

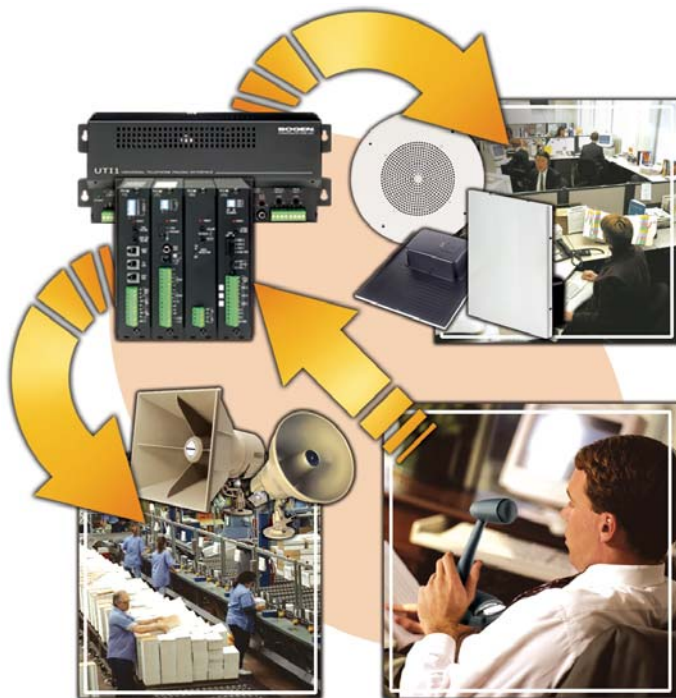
BOGEN®

SELF-AMPLIFIED PAGING PRODUCTS



PRODUCT CATALOG 201

Bogen's Self-Amplified System Design As Easy As Always



Bogen's Self-Amplified Paging Systems feature some unique technologies that not only make them easier to install and operate more efficiently, but system design is the same as with conventional self-amplified speaker systems. In this catalog you will find the products needed to design a self-amplified paging system that meets your application's requirements.

- Telephone Interfaces, Paging Controllers, and VOIP Products (pages 2-4)
- Volume Control and Buffer/Expander (page 5)
- Horn Speakers (pages 6-7, 9)
- Ceiling Speakers (page 8)
- Wall Baffle Speakers (page 10)
- Power Supplies (page 11)
- Tuners, Receivers, and Microphones (page 12)
- Paging Electronics (page 13)

Design the system yourself or take advantage of Bogen's Free Design Service.



Free Design Service Let Bogen design it for you!

Bogen's Free Design Service was created to assist with the design of paging systems for any and every project encountered. It's fast, comprehensive, and FREE. So let us design it for you!

The Free Design Service provides:

- Speaker Placement Design
- Complete Bill of Material – This includes product description, model number, and quantity. We can even fax it to the distributor of your choice for pricing, if you wish.
- Connectivity Drawings
- Scope of Work
- Detailed Assumptions
- Red-lined Blueprints (blueprints must be supplied; AutoCAD blueprints accepted)

Here's how the Free Design Service works:

- You provide information about the project. For large or complex applications, your local Bogen Field Sales Manager can visit the site for exact specifications.
- Bogen will provide you with a working technical bid response document... and then all you have to do is deliver it.

A copy of the bid will also be sent to your local Bogen Field Sales Manager for immediate follow-up, and to see if you have questions or need additional assistance.

No application is too big, small, simple,
or complex for Bogen paging products.

Call 1-800-999-2809 (option 2)
for more information or to send in a project for us to work on right now.

Bogen Introduces... The New Art of Paging

Next Generation Paging Technology

- Digital switching amplifier technology in SAH model horns consumes significantly less current*
- Controlled dispersion SAH horn shape for better intelligibility
- Operates with continuous background music and in higher ambient temperatures
- BUFEX Emergency Volume control bypass function
- Multiple location paging using Ethernet network

*When compared to conventional analog self-amplified horns



Easy To Install

- No special wiring needed — use standard, unshielded CAT3 to CAT6 wiring
- Reduced current demand of SAH horns allows longer wire runs
- Telephone interfaces connect directly to any of five common telephone port interface types, including station ports
- Adjust zone and system volume quickly and easily, using master controls on telephone interfaces

Expands Easily

- Plug-in zone modules on UTI312 allow simple zone expansion anytime
- Fully compatible with other manufacturers' self-amplified systems for replacement or expansion (using 24V DC power)



More Flexibility

- Programmable dialing plan for zones and zone groups on the UTI312
- DTMF programming of tones, zones, and features
- Select from 2 BGM sources per zone on the UTI312
- C-Form contact closure per zone
- One system provides both paging & background music

Reliability You Can Trust

- Full Two-Year Product Warranty
- Interfaces and power supplies carry all required UL and FCC approvals
- Bogen has over 70 years of experience developing products for the telephone paging, commercial audio, and pro audio industries



Programmable AUX Relay

The UTI1 provides a way for installers to decide how the AUX relay contacts will trip based on which inputs on the UTI1 are active. The UTI1's 4 inputs are override, tone trigger, paging, and night ring. The installer can program the AUX relay to respond to one or any combination of these inputs. The UTI1 prioritizes these inputs (in the order shown above) so that higher priority inputs preempt lower ones, but the AUX relay contacts can be programmed to work independently of this hierarchy.

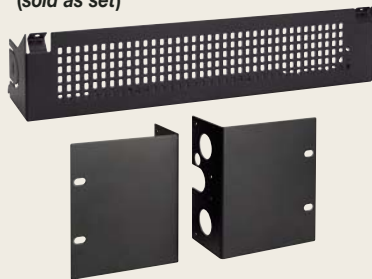
For example, the AUX relay could be programmed to respond only to a night ring trigger independent of anything else the UTI1 was doing. The UTI1 would suppress the night ring tone if a general page were made; however with the AUX relay programmed this way, the AUX relay contacts would remain active until the night ring input stopped regardless of the other UTI1 inputs.

