



Public Address - Voice Alarm

IPVA - Intercom

Commercial Audio

Intelligent Acoustic Solutions

Loudspeakers



2011 CATALOG

Loudspeakers

DELIVERING YOUR MESSAGE



Dear Friends,

We proudly present to you our new section, covering;

## Loudspeakers and Amplifiers solutions

Few companies have such a drive for innovative development as Penton/ATEİS. In the past 30 years, Penton/ATEİS has become synonymous with high quality Voice Alarm and Public Address Systems, drag n drop DSP platforms and DSP steerable line arrays throughout the world. With our own audio networking and data-routers, voice over IP solutions and our latest development: Intercom over IP, we are leading the industry!

However, a system is only as good as its weakest link and without speakers that provide the necessary intelligibility and frequency response the system will be subpar. In this catalog you will find a selection of speakers and amplifiers complementing our head end equipment and allowing you, our customer, to provide your audience with time tested proven solutions that meet the most rigorous international standards. We have been listening to and meeting customer needs since our inception and are well known for our unique problem solving approach to real world challenges that face consultants and contractors alike on a daily basis. Take the opportunity to share your thoughts with us and we will provide you the solution!

We are looking forward to your business!

Team Penton/ATEİS is

**DELIVERING YOUR MESSAGE!**



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## SMARTVOX

Simply the most elegant solution both in terms of visual appearance and intelligibility to any room requiring voice reinforcement. With only a 6 dB drop over 75' distance and very little vertical reflection echo is virtually eliminated.

**SMARTVOX-MA12** / Passive Loudspeaker Line Array

## AMPLIFIERS

The SPA range is a perfect compliment to our range of DSP processors offering a very secure platform for any installation. The AMP series provides a more flexible mixer amplifier selection for a variety of installations featuring 3 to 6 mixing channels depending on model.

**SPA 2060 / SPA 2120 / SPA 2240** / AB-Class Amplifiers

**AMP15 / AMP30 / AMP60 / AMP120 / AMP 300** / Mixer Amplifiers

## LOUDSPEAKERS

Our line of speakers is the culmination of years of field experience and can be found in a variety of installations around the world. Visit the Louvre art museum in Paris, the Hong Kong airport, the University of Notre Dame, the US Library of Congress among many others and you will find us there. Our range covers a variety of specialty speakers from transportation projects to school PA systems and as always offer excellence in appearance as well as ease of installation and fidelity.

**CCS SERIES** / High Performance Closed-Back Ceiling Speakers  
**LCS/PCS SERIES 8"** / Loudspeaker Packages

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**MSH SERIES** / Large Format Music and Sound Projectors  
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## ACCESSORIES

Whether you are installing in a drop ceiling or a hard ceiling our range of mounting hardware and accessories will provide a quick and trouble free installation.

**VAT SERIES** / VAT Attenuators  
**"PD" SERIES** / PD Compression Drivers

**BBX / BRG / MBK** / Mounting Accessories  
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## SMARTVOX-MA12

### Passive Loudspeaker Line Array



### SMARTVOX-MA12 / 50 W/70 V

SMARTVOX-MA12 is a vertical loudspeaker array that uses a linear spaced speaker arrangement in combination with passive phase shifting, passive power shading and filtering, to obtain a constant directivity index for multiple frequencies (Concept is based on the MESSENGER linear spaced line-arrays with patent algorithm). The fixed Azimuth angle of -12 degrees, allows for the unit to be placed vertical against any surface, resulting in more clarity, lower reverberant field and therefore a much higher 'direct-to-reverb' ratio, leading to a higher intelligibility figure (STI).

Ordinary line-arrays radiates a cylindrical wave front that moves in a straight line from its source. Due to this a normal column needs to be tilted forward to obtain good coverage of the listening area (figure 1).

This is needed to focus the soundwaves in forward direction into the audience area trying to avoid annoying reflections from other surfaces. Loudspeakers in general are not only producing sound forwards but also backwards especially for the lower frequencies. These soundwaves are reflected by the backwall to which the array is fixed.

These waves are mirrored according to the mounting angle of the array and will fill the environment with unwanted artificial reverberation energy, leading to lower direct-to-reverb ratio and to a poor intelligibility.

