HPS-4000® fully horn loaded woofer under construction.

Typical acoustic power output equal to ten or more symphony orchestras.
This means sound reproduction is effortless.



**HPS-4000® XL CLASS INSTALLATION
WORLDS MOST POWERFUL
DIGITAL READY SOUND SYSTEM**

Actual competitor's surround placement formulas

Side Wall Surround Speakers

$$\frac{L \times .66}{10} \times 2$$

L = Distance from screen to rear wall in feet

Rear Wall Surround Speakers

$$\frac{W}{10} - 1$$

W = Room width in feet

This approach places surround speakers at every ten feet no matter the theatre's size or shape. This makes no sense whatsoever, but is typical practice in cinemas.

FRAMINGHAM ASA DATA (DB)	FRAMINGHAM ASA DATA (DB)
<p>HPS-4000® ASA DATA</p> <p>GCC FRAMINGHAM 5</p> <p>CEILING HEIGHT 19.5</p> <p>DELTA H 5</p> <p>TOTAL DISTANCE 88</p> <p>SEATS DIST 71.3</p> <p>WIDTH 50</p> <p>REAR AISLE</p> <hr/> <p>LOW CEILING HEIGHT 13.5</p> <p>NORMAL (SIDE) HEIGHT 13.5</p> <hr/> <p>NUMBER OF REARS 2</p> <p>REARS SPACING 16.7</p> <hr/> <p>CORNER ANGLE 19.3</p> <p>REAR TILT 11.9</p> <p>SIDE TILT 11.3</p> <hr/> <p>1 ST SIDE PAIR 9.5</p> <p>2 ND SIDE PAIR 28.6</p> <p>3 RD SIDE PAIR 47.6</p> <p>TOTAL SURROUNDS / REARS</p> <p>10X2</p>	<p>HPS-4000® ASA DATA</p> <p>GCC FRAMINGHAM 4</p> <p>CEILING HEIGHT 17.5</p> <p>DELTA H 3.5</p> <p>TOTAL DISTANCE 65</p> <p>SEATS DIST 51</p> <p>WIDTH 33</p> <p>REAR AISLE</p> <hr/> <p>LOW CEILING HEIGHT 10.1</p> <p>NORMAL (SIDE) HEIGHT 10.1</p> <hr/> <p>NUMBER OF REARS 2</p> <p>REARS SPACING 11.0</p> <hr/> <p>CORNER ANGLE 17.9</p> <p>REAR TILT 11.2</p> <p>SIDE TILT 11.3</p> <hr/> <p>1 ST SIDE PAIR 6.3</p> <p>2 ND SIDE PAIR 18.8</p> <p>3 RD SIDE PAIR 31.4</p> <p>TOTAL SURROUNDS / REARS</p> <p>10X2</p>

HPS proprietary surround speaker placement formulas provide uniform coverage, typically $\pm 1/2$ dB, in theatres of different sizes and shapes. Note the different heights and spacing.

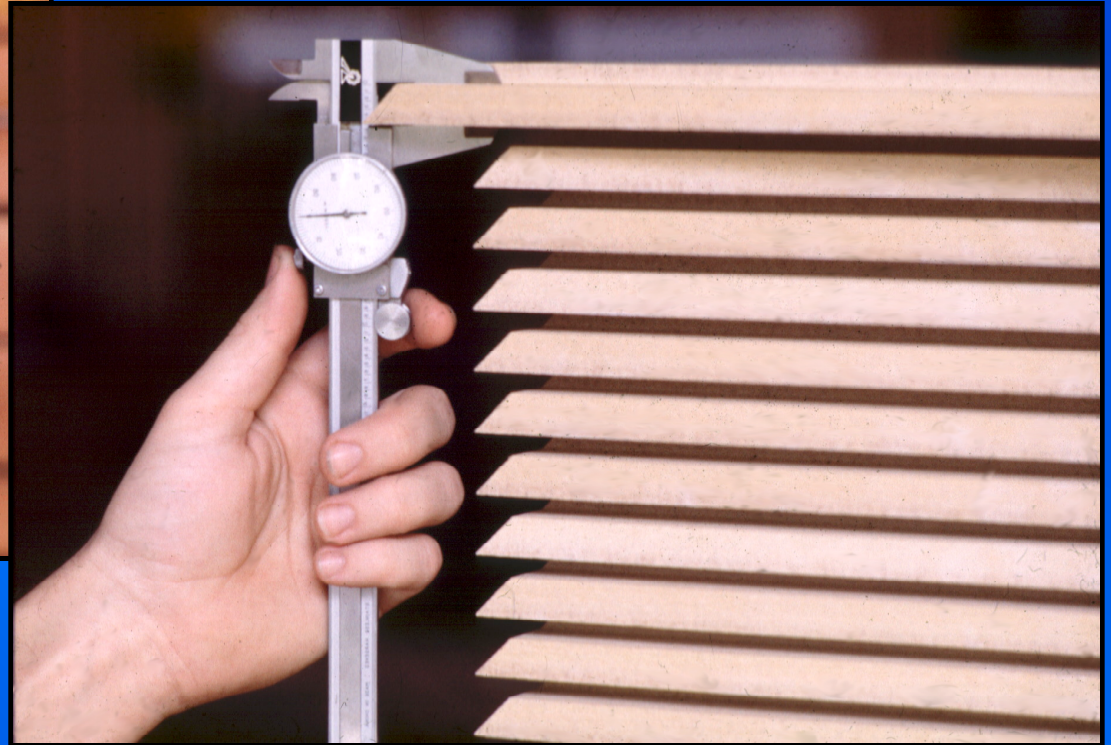
The HPS-4000® surround speaker placement formulas are so reliable that you can commit the speaker locations to architecture with no concern that they will need to be moved.