The AUX relay contacts can also be programmed to operate after the triggering event has finished. In this case, the AUX relay contact activates for 1 second and then stops. This type of operation allows external equipment to be triggered after an event has occurred.

All this selectable functionality allows the installer improved ways to control external equipment in conjunction with the UTI1 operation. Programming is accomplished through simple DTMF programming codes.

Accessories

RPKUT11
Security Cover & Rack Mount Kit
(sold as set)



Single-Zone Telephone Interface

Single-Zone Universal Telephone Interface

UTI1



Bogen's **UTI1** is a single-zone telephone interface that is compatible with all standard analog port types. A background music (BGM) input with variable muting coordinates music and page announcements. An additional audio output provides a "page only" function (no BGM) for application flexibility. A built-in 24V DC, 1A power supply is provided for powering amplified speakers. Paging volume controls are provided for each of the outputs. An output limiter function, with limiter active indicator, provides consistent page volume regardless of loud or soft paging announcements. Contact triggered tones and night ring signals, as well as programmable AUX relay contacts, are all programmed using DTMF tones through the dual purpose override input. Plug-in terminal strips provide for easy installation. An optional security cover/rack mount kit (RPKUT11) is available.

UTI1 Control Panel



FEATURES:

- Emergency override & general paging
- Interfaces to Loop Start, Ground Start, Analog Station, and Page Ports (with or without contact closure activation)
- Simple 2-switch interface setup
- Background music (BGM) input with level control and variable muting
- Separate Page & BGM and Page Only (no BGM) outputs
- Level control for each output
- 24V DC, 1A power supply
- 150 Speaker T/R drive capacity per output
- Page level limiter with active indicator
- Adjustable automatic level control
- Override input (loop start or page port)
- Contact triggered Night Ring input
- Programmable AUX Relay
- Pre-announce/confirmation tone
- Tone burst (2 to 7 sec), chime, and slow whoop tone selections
- Microcontroller operated, DTMF programmable
- Night ring tone or chime selection
- Setup test tone
- Pluggable terminal strip connectors
- Programming through override jack
- Programmable timeout for station mode
- Programmable trunk port timeout
- Responds to CPC disconnect signal
- Wall-mount design
- Rack-mountable with RPKUT11 kit (optional)
- FCC registered
- C-UL, listed for US and Canada



UTI1 shown with optional rack mount/ security cover kit

Power Requirements	Dimensions	Product Weight
120V AC, 0.5A	12-1/4" W X 5-1/4" H X 2-1/2" D	5 lb.

Multi-Zone Telephone Interface

Multi-Zone Universal Telephone Interface

UTI312



Bogen's **UTI312** is a multi-zone paging controller with universal telephone interface. It is expandable from 3 to 12 zones in 3 zone increments using ZX3 expansion modules. Each zone has its own buffered paging output (150 speaker drive capacity) with volume control, a C-form relay contact and "zone active" indicator. Each module includes a pluggable 24V DC power distribution terminal strip and pluggable terminal strips for each zone for easy wiring. A built-in 24V DC, 1A power supply is provided for powering amplified speakers. The UTI312's universal telephone interface is identical to the UT11. Two background music (BGM) inputs, with volume controls, provides each zone with a choice of BGM sources or no BGM. Two tone triggers are available as well as a 90V night ringer input. Separate volume controls for the night ring and tone triggers, along with an adjustable page level limiter, make it easy to set appropriate levels.

Powerful software features provide the UTI312 enormous flexibility for demanding applications. Two, 3, 4, or 5 digit dialing plans allow the UTI312 to fit into any dialing structure. Twenty-four zone groups, zone groups for each tone input and night ring as well as a zone group for the override input provide plenty of installer flexibility. A programmable AUX relay contact, in addition to the zone relay contact, provides flexibility for controlling external equipment based on the UTI312's activity.

FEATURES:

- Expandable from 3 to 12 zones (in 3 zone increments using ZX3 modules; one ZX3 module included)
- Interfaces to Loop Start, Ground Start, Analog Station, and Page Ports (with or without contact closure activation)
- Simple 2-switch interface setup
- 2 Background music (BGM) inputs with level controls
- BGM sources assignable per zone
- Level control for each zone output
- Zone active indicators
- C-form contact per zone
- 150 Speaker T/R drive capacity per zone
- 24V DC, 1A power supply
- Programmable AUX Relay
- Page level limiter with active indicator
- Adjustable automatic level control
- Override input (loop start or page port)
- Code calling capability
- 2 Tone trigger inputs for tone burst, chime, double chime, and slow whoop tone selections
- Contact and 90V Night Ring inputs
- Pre-announce tone
- Confirmation tone
- Separate night ring and tone volume controls
- 24 User-assignable zone groups
- Separate override, all-call, tone trigger, night ring, and code call zone groups
- Auto select paging zone group
- 2, 3, 4, or 5 digit dialing plans
- Microcontroller operated, DTMF programmable
- Night ring tone or chime selection
- Setup test tone
- Pluggable terminal strip connectors
- Programming through override jack
- Programmable timeout for station mode
- Programmable trunk port timeout
- Responds to CPC disconnect signal
- Includes wall/rack brackets
- FCC registered
- C-UL, listed for US and Canada



UTI312 shown with 3 optional ZX3 Modules

Power Requirements	Dimensions	Product Weight
120V AC, 0.75A	16-3/8" W X 3-1/2" H X 4-7/8" D <small>(without mounting flanges)</small> 19" W <small>(with mounting flanges)</small>	8 lb.

