SELF-AMPLIFIED HORN SPEAKERS

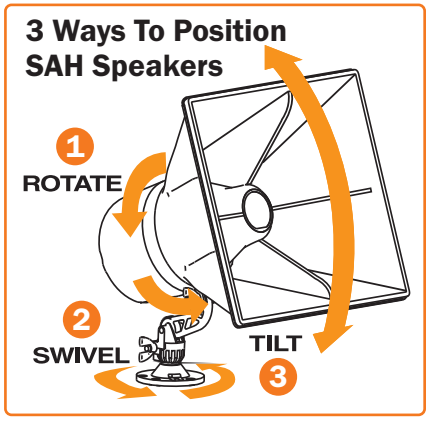
High-Efficiency, Digital Switching, Horn Loudspeakers

SAH5 (5W) CURRENT UNITS -4, SAH15 (15W) CURRENT UNITS -9, SAH30 (30W) CURRENT UNITS -17

Using digital switching amplifier technology, these **Self-Amplified Horn Loudspeakers** provide unprecedented low DC current draw and heat dissipation, allowing them to use fewer power supplies, run on longer cable runs, and work at higher ambient temperatures than conventional analog self-amplified horn speakers. The shape of the horn's flare provides a controlled dispersion of sound for better intelligibility. The horn can be rotated on its axis, offering wide dispersion patterns, vertically or horizontally, depending on its position. In addition, these weatherproof, plastic horns are extremely durable and rugged. They can be used in any environment, indoors or outdoors, without affecting sound quality.

Product Features:

- 5-, 15-, and 30-watt models with built-in amplifiers
- All models operate from 24V DC power source
- Digital switching amplifier technology greatly reduces current consumption when compared to conventional analog self-amplified horn loudspeakers
- Low heat dissipation of the digital switching amplifier allows units to operate with continuous background music and in higher ambient temperatures than conventional analog amplifiers
- Excellent extended frequency response from 1.6" diameter voice coil and 90 mm, 12-ounce magnet structure *(SAH5/15)*, or 100mm, 16-ounce magnet structure *(SAH30)*
- Rotatable horn allows for the use of a wider *(120°)* vertical or horizontal dispersion pattern
- Predictable dispersion pattern over the full frequency range ensures excellent intelligibility and ease of layout
- Removable access cover protects terminals and volume control
- Weatherproof, UV-protected mocha finish plastic housing
- Simple and secure, cast aluminum swivel mount
- Screw terminal strip for easy wire connections
- Electrical box mounting strap included



See page 30 to select a Power Supply.

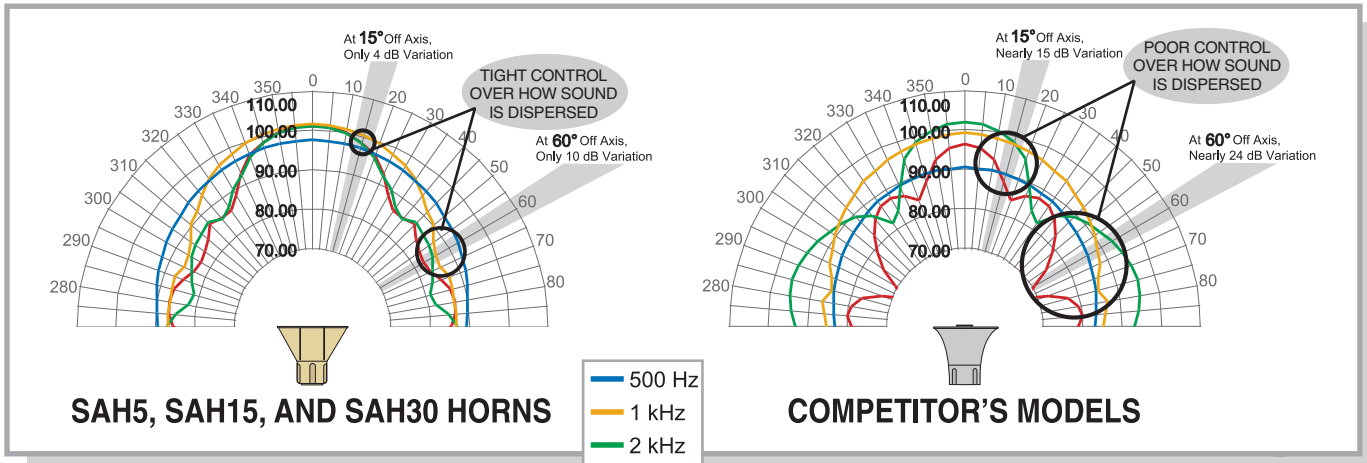
Accessories

BC1
Beam Clamp

Models	Maximum Power Level	Frequency Response	Maximum dBspl	Dimensions	Product Weight
SAH5	5 watts	275 Hz -14 kHz	119	10-5/8" W x 12"H x 11-1/2" D	6 lb.
SAH15	15 watts		124		
SAH30	30 watts		127		

Controlled Dispersion

Many horns in the market disperse sound frequencies in a wild and uncontrolled manner. This reduces intelligibility and causes inconsistent sound quality over the horn's coverage angle. Bogen's SAH horns benefit from Bogen's long history as a commercial and pro audio company. Bogen's SAH horns disperse the various frequencies that make up the sound of a page in a very carefully controlled manner. This means that the listener hears clean, crisp intelligible pages over the full coverage area of the horn.