By "aiming" the beam of a loudspeaker electronically using passive phase-shifting, power-shading and filtering technique for constant directivity, you can keep the column in a perfect vertical position against its surface (figure 2), reducing any additional attributed energy to the reverberant field, resulting in more clarity and a much higher intelligibility.

The SMARTVOX-MA12 distinguishes itself through its precise sound direction pattern in the vertical plane, independent of the frequency. Due to constant sound pressure over long distances fewer columns are needed, which makes the installation far more simple and effective.

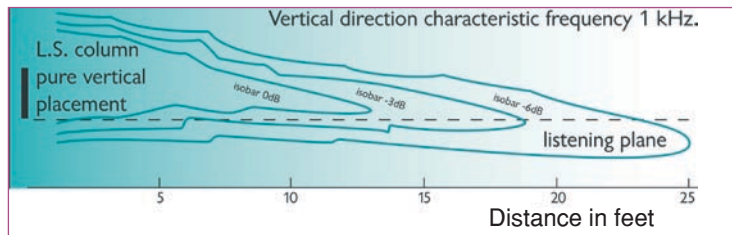
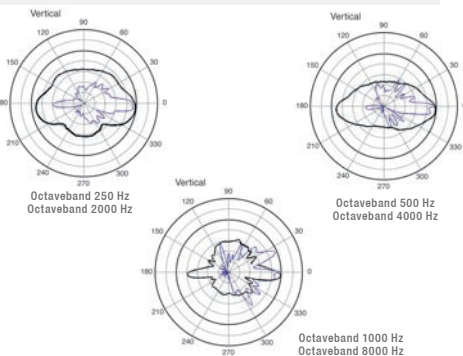
### SMARTVOX-MA12 CHARACTERISTICS

- Maximum power rating: 50 Watt.
- Operating voltage: 25 / 70 / 100 Volt.
- Frequency respond: 250 Hz - 12 kHz.
- Horizontal coverage: 120 degrees.
- Q-factor / Di: 14.1 / 11.5 dB.
- SPL @ 1kHz, 1W/ 1M: 93.5 dB.
- Standard color: RAL 9010.
- Dimensions:  
22.04 (in) Height,  
3.54 (in) Width,  
4.33 (in) Depth.

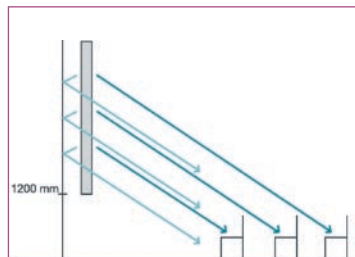


### SMARTVOX-MA12 Features

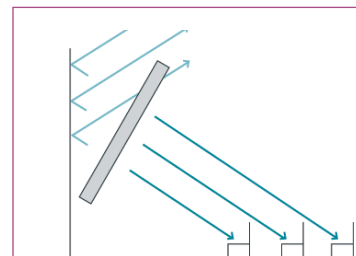
- Filtering based on Messenger Patent algorithm concept.
- Wide dispersion.
- Linear spaces speakers.
- Constant sound level.
- Lower reverberant field.



Picture 2



Picture 1



## SPA 2060 / SPA 2120 / SPA 2240

### AB-Class Amplifiers

#### SPA 2060

2 x 60 Watt AB-Class amplifier



#### SPA 2120

2 x 120 Watt AB Class amplifier



#### SPA 2240

2 x 240 Watt AB Class amplifier



The SPA (Security Power Amplifier) is primarily designed for integration into Voice Alarm systems, but thanks to its flexibility, it can also be used for any Commercial application.

The SPA amplifiers were specifically developed to meet the requirements of EN 60849 for safety installations. Each amplifier module is fitted with its own 220 VAC/24 VDC power supply for increased system reliability.

To avoid handling errors, the volume output is set using the potentiometer located at the rear of the amplifier. Further to standard protection via fuses, SPA amplifiers also have electronic and thermal protection to protect them from potential hazards.