Override Zone Group

The override input on the UTI312 has the highest priority of all the inputs but does not have to provide an all-call function. Since the override has a zone group associated with it, the installer can determine which zones receive pages during an override.

For example, assume that in a 12 zone system 11 zones are used to provide audio to different parts of a building, but one zone is not used for audio purposes. The contact closure for this zone is used to control a door latch. When this zone is active, the latch is open. If the override was predefined to activate all zones, then the door latch would open during override operation which may not be desirable. By programming the override zone group with all zones except the one connected to the door latch, an override can be made and still leave the door locked.

Two Background Music Inputs

In a system with multiple zones, it is not uncommon to find applications that have different background music (BGM) requirements in different zones. To provide flexibility in these situations, the UTI312 has 2 BGM inputs. Each zone, through jumper assignments on the ZX3 module, can select one or the other BGM source, or none at all.

Auto Select Paging

When using the auto select paging feature, there is no need to dial a zone or zone group. Whenever the paging input becomes active, the auto select paging zone group, with user-assigned zones, will determine what zones are active. This may seem to be an unusual function for a multi-zone paging application. However, often the need for zoning is determined not by voice paging needs, but by the need to play tones in different zones.

In these instances, a shift change tone may need to be produced in the factory areas but not in the office areas. So a tone trigger zone group will be set up to channel the tone just into the factory. In this case, voice paging is done like an all-call, but the tones are zoned.

Accessories

ZX3
3-Zone Plug-In
Expansion Module



Paging Control Modules

Zone Paging System

PCM2000 0 CURRENT UNITS

The **PCM2000** Zone Paging System provides robust paging for applications requiring talk back, from 1 to 99 paging zones. Multi-function modules ensure future expansion, with minimum time and expense.

TWO-WAY COMMUNICATIONS:

(Requires PCMTBM Module and Central Amplifier)

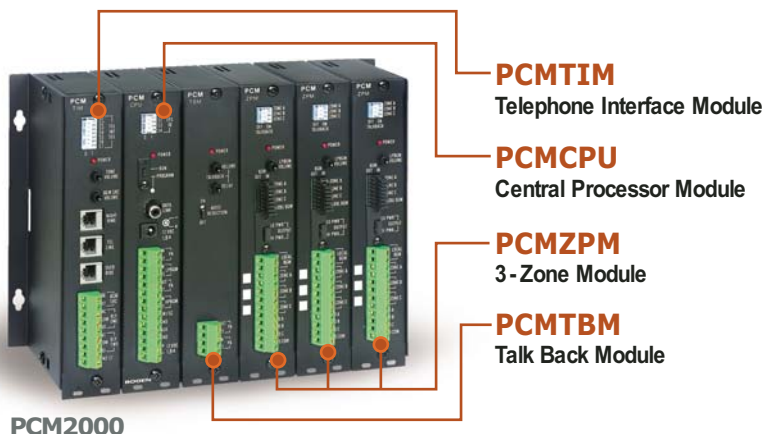
- Provides hands-free, 2-way talk back communications
- Zones can be individually selected to be talk back or one-way only
- "Privacy Beep" protects against eavesdropping

PAGING FEATURES:

- Works with systems that are self- or central-amplified, or mixed
- Allows for 1 to 99 paging zones, in 3 zone increments
- Up to 32 programmable paging zone groups
- Emergency All-Zone Override Paging input
- 250-watt power handling capacity (amplifier required)
- Background Music, Night Ringer, Code Calling, and Signal Tones

OTHER FEATURES:

- Universal Telephone Interface connects to Loop Start, Ground Start, PBX or KEY paging ports, and Analog 90V station lines
- Relay driver outputs mirror the operation of each paging zone to control external equipment
- Two C-form relay contacts change state when system is activated to control external equipment



Modules Required For Zone Paging Applications:

	Total Number of Zones in System										
	3	6	9	12	15	18	21	24	27	More Than 27 Zones	99 Zones
PCMTBM	← 1 Module Required For Each Total System (optional module for talk back or time tone options) →										
PCMTIM	← 1 Module Required For Each Total System →										
PCM CPU*	1		2			3			1 PCM CPU for every 9 Zones		11
PCMZPM	1	2	3	4	5	6	7	8	9	1 PCMZPM for every 3 Zones	33

*Note: One PCMPS2 Power Supply (not included) is required for each PCM CPU Module.

- A setup tone can be produced by the system to check system operation and volume levels
- Wall-mountable (brackets included)
- 8 Time-triggered events
- FCC registered
- ETL, listed for US and Canada

Accessories

RPK84
Rack Mount Kit

TPU Amplifiers
15, 35, 60, 100, or 250W

PCMPS2
Power Supply (12V)

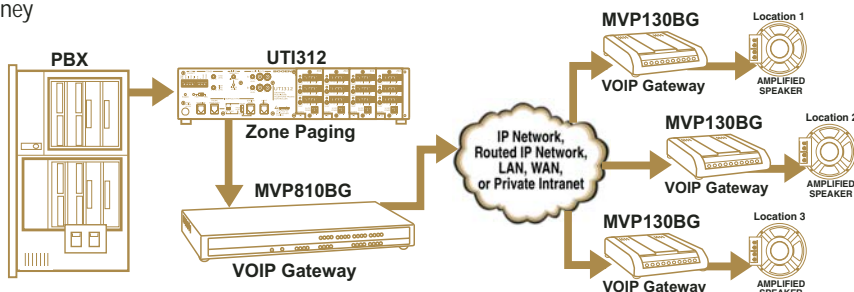
VOIP Gateways for Paging

Network-Enabled Paging

The **MVP** series sends pages over existing Ethernet networks to remote locations within a facility or across a campus without running new lines.