**4 kHz is a particularly important frequency for voice intelligibility*

Determine Speaker Quantity

Use the chart for the speaker you will use (SAH5, SAH15 or SAH30):

1. Choose the level of ambient noise in the area to be covered.
2. Locate the area's square footage.
3. Where these two measurements meet are two numbers. The number in **GREEN** is the number of speakers required. The number in **RED** is the number of Current Units (CU) needed for that many speakers. *(You may need to increase the number of speakers in areas where large objects or shelving project into the coverage area, blocking sound.)*

Current Units (min.) = Number in RED

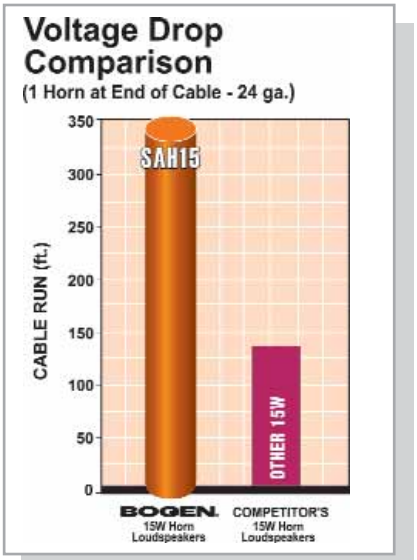
HORN QTY. & MIN. CURRENT UNITS (CU) BASED ON AMBIENT NOISE		SIZE OF AREA TO BE COVERED (THOUSANDS OF SQUARE FEET)																			
		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
55–65 dB Low Noise – speech is easy	HORNS	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10
	CU	4	4	8	8	12	12	16	16	20	20	24	24	28	28	32	32	36	36	40	40
65–75 dB Medium Noise – must raise voice to be heard	HORNS	1	2	3	4	5	5	6	7	8	9	10	10	11	12	13	14	15	15	16	17
	CU	4	8	12	16	20	20	24	28	32	36	40	40	44	48	52	56	60	60	64	68

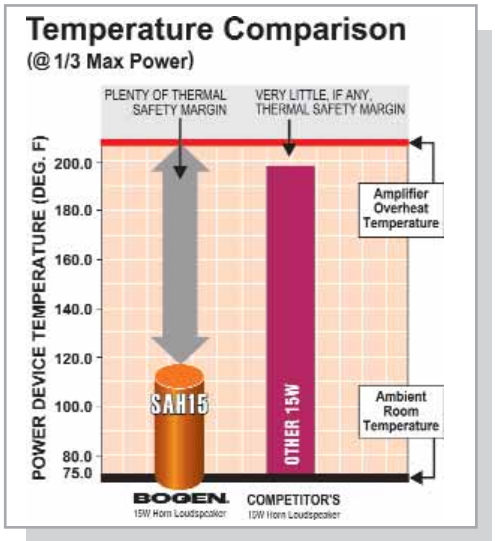
HORN QTY. & MIN. CURRENT UNITS (CU) BASED ON AMBIENT NOISE		SIZE OF AREA TO BE COVERED (THOUSANDS OF SQUARE FEET)																			
		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
75–85 dB High Noise – speech is difficult	HORNS	1	2	3	4	5	5	6	7	8	9	10	10	11	12	13	14	15	15	16	17
	CU	9	18	27	36	45	45	54	63	72	81	90	90	99	108	117	126	135	135	144	153
85–95 dB Very High Noise – speech almost impossible	HORNS	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
	CU	18	36	54	72	90	108	126	144	162	180	198	216	234	252	270	288	306	324	342	360

HORN QTY. & MIN. CURRENT UNITS (CU) BASED ON AMBIENT NOISE		SIZE OF AREA TO BE COVERED (THOUSANDS OF SQUARE FEET)																			
		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
85–95 dB Very High Noise – speech almost impossible	HORNS	1	2	3	4	6	7	8	9	10	11	12	13	14	16	17	18	19	20	21	22
	CU	17	34	51	68	102	119	136	153	170	187	204	221	238	272	289	306	323	340	357	374

Lower Currents = Lower Voltage Drops

Bogen's SAH self-amplified horn speakers consume significantly less current than equivalently sized conventional analog self-amplified horns. Lower current draw means less voltage drop, and longer cable runs than those allowed by conventional analog self-amplified horns. This allows more flexibility as to where you mount your power supplies and how many individual power supplies need to be installed.





Thermally Rugged

The SAH self-amplified horn speaker's amplifier, by virtue of its high-efficiency digital switching technology, produces very little wasted heat. Lower amplifier operating temperatures mean these horns can work harder in higher temperature environments than conventional analog self-amplified horns. Lower operating temperatures also mean less stress on critical internal components and better reliability. Continuous background music is no sweat for these cool-running horns.