A ventilator provides forced cooling for the final power shelves and internal parts of the amplifier. It starts up automatically when the heat shunt reaches a certain temperature

threshold, and stops when the temperature returns to normal values. Four LEDs display the status of each amplifier: AC or DC power supply, Line Overload and Temperature overload. Furthermore, a three LEDs Vu-Meter indicates the presence and level of audio signal.

A surveillance circuitry is continuously monitoring the temperature and the presence of AC and DC power supplies for both amplifiers. In case of a problem, the overload LEDs will be switched ON and the Fault relay will be activated.

The channels can be bridged together in order to create a single channel amplifier with twice the power.

### SPA CHARACTERISTICS

#### SPA 2060

- Power Supply: 110 V or 220 V - 24 V
- Output power: 2 x 60 W
- Output voltage: 8 Ω, 70 & 100 V
- Power indication 24 V and 110 V/220 V : Yes
- Frequency response: 50 -18000 Hz
- Distortion: < 1%
- Output: 4-8 Ω 70-100 V
- Fault contact(s): yes
- Signal indication: Yes

#### SPA 2120

- Power Supply: 110 V or 220 V - 24 V
- Output power: 2 x 120 W
- Output voltage: 8 Ω, 70 & 100 V
- Power indication 24 V and 110 V/220 V : Yes
- Frequency response: 50 -18000 Hz
- Distortion: < 1%
- Output: 4-8 Ω 70-100 V
- Fault contact(s): yes
- Signal indication: Yes

#### SPA 2240

- Power Supply: 110 V or 220 V - 24 V
- Output power: 2 x 240 W
- Output voltage: 8 Ω, 70 & 100 V
- Power indication 24 V and 110 V/220 V : Yes
- Frequency response: 50 -18000 Hz
- Distortion: < 1%
- Output: 4-8 Ω 70-100 V
- Fault contact(s): yes
- Signal indication: Yes

## AMP15 / AMP30 / AMP60 / AMP120 / AMP 300

### Mixer Amplifiers



The Penton AMP Series offers 15 to 300 Watt output respectively and are ideal for a wide variety of paging, background music, and music-on-hold applications. The model line-up includes the smaller 15 and 30 Watt units highly suitable for smaller fixed installations in gas stations, convenience stores and fast food establishments requiring both paging and background music.

The AMP 60 and AMP 120 feature six inputs; user selectable XLR, RCA or screw terminal. With separate bass and treble controls as well as master volume, the AMP 60 and AMP 120 offer the flexibility necessary for both fixed and portable installations.

Flexibility is further enhanced with separate tape output, preamp out, amp in link connection for use with external processing, via RCA jacks. For critical applications there is a 24 VDC input for battery operation. A convenience AC output is located on the rear panel as well. For added protection the units feature circuit breaker protection.

The AMP 300 is an excellent choice for expansion where additional power is necessary, but with two auxiliary inputs and one mic/tel input it can also be used on its own.

**AMP15**  
15 Watt Mixer amplifier

**AMP30**  
30 Watt Mixer amplifier

**AMP60**  
60 Watt Mixer amplifier

**AMP120**  
120 Watt Mixer amplifier

**AMP300**  
300 Watt Mixer amplifier

MODEL	OUTPUT POWER (RMS)	Frequency Response	Inputs	Front Panel Controls				
				Inputs sensitivity	Master volume	Bass	Treble	Tone control
<b>AMP15</b>	15	50 - 20 KHz	Mic/Tel +2 Aux	YES	YES	YES	NO	NO
<b>AMP30</b>	30	50 - 20 KHz	Mic/Tel +2 Aux	YES	YES	YES	NO	NO
<b>AMP60</b>	60	50 - 20 KHz	6 Inputs	YES	YES	YES	YES	YES
<b>AMP120</b>	120	50 - 20 KHz	6 Inputs	YES	YES	YES	YES	YES
<b>AMP300</b>	300	50 - 20 KHz	Mic/Tel +2 Aux	YES	NO	YES	YES	YES

## CCS series

### High Performance Closed-Back Ceiling Speakers



The speakers are excellent for demanding applications in restaurants, clubs, and other venues where sonic performance, high power handling, and excellent aesthetics are imperative.