FEATURES:

- Utilize existing Ethernet network
- Single- or multi-zone paging at any or all locations; 1-, 2-, 4-, and 8-port/zone models available
- Efficiently communicate company-wide emergency alerts or general announcements, saving both time and money while improving communication
- Connects directly to phones or PBX; compatible with virtually any telephone port type
- Configurable from a web browser
- Product weight: MVP130BG - less than 1 lb.
MVP210BG - 2 lb.
MVP410BG/MVP810BG - 8 lb.
- FCC Registered
- C-UL, listed for US and Canada



Level Controls

Buffer/Expander/Volume Control

BUFEX



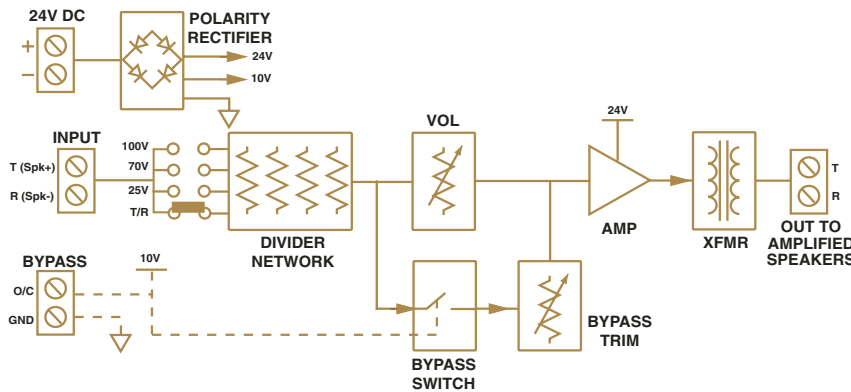
The **BUFEX** is a multi-purpose device that can work as a volume control for a network of speakers, and as a buffer that can drive up to 150 speakers. It also functions as a system expander when connecting to 100V, 70V, and 25V speaker systems.

To address the needs of emergency announcements, the BUFEX has a Bypass feature that allows emergency announcements to be heard at high levels regardless of the volume setting on the BUFEX. The BUFEX contains a Bypass Trim feature that allows some adjustment to the Bypass level.



FEATURES:

- Local volume control for a group of speakers
- Provides buffering for up to 150 self-amplified speakers
- Allows self-amplified speakers to work with 100/70/25V systems, expanding existing systems
- Continuously variable attenuator
- Rugged and attractive stainless steel wall plate with engraved lettering
- Mounts in single gang wall box
- Easy and secure terminal strip connections
- Jumper selectable 100V, 70V, or 25V speaker selections as well as T/R
- Bypass feature overrides local volume setting for high importance messages
- Bypass trim allows a maximum 12 dB attenuation over bypass announcements



Dimensions	Product Weight
2-7/8" W X 4-5/8" H X 2-1/2" D	Less Than 1 lb.

Signal Level Control

SLC

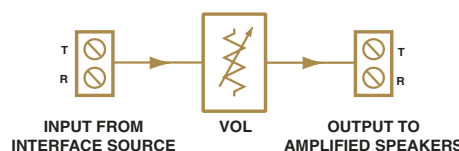


The **SLC** provides a simple and cost effective way to remotely control the volume level of a network of up to 150 speakers. Simply wire in series with the audio feed to the desired group of amplified speakers.



FEATURES:

- Continuously variable attenuator
- Rugged and attractive stainless steel wall plate with engraved lettering
- Mounts in single gang wall box
- Easy and secure terminal strip connections
- Passive (requires no DC power)



Dimensions	Product Weight
2-7/8" W X 4-5/8" H X 2" D	Less Than 1 lb.

Bypass

Local volume controls allow people working in an area to control the level of paging and background music for their needs. However in paging systems where alert announcements are made as well as general announcements, local volume controls can be a problem. When users set volume controls for very low levels or off, the alert announcements may not be heard.

When the BUFEX's Bypass feature is activated (by an external contact closure), it overrides the local level setting of the BUFEX and allows important messages to be heard at maximum system volume.

Because page announcements are made at the maximum system volume in Bypass mode, the level may be overpowering in certain areas. The BUFEX includes a Bypass Trim feature that allows the installer (not the user) to lower the volume of an announcement in Bypass mode, but the amount of attenuation is limited to no more than 12 dB. This provides some relief from pages made at maximum system volume, but still ensures that messages made in the Bypass mode, which are typically emergency related, are significantly loud regardless of where the volume knob on the faceplate is set. The Bypass Trim will track the level of the faceplate knob and increase the alert message level proportionally up to maximum system volume.

Self-Amplified Horn Speakers

High-Efficiency, Digital Switching, Self-Amplified Horn Loudspeakers

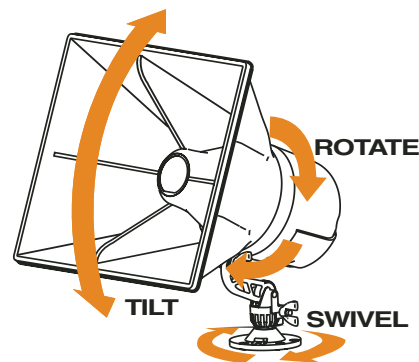
SAH5 (5W)



SAH15 (15W)



Using digital switching amplifier technology, the **SAH5** and **SAH15** self-amplified horn loudspeakers provide unprecedented low DC current draw and heat dissipation, allowing them to use fewer power supplies, run on a longer cable run, 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.