HPS-4000®

THE *EXCLUSIVE* ALLEN SURROUND ARRAY™
DESIGNED BY COMPUTER FOR EACH THEATRE—
ELIMINATING LOCALIZATION

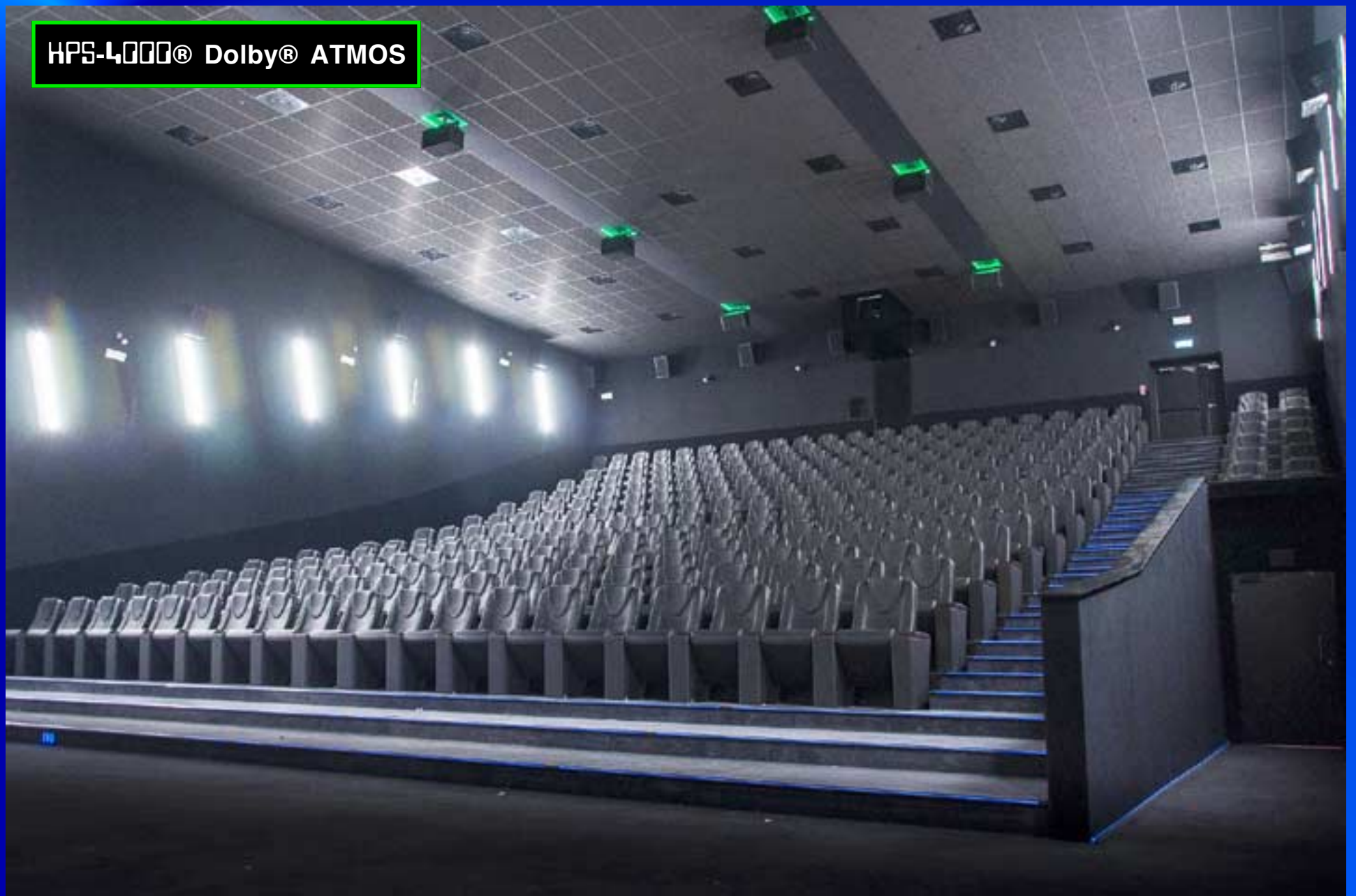


**ALL HPS-4000®
LOUDSPEAKERS ARE BUILT BY HAND-**



TO THE HIGHEST STANDARDS

HPS-4000® Dolby® ATMOS



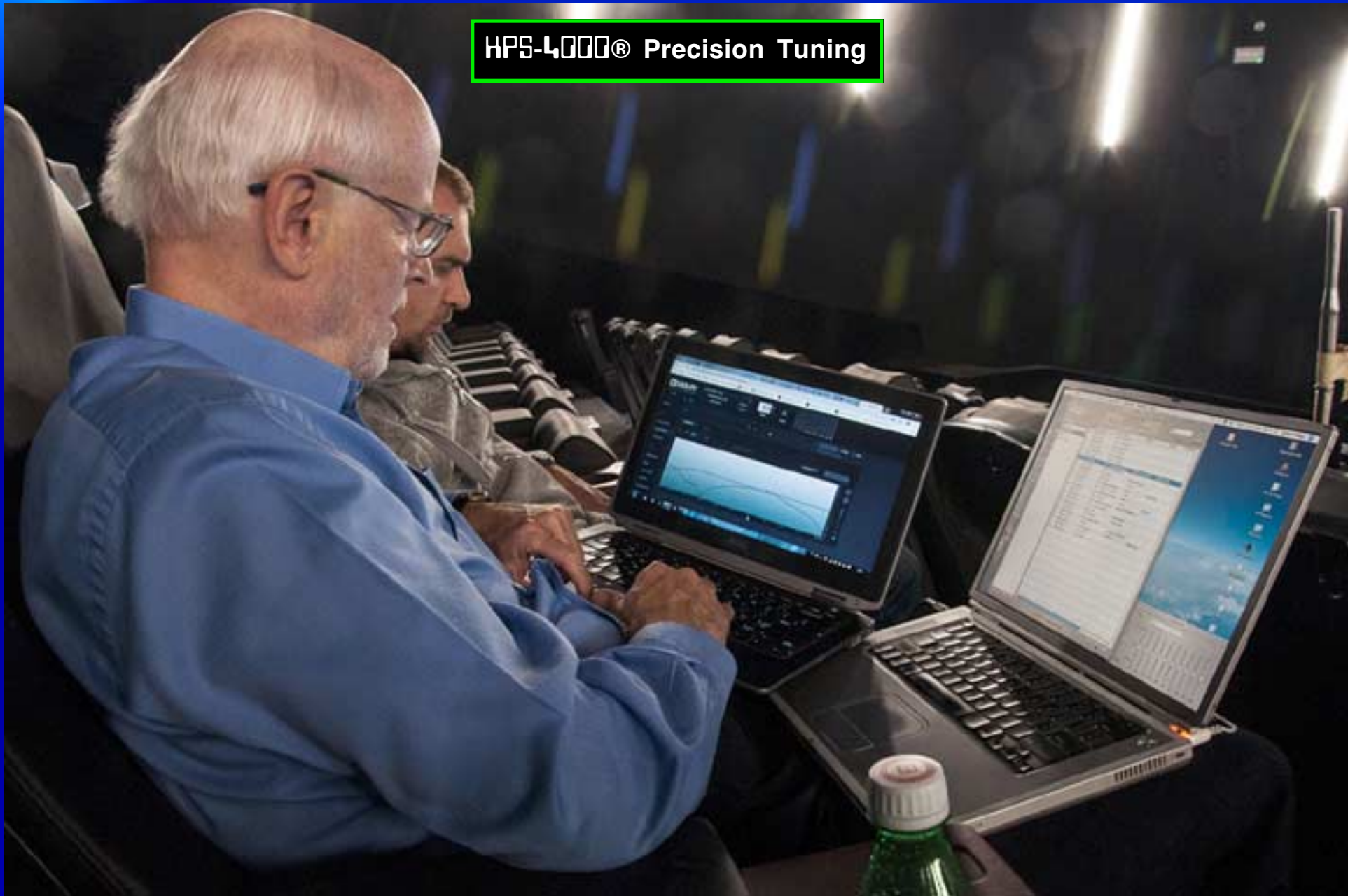
HPS-4000® Dolby® ATMOS



HPS-4000® Dolby® ATMOS



HPS-4000® Precision Tuning





HPS-4000®

SOUND FOR THE PERFORMING ARTS



HPS-4000® was the very first to bring digital sound to a commercial motion picture theatre in 1984.



HPS-4000®
CENTURY PLAZA THEATRE
SITE OF THE FIRST FILM
PRESENTATIONS IN DIGITAL STEREO



For your consideration: With HPS-4000® sound systems exhibitors can be assured of such accurate calibration that properly recorded films will play at their correct levels when the faders are set to “7.”

The image above shows 12 HPS-4000® sound systems with Datasat AP-20 processors all playing features at the industry standard fader setting without audience complaints.

Lower fader settings found in other sound systems not only indicate poor calibration, but reduced sound quality as well.



Thank You!

SOUND IS THE EXPERIENCE!™