The CCS series is also an excellent alternative in classroom applications, boardrooms, and background music applications. Tapped at lower levels, the speakers offer excellent low frequency response even at modest volume. Both the CCS4 and the CCS6 are available in a 70.7 V transformer version and an 8 Ohm version (add the suffix T for transformer).

Each speaker is enclosed in a formed-steel back box, and installs either in a hard ceiling via Penton's Easy Mount system or in a drop-ceiling using a tile bridge.

Tile bridges for the CCS series feature two mounting rails

and a plate that can be positioned in exactly the right location, avoiding air vents and other obstructions in the ceiling. Wire connections are via phoenix style terminal blocks with a loop-in loop-out feature removing the need to twist wires together to go to the next speaker. Further, the phoenix connectors are mounted under a metal lid, easily opened from the back of the unit, making for fast AND compliant installations where plenum requirements may be an issue.

The CCS4 features a 4" driver coupled with a ½" tweeter and is perfect for low ceiling applications in a variety of venues. The larger CCS6 offers higher power handling, up to 60 Watts, and is an excellent choice for sport bars and other applications where high volume combined with excellent fidelity is imperative.

MODEL	Frequency response	SPL dB @1w/1m	SPL dB @20w/1m	Dispersion @ 2 kHz	Weight	Transformer TAPS 70.7-VOLT
<b>CCS4</b>	85-20 kHz	86	107	130	5 lbs	8 Ohm
<b>CCS4T</b>	85-20 kHz	86	107	130	5 lbs	30, 15, 7.5, 3.75
<b>CCS6</b>	75-20 kHz	85	125	110	8 lbs	8 Ohm
<b>CCS6T</b>	75-20 kHz	85	125	110	8 lbs	60, 30, 15, 7.5

## LCS/PCS SERIES 8"

### Loudspeaker Packages



For excellence in appearance and sonic quality, the LCS and PCS Series are built to out perform most ceiling speakers.

Both with heavy-gauge grilles finished in nonreflective white, the PCS is made of ABS while the LCS is cold-rolled steel. 8" speakers include twin-cone construction with 5-watt transformer, or coaxial ("X") with three-inch, post-mounted cone tweeter.

All models include an integral dual 70.7/25-Volt transformer with the timesaving spade-lug connection.

LCS8T72V and PCS8T72V feature a nearly hidden screwdriver-adjustable volume control.

MODEL	Volume control	Frequency response	Type	SPL dB @1w/1m	Dispersion @ 2 kHz	Magnet size	Transformer TAPS 25/70.7-VOLT
<b>L(P)CS8T72</b>	No	90-20 kHz	Twin cone	95	100°	5 oz	5, 2, 1, 0.5, 0.25
<b>L(P)CS8XT72</b>	No	80-20 kHz	Coaxial	94	96°	10 oz	8, 4, 2, 1, 0.5
<b>L(P)CS8T72V</b>	Yes	90-20 kHz	Twin cone	95	100°	5 oz	5, 2, 1, 0.5, 0.25



## RCS SERIES

### Ceiling Speaker Packages

The premium RCS family combines aesthetic excellence and hardware-free appearance with outstanding performance. Fast and easy to install, RCS Series speaker packages feature locked-on torsion springs, terminal block connections and dual 70.7/25-Volt transformers with spade-lug taps. CRS baffles are finished in nonreflective white epoxy.

Chose between 5", 6" and 8" cone speakers. Each includes twin-cone construction with 5-watt transformer, or coaxial ("X") with post-mounted tweeter and 8-watt transformer.

#### RCS-5" Series

Made for low ceilings and/or low profile applications where wide dispersion is required.

#### RCS-6" Series

Versatile and useful in many applications, its mid-sized cone, combines low frequencies and high efficiency of the 8" Series, with wider dispersion found in the 5" family.

#### RCS-8" Series

Use where high ceilings, lower frequencies, higher output and greater efficiency are required.