FEATURES:

- 5- and 15-watt models with built-in amplifiers
- 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
- Predictable dispersion pattern over the full frequency range ensures excellent intelligibility and ease of layout
- Weatherproof, UV-protected plastic housing
- Removable access cover protects terminals and volume control
- Rotatable horn allows for the use of a wider vertical or horizontal dispersion pattern
- Simple and secure, cast aluminum swivel mount
- Screw terminal strip for easy wire connections
- Complies with FCC Part 15 requirements

Accessories

BC1
Beam Clamp



Determine Speaker Quantity

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

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**



SAH5

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



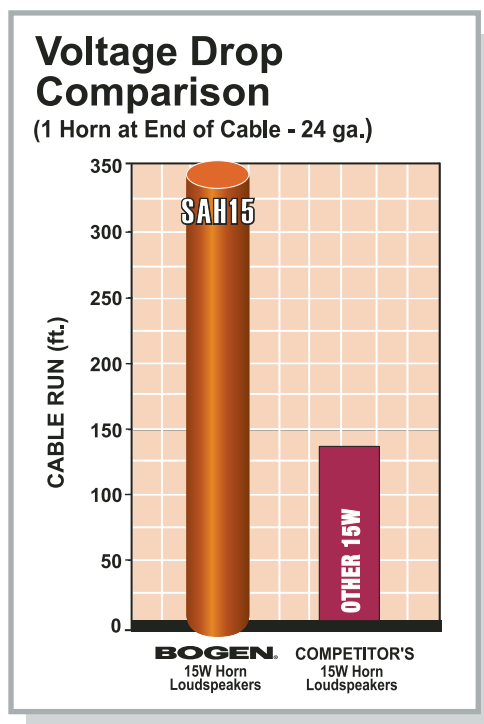
SAH15

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

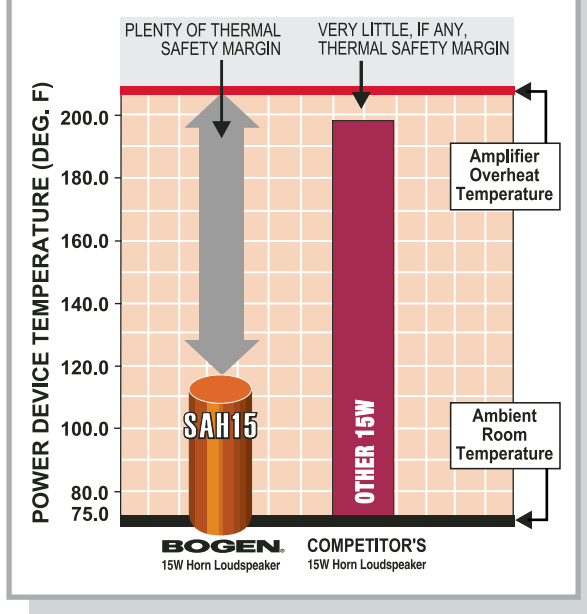
See page 11 to select a Power Supply.

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.



Temperature Comparison (@ 1/3 Max Power)



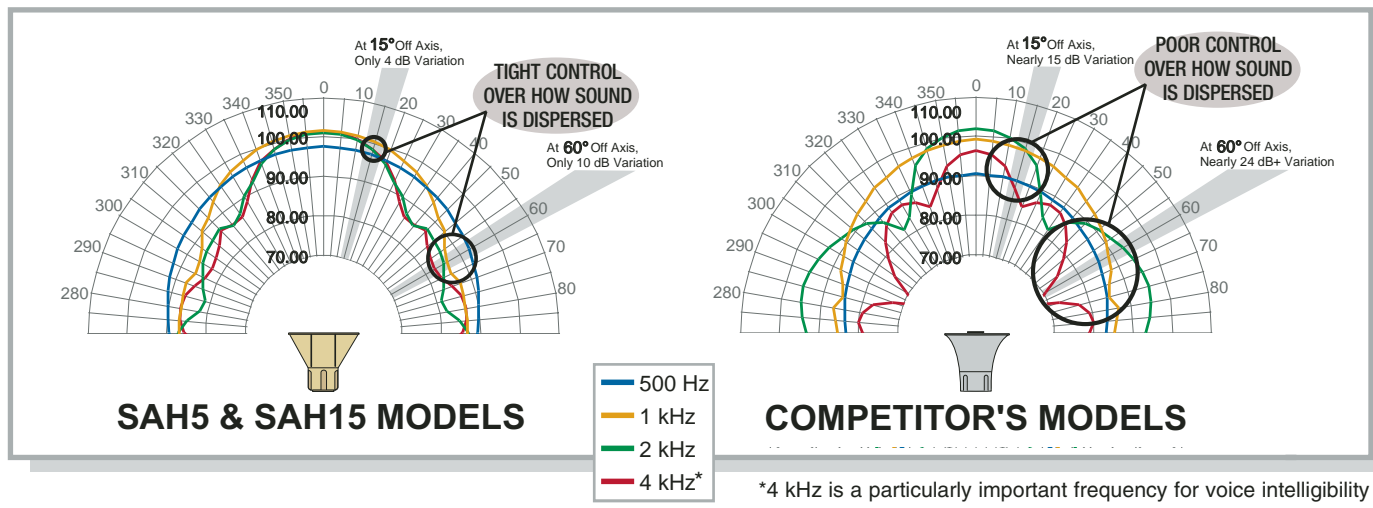
Thermally Rugged

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.

Controlled Dispersion

Unlike many horns in the market that disperse sound frequencies in a wild and uncontrolled manner that reduce intelligibility and cause inconsistent sound quality over the horn's coverage angle, the 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 angle of the horn.



*4 kHz is a particularly important frequency for voice intelligibility

Self-Amplified Metal Horn Speakers

Traditional Metal Horn Speakers

AH5A (5W) -6 CURRENT UNITS

AH15A (15W) -18 CURRENT UNITS



AH5A

AH15A

The **AH5A** and **AH15A** metal horn speakers are rugged, self-contained amplified paging horn assemblies that can be used for high noise paging areas indoors as well as for outdoor use. Their sturdy, weatherproof, all-metal construction allows them to withstand any environment while continuing to provide excellent audio intelligibility for paging and background music.

FEATURES:

- 5- and 15-watt models with built-in amplifiers
- Screwdriver-adjustable volume controls
- Universal tilt-and-swivel mount
- Banding slots easily secure horns to beams and pillars
- 4-conductor, color-coded cable for quick connections to audio and power sources
- Plastic cover protects volume control and provides cable strain relief
- Weatherproof, all-aluminum housing
- Self-aligning, field-replaceable diaphragm
- Speaker and brackets have textured mocha enamel finish

Accessories

BC1
Beam Clamp



Determine Speaker Quantity

Use the chart for the speaker you will use (**AH5A** or **AH15A**):

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 6	6	12	12	18	18	24	24	30	30	36	36	42	42	48	48	54	54	60	60
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 6	12	18	24	30	30	36	42	48	54	60	60	66	72	78	84	90	90	96	102






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 18	36	54	72	90	90	108	126	144	162	180	180	198	216	234	252	270	270	288	306
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 36	72	108	144	180	216	252	288	324	360	396	432	468	504	540	576	612	648	684	720

See page 11 to select a Power Supply.

Selecting Power Supplies

To Select Power Supplies For Your System:

1. Add all the  numbers together.
2. Select a Power Supply (or power supplies) with a  number(s) equal to or greater than the total  amount.



Understanding Current Units

Paging systems are made up of equipment that consume or provide operating current. To operate properly, the system needs to provide at least as much current as it consumes.

Each product has a Current Units number. This number is either positive, negative, or zero to indicate how much current it provides or consumes from the system's power supplies.

Note: One Current Unit = 50 mA, 24V DC

Power Supplies

Switch Mode and Linear Power Supplies

• UL, all models listed for US; also Canada (except PRS2403)



Switch Mode Power Supplies

The SPS versions of power supplies use switching technology to provide large current capacities in very small packages. Unlike more conventional linear power supplies that use large and heavy transformers, switching supplies gate energy directly to the storage caps at the power supply output. This is a highly efficient way to convert voltages and because of this the power supplies generate very little heat.

Mounting Holsters

Most wall-mounted SPS versions of power supplies come with special mounting holsters for easy and secure wall mounting. The holsters are fastened to the wall and then the power supply is slipped in. A broad spring tang ensures the power supply remains snug in the holster. A side-mounted PCB provides a means of breaking out the power supply's cable connector into multiple screw terminals. The screw terminals are also pluggable for added ease of installation.

Model	CU	Ratings	Mounting	Connections	Dimensions	Weight
SPS2454	+108	24V DC @ 5.40A	Holster	Pluggable Terminal Strip	3-1/2" W X 7-3/4" H X 2" D	3 lb.
SPS2425	+50	24V DC @ 2.50A	Holster	Pluggable Terminal Strip	3" W X 5-3/4" H X 1-3/4" D	2 lb.
SPS2410	+20	24V DC @ 1.00A	Holster	Pluggable Terminal Strip	2-1/2" W X 4-1/4" H X 1-1/4" D	2 lb.
SPS2406	+12	24V DC @ 0.60A	Receptacle	Wires, Barrel-Type	2" W X 3-3/8" H X 1-1/4" D	2 lb.
PRS2403	+6	24V DC @ 0.30A	Receptacle	Wires, Barrel-Type	2-1/4" W X 3-1/4" H X 2" D	1 lb.

Associated Products



3-Disc CD Player CDC-3



- 3 Disc changer
- Load or remove discs without interrupting play
- Stereo AUX input for additional audio source that feeds through whenever CD stops playing
- Output volume control
- Program up to 36 tracks from up to three separate discs

Power Requirements:	120V AC
Dimensions:	19" W x 3-1/2" H x 12" D
Product Weight:	13 lb.



AM/FM Tuner TP30D



- Provides background music on paging systems and MOH for telephone systems
- PLL-synthesized tuning for drift-free operation
- Large, easy-to-read backlit LCD station frequency display (orange)
- 18 FM and 12 AM station presets
- Includes FM dipole antenna and AM loop antenna

Power Requirements:	120V AC
Dimensions:	10-1/2" W x 1-5/8" H x 7-1/8" D
Product Weight:	6 lb.

Accessories

RPK46A
Rack Mount Kit



Cassette Player with AM/FM Tuner CR100A

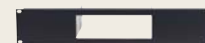


- 8-ohm @ 1W and 600-ohm stereo outputs
- Automatic tape reverse, fast-forward, and rewind controls
- Electronic quartz-locked PLL tuning with LCD digital frequency display
- Manual tuner, auto seek, and memory preset scan
- 24 Presettable stations: 4 bands (3 FM & 1 AM) can be programmed with up to 6 stations each
- Antenna: built-in line cord, external 75-ohm, or external 300-ohm antenna inputs

Power Requirements:	120V AC
Dimensions:	7-1/4" W x 2" H x 9-1/4" D
Product Weight:	6 lb.

Accessories

RK78
Rack Mount Kit



FM Radio Receiver

FMR



- Automatic Frequency Control prevents signal drift
- LED indicator illuminates when signal is strongest
- 1W output for MOH to telephone systems
- Connects to a variety of telephone and paging systems including self-amplified speaker systems
- Line-level output for background music

Power Requirements:	12V or 24 DC
Dimensions:	3-3/8" W x 6" H x 1-1/2" D
Product Weight:	1 lb.