MODEL	Cone size	Frequency response	Type	SPL dB @1w/1m	Dispersion @ 2kHz	Magnet size	Transformer 70.7-VOLT TAPS
RCS5T72	5-1/4"	100-20 kHz	Twin cone	93	140°	5 oz	5, 2, 1, 0.5, 0.25
RCS5XT72	5-1/4"	60-48 kHz	Coaxial	91	130°	10 oz	8, 4, 2, 1, 0.5
RCS6T72	6-1/2"	95-20 kHz	Twin cone	94	140°	5 oz	5, 2, 1, 0.5, 0.25
RCS6XT72	6-1/2"	90-20 kHz	Coaxial	92	130°	10 oz	8, 4, 2, 1, 0.5
RCS8T72	8"	90-20 kHz	Twin cone	95	120°	5 oz	5, 2, 1, 0.5, 0.25
RCS8XT72	8"	80-20 kHz	Coaxial	94	130°	10 oz	8, 4, 2, 1, 0.5

## PBC

### Wall Mounted Speaker Systems

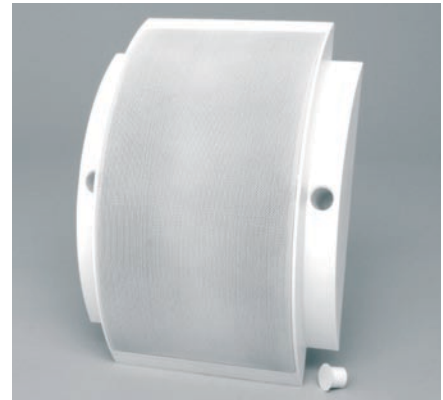
Aesthetically alluring, the PBC Series is an inventive surface-mount package that is a radical departure from the old slanted wood designs. Able to be mounted horizontally or vertically, the beautiful yet durable ABS housing is protected by UV inhibitors.

The PBC Series offers a choice between 6-1/2" speaker models: a twin-cone with 5-watt, 25/70.7-volt transformer for school systems or a coaxial ("X") speaker with postmounted, Mylar diaphragm tweeter and 8-Watt,

70.7-Volt transformer for prestige installations.

K versions include a volume control.

Connection is made to a terminal block with tap changes via a unique spade lug. The PBC features bass ports, metal grille, removable volume control and mounting hole snap-in covers.



MODEL	Frequency response	Type	SPL dB @1w/1m	Dispersion @ 2 kHz	Magnet size	Transformer TAPS 70.7-VOLT
PBC6T72(K)	110-20 kHz	Twin Cone	94	115 x 90	5 oz	5, 2, 1, 0.5, 0.25
PBC6XT72(K)	90-20 kHz	Coaxial	91	120 x 90	5 oz	8, 4, 2, 1, 0.5





# Speakers

## LIS SERIES

### Lay-in Tile Speaker



The LIS Lay-in tile speaker systems are designed for fast and trouble-free installation in standard suspended tile drop-ceilings. The LIS works in either 2' x 2' or 2' x 4' ceiling grids.

Each unit is complete and ready to install, including integral tile bridge, white grille to match most standard ceilings, internal 5-watt 25/70.7-Volt step attenuator

and transformer, attached backbox, and our unique grid rail edge allowing for visually perfect replacement of adjacent tile. Wires terminate in an included single gang box. Simply drop in your flex, make 2 connections (and we include the wirenuts!), and you're done.

This is simply the best lay in tile speaker on the market today.



MODEL	Frequency response	Type	SPL dB @1w/1m	Dispersion @ 2 kHz	Magnet size	Transformer TAPS 70.7-VOLT
<b>LIS8T72</b>	90-20 kHz	Twin cone	95	120°	5 Oz	5, 2, 1, 0.5, 0.25

## LBC

### Open Ceiling Beam-Mount Speaker Systems



Standard installation for open-style ceilings is possible with the one-piece LBC Series design. Models are ideal for the popular retail-warehouse look currently in vogue.

Each speaker system is supplied with backbox, matching front grille, two beam clamps, twin-cone loudspeaker and 5-watt, 25/70.7-Volt transformer.

Non-reflective finishes of white ("W") or black ("B") are available.

MODEL	Frequency response	Type	SPL dB @1w/1m	Dispersion @ 2 kHz	Magnet size	Transformer TAPS 70.7-VOLT
<b>LBC8T72</b>	90-20 kHz	Twin Cone	95	120°	5 oz	5, 2, 1, 0.5, 0.25



## JD SERIES

### Foreground Music Speakers

The JD series of foreground music speakers are weather resistant cabinet loudspeakers designed to please the most discriminating ear. The budget friendly JD10XT features a 4" driver and a mylar tweeter delivering up to 20 Watts of smooth output suitable for any light background music application. The JD10XT can also deliver 8 Ohm output via its screwdriver adjustable tap settings on the back of the speaker. The JD10 mounts via a U-bracket.