SEE POWER SUPPLIES ON PG. 11

Desktop Paging Microphones

DDU250, MBS1000A



DDU250

MBS1000A



- Cardioid pickup pattern
- Push-to-lock & push-to-talk operation
- Lift-to-talk operation (*MBS1000A*)
- 16" long, fully flexible gooseneck stalk shock-mounted to a heavy zinc die-cast base (*DDU250*)
- Rubberized black finish (*MBS1000A*)

Model	Dimensions	Product Wt.
DDU250	4-1/4" W x 18-1/4" H x 6-1/4" D	4 lb.
MBS1000A	4-3/8" W x 9-3/8" H x 5-1/8" D	2 lb.

- **Impedance:**
DDU250: 500-ohm impedance;
MBS1000A: Hi-Z, 50k ohms; Lo-Z, 500 ohms
- **Frequency response range:**
DDU250: 100 Hz - 12 kHz;
MBS1000A: 45 Hz - 15 kHz
- **Sensitivity:**
DDU250: -76 dB +/- 3 dB;
MBS1000A: -72 dB +/- 3 dB



Ambient Noise Sensor ANS501



- Automatically adjusts paging level as ambient noise levels rise and fall
- Supports up to 4 small sensor microphones (one included) for large areas
- Sensor microphones can be located up to 2,000 feet from control unit
- Input/output: 600-ohm balanced, unbalanced

Power Requirements:	12V DC power supply (included)
Dimensions:	Control Unit: 5-1/4" W x 3" H x 1-1/4" D Microphone: 2" W x 2-1/8" H x 7/8" D
Product Weight:	2 lb.

Accessories **ANS500M**
Sensor
Microphone



Night Ringer NR100



- Responds to 90V ring signals or external contact closures
- Produces dual-frequency electronic ringer tone
- Easily connects to any paging system
- Automatically mutes background music while ringing
- Ringer volume control
- Compact size & low current draw
- FCC registered

Power Requirements:	24V DC @ 25 mA
Dimensions:	5-1/4" W x 3-1/4" H x 1-1/4" D
Product Weight:	1 lb.

SEE POWER SUPPLIES ON PG. 11



Voice-Activated Relay VAR1



- Two sets of C-Form (both N.O. and N.C.) relay contacts respond to audio activity
- 4 Levels of input signals: microphone, 600-ohm line, 25V, and 70V speaker systems
- Built-in balanced, low noise, high gain microphone pre-amp
- A transformer-isolated, 600-ohm small signal level output of detected audio available
- Separate microphone pre-amp gain control
- Trigger threshold adjustment

Power Requirements:	12V to 24V DC @ 100 mA
Dimensions:	5-3/8" W x 3-7/8" H x 1-3/8" D
Product Weight:	2 lb.

SEE POWER SUPPLIES ON PG. 11



Digital Feedback Terminator DFT120



- Able to record a message while another is being played
- High-quality, digital recording and playback of messages
- Stacks up to 16 messages for playback
- 4 minutes of total audio memory
- Activates recording by loop start trunk, 4-wire dry loop, audio trigger, or DTMF

Power Requirements:	12V power supply (included)
Dimensions:	10" W x 1-1/2" H x 6-1/2" D
Product Weight:	6 lb.



Tone Generator TG4C



- 4 Types of tones: steady, pulsed alarm, slow whoop, and chime
- Tones triggered by external contact closure (momentary or long duration)
- Choice of continuous generation of tones or two-burst operation (except for steady tone)
- Adjustable tone level & pitch
- 600-ohm output

Power Requirements:	12V to 48V DC @ 30 mA
Dimensions:	6-3/4" W x 5-3/4" H x 2" D
Product Weight:	3 lb.







SEE POWER SUPPLIES ON PG. 11

Accessories **WMT1A**
Matching
Transformer



















Product Specifications Charts

Telephone Interfaces

MODEL	Current Units Supplied	Input Impedance	Input Level	VOX Sensitivity	Music Source Input Impedance	Music Input Level	Speaker Capacity	Output Level	Contact Closure	Voltage/Current	Dimensions	Product Weight
 UTI1		600 ohms	-10 dBm nominal	-30 dBm	20k ohms	-10 dBm	150 (per output)	-10 dBm nominal	2A @ 30V DC; 0.6A @ 125V AC	120V AC/ 0.5A	12- ¹ / ₄ " W x 5- ¹ / ₄ " H x 2- ¹ / ₂ " D	5 lb.
 UTI312		600 ohms	-10 dBm nominal	-30 dBm	20k ohms	-10 dBm	150 (per zone)	-10 dBm nominal	ZX3: 2A @ 30V DC; 0.5A @ 125V AC AUX: 2A @ 30V DC; 0.6A @ 125V AC	120V AC/ 0.75A	16- ³ / ₈ " W x 3- ¹ / ₂ " H x 4- ⁷ / ₈ " D <small>(without flanges)</small> 19" W <small>(with flanges)</small>	8 lb.
 PCM2000		600 ohms	-10 dBm nominal	-16 dBm	10k ohms	-10 dBm nominal	25 (per zone)	-10 dBm nominal	1A @ 30V DC; 0.3A @ 125V AC (PCMTIM)	12V DC/ 1.5A	1- ¹ / ₂ " W x 7- ¹ / ₂ " H x 4- ¹ / ₄ " D <small>(each module)</small>	1 lb. <small>(each module)</small>


Speakers

MODEL	Product Style	Current Units Consumed	Max. Power Rating	Max Sound Level (dBspl)	Input Sensitivity (mVrms)	Frequency Response	Input Impedance	Dispersion (degrees)	Dimensions	Product Weight
 SAH5	Digital Switching Horn Speaker		5W	119	125	275 Hz-14 kHz	2000 ohms	120	10- ⁵ / ₈ " W x 12" H x 11- ¹ / ₂ " D	6 lb.
 SAH15	Digital Switching Horn Speaker		15W	124	125	275 Hz-14 kHz	2000 ohms	120	10- ⁵ / ₈ " W x 12" H x 11- ¹ / ₂ " D	6 lb.
 AH5A	Metal Horn Speaker		5W	116	32	275 Hz-14 kHz	1000 ohms	110	9" Dia. x 9- ¹ / ₄ " D	4 lb.
 AH15A	Metal Horn Speaker		15W	121	58	275 Hz-14 kHz	1000 ohms	110	9" Dia. x 9- ¹ / ₄ " D	4 lb.
 ASWB1	Wall Baffle Speaker		1W	92	110	100 Hz-10 kHz	1000 ohms	90	9- ¹ / ₂ " W x 9- ¹ / ₂ " H x 5- ¹ / ₄ " D	4 lb.
 ASWG1	Ceiling Speaker		1W	92	125	100 Hz-10 kHz	1000 ohms	90	12- ⁷ / ₈ " Dia. x 3- ³ / ₄ " D	4 lb.
 ASWG1DK	Ceiling Speaker		1W	92	125	100 Hz-10 kHz	2000 ohms	90	12- ⁷ / ₈ " Dia. x 3- ³ / ₄ " D	4 lb.
 ACD2X2	Drop-In Ceiling Speaker		1W	92	125	95 Hz-12 kHz	2000 ohms	100	23- ⁷ / ₈ " W x 5" H x 23- ⁷ / ₈ " D	12 lb.

Specifications subject to change without notice.

Speaker Selection

This chart indicates the typical Ambient Noise Level and environments appropriate for various speaker types.

SPEAKER MODELS 		ASWB1 ASWG1 ASWG1DK ACD2X2	SAH5 AH5A	SAH15 AH15A
TYPICAL AMBIENT NOISE LEVEL	TYPICAL ENVIRONMENTS			
HIGH NOISE 75-85 dB Speech Is Difficult To Hear	<ul style="list-style-type: none"> • Assembly Line • Crowded Transit Waiting Area • Machine/Print Shop • Shipping Warehouse • Supermarket (Peak) • Very Noisy Bar or Restaurant 			
MEDIUM NOISE 65-75 dB Must Raise Voice To Be Heard	<ul style="list-style-type: none"> • Bank/Public Area • Transit Waiting Area • Department Store • Noisy Office Setting • Supermarket (Normal) • Bar or Restaurant 			
LOW NOISE 55-65 dB Speech Is Easy To Hear	<ul style="list-style-type: none"> • Conversational Speech • Doctor's Office • Hospital • Hotel Lobby • Quiet Office • Quiet Bar or Restaurant 			

Cable Length

- Find the row which is equal to or greater than the total number of Current Units needed for the equipment on the cable run.
- Find where this row crosses the column for the wire gauge that will be used for the run.
- The number in the cell where these cross is the maximum cable length for that run.

Example: When 37 Current Units are to be used on a 24-Gauge Wire, the maximum usable cable length will be 88 feet.

Note: It may be necessary to increase the wire size (smaller gauge numbers) or split the speaker runs to shorten the wire run lengths if they exceed the chart maximums.

		WIRE GAUGE (AWG)					
		26	24	22	20	18	16
Total CU (Current Units) on cable run	10	220'	351'	557'	887'	1413'	2237'
	20	110'	175'	279'	443'	706'	1118'
	30	73'	117'	186'	296'	471'	746'
	40	55'	88'	139'	222'	353'	559'
	50	44'	70'	111'	177'	283'	447'
	60	37'	58'	93'	148'	235'	373'
	70	31'	50'	80'	127'	202'	320'
	80	28'	44'	70'	111'	177'	280'
	90	24'	39'	62'	99'	157'	249'
	100	22'	35'	56'	89'	141'	224'
110	20'	32'	51'	81'	128'	203'	

Indicates maximum cable length (in feet)

Connecting wire pairs together, in parallel in a cable, effectively reduces the gauge and lowers resistance. The chart below shows how the gauge decreases with paralleled pairs.

REDUCING GAUGE		
WIRE GAUGE (AWG)	PARALLEL 2 PAIR	PARALLEL 3 PAIR
26	24	22
24	22	20
22	20	18
20	18	16
18	16	14
16	14	12

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Warranty Information

The Bogen products identified in this catalog are warranted to be free from defects in material or workmanship for two (2) years from the date of sale to the original purchaser; except for: microphones, which carry a one (1) year warranty. Other conditions apply. Contact Bogen for full details of its limited warranty.

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FAQs

Why should I buy self-amplified paging products from Bogen?

Bogen has been a leading designer and manufacturer in the audio communications business for over 70 years. Utilizing our knowledge of audio equipment and experience in the audio industry, Bogen has developed self-amplified paging products that not only look good and sound good, but include special advanced technologies and features not found in products available from other manufacturers.

Why has Bogen designed a self-amplified paging line?

Since its inception, Bogen has focused on continuously improving its product offerings so that installers and end-users have products that better suit their needs while saving them time and money. These new paging products from Bogen offer a better option in the market for self-amplified paging systems.

What's the difference between self-amplified systems and central-amplified systems?

Self-amplified systems consist of speakers with built-in amplifiers that are powered by external power supplies. Central-amplified systems consist of passive speakers powered by a centrally located amplifier. Bogen designs both types of systems to output excellent sound quality.

Which system is more reliable?

Bogen prides itself on manufacturing products that are reliable and durable. Bogen backs its products with superior product warranties. (See page 16)

How will I know which type of system is best for my installations?

Bogen's Application Support department and your local sales representative are ready to assist you and answer your questions. Bogen also offers a FREE DESIGN SERVICE. Let Bogen's expert technical staff design your installations for you! There is no cost for this and no limit to how often you can use this service. (For more information, see inside front cover.)

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