The larger JD20XT features a 5" polypropylene cone, and a 1" mylar tweeter with neodymium magnet. It delivers the same smooth 20 Watts of power, but with a substantially extended bass response. The speaker was designed with commercial background music in mind and will deliver deep bass even at low volume. Tap selection is screwdriver adjustable from the front via an almost hidden selector in the right hand corner of the unit. The JD20 is also available in a 16 Ohm version.

The JD20 relies on a clever angled "side-in" bracket that can be mounted directly to the wall or to a standard one gang electrical box. The JD40XT is a larger version of the JD20XT delivering a maximum of 40 Watts with an excellent bass response.

Suitable for background music, as well as more demanding foreground music applications, it is mounted on a ball joint bracket allowing for orientation in a variety of ways.

The JD Series is available in a choice of black or white.



MODEL	Frequency response	SPL dB @1w/1m	SPL dB @Max Power	Dispersion @ 4 kHz	Weight	Dimensions HxWxD	XFRMR TAPS
<b>JD10XT</b>	120-20 kHz	89	102	115 x 45	3.3 lbs	8.5 x 5.5 x 4.5	20, 10, 5, 2.5, 1.25
<b>JD20XT</b>	90-20 kHz	85	99	120 x 50	3.7 lbs	9 x 5.5 x 5.5	20, 10, 5, 2.5
<b>JD20S-16</b>	90-20 kHz	85	102(@30 W)	120 x 50	3.3 lbs	9 x 5.5 x 5.5	16 Ohm
<b>JD40XT</b>	75-20 kHz	85	105(@30 W)	120 x 50	7.5 lbs	12 x 8 x 7	40, 20, 10, 5

## GB20T

### Spherical Loudspeaker System

The GB20T is a classic white sphere that is omnidirectional in nature. It contains a 6-1/2" twin-cone speaker with 10-oz magnet and transformer. Able to hold up to 10 times its own weight, the pendant mount has a white jacketed cable that extends 116 inches.

Providing a 360° dispersion pattern, it is ideal for open-plan areas where beauty is as important as sound quality. The round 10" ABS housing not only is extremely strong, but has a UV Inhibitor molded in to help protect its housing from the elements.



MODEL	Frequency response	SPL dB @1w/1m	Output Power	Weight	Transformer 70.7-VOLT TAPS
<b>GB20T</b>	170-17 kHz	94	20 Watts	3.3 lbs	20, 10, 5, 2.5



# Speakers

## MCS

### Metal Column Speaker System



The MCS series of column speakers is a precision-engineered miniature line-array, designed for smooth, wide dispersion without the need of a DSP controller. Architecturally and visually pleasing, our MCS speakers take advantage of the principles of line-array to deliver controlled vertical coverage, wide horizontal coverage, and phase-accurate sound. We offer three sizes to give you the greatest choice in vertical control.

Considered a mid-high pack, the MCS is based on precisely aligned 3 1/2" treated cone speakers, with a moving-coil dynamic (non-compression) horn tweeter for extremely smooth response. For applications where less bass is required, the MCS is a great low-profile solution.

The cabinets are very solid extruded aluminum, and are designed to be weather resistant, including a weather-sealed cable entry gland-nut. Die-cast aluminum end caps have a screwdriver adjustment for 70v tap setting.

		500	1K	2K	4K	8K
MCS20T	V	118	69	26	16	43
	H	180	160	110	80	60
MCS40T	V	80	40	23	13	30
	H	180	160	121	80	60
MCS80T	V	47	27	21	20	43
	H	180	175	125	80	60

Dispersion characteristics in degrees; orientation (H) horizontal (V) Vertical

MODEL	Frequency response	SPL dB @1w/1m	Cone Size	Speaker used	Transformer 70.7-VOLT TAPS
<b>MCS20T</b>	230-20 kHz	91	3-1/2"	2+Tweeter	20, 10, 5, 2.5
<b>MCS40T</b>	200-20 kHz	93	3-1/2"	4+Tweeter	40, 20, 10, 5
<b>MCS80T</b>	180-20 kHz	96	3-1/2"	8+Tweeter	80, 40, 20, 10

## PH SERIES

### Paging Projectors



PH Series paging horns provide high efficiency, economy, sturdy mounting and 70.7-volt output for long-runs or multiple horns powered by the same amplifier.

Connection is via 5-conductor, 17" bare-ended cables through a gland nut. Their weather-sealed, all-white housings are protected by UV inhibitors, have stainless steel hardware and an attached bail mount bracket.

MODEL	Rated output	SPL dB @1w/1m	SPL 70.7-Volt Full Power	Dimensions H x D	Weight	Wattage TAPS
<b>PH10T</b>	10 Watts	102	112	5.47 x 7.87	2.87 lbs	10, 5, 2.5, 1.25
<b>PH20T</b>	20 Watts	105	118	7.99 x 10	4.19 lbs	20, 10, 5, 2.5
<b>PH30T</b>	30 Watts	107	121	9.37 x 11.3	5.07 lbs	30, 15, 7.5, 3.75



## CELL SERIES

### Sound and Bi-directional Projectors

The CELL Series is similar to the CAD Series but with housings made of thick aluminum extrusions. Rugged but elegant CELLS have baked-on white epoxy finish.

Components include dual-cone 5-1/4" speakers, 25/70.7-Volt transformers, aluminum grilles and white, 5-conductor, 16" bare-ended cables.

The bi-directional CELL10BDT is designed for indoor hallway applications that include schools, hospitals and

office buildings. Paper cone speakers with 25/70.7-Volt transformers are placed at either end of the housing. Installation is via a slide-on bracket with setscrew that can be mounted onto a single-gang electrical-outlet-box cover or directly to a wall.

Designed for outdoor use, the CELL20BDT is ideal for bi directional applications in shopping malls, train stations and transportation facilities.



MODEL	Frequency response	SPL dB @1w/1m	SPL dB Full Power	Output Power	Transformer TAPS 70.7-VOLT
<b>CELL20T</b>	160-18 kHz	90	117	20 Watts	20, 10, 5, 2.5
<b>CELL10T</b>	180-20 kHz	90	115	10 Watts	10, 5, 2.5, 1.25
<b>CELL10BDT</b>	170-19 kHz	95	120	20 Watts	20, 10, 5, 2.5
<b>CELL20BDT</b>	190-17 kHz	94	124	40 Watts	40, 20, 10, 5
<b>CELL20DT</b>	160-18 Khz	90	117	20 Watts	20, 10, 5, 2.5

## CAD SERIES

### Music and Sound Projectors

Aesthetically excellent, CAD music/sound projectors combine a warm tonal character with high intelligibility and a 100° dispersion. Models use 5-1/4" speakers with polypropylene twin cones, 10-oz magnet motors, 70.7-volt transformers and internal 10 or 20-Watt loudspeakers.

The internal connection is made to a terminal block through a gland nut with customer supplied cable.

Weather resistant, CAD models have stainless steel hardware and a durable ABS housing with UV inhibitors for protection against sunlight. A unique "U" bracket is supplied for mounting.

Finished in flat black, the CAD20T-B hides well in dark ceiling applications. All models may be refinished with epoxy paint to match decor.



MODEL	Frequency response	Output Power	SPL dB @1w/1m	SPL dB Full Power	Transformer 70.7-VOLT TAPS
<b>CAD20T</b>	160-19 kHz	20 Watts	91	117	20, 10, 5, 2.5
<b>CAD10T</b>	180-20 kHz	10 Watts	91	113	10, 5, 2.5, 1.25

## MSH SERIES

### Large Format Music and Sound Projectors



The MSH Series was designed to reproduce music and voice at high levels, and is optimized for installation in larger outdoor or indoor venues, including athletic fields, country clubs, pools, gyms, and portable use such as street fairs, air shows, and similar applications. Its smooth, wide frequency response and wide dispersion angle are perfect where full-range and high output are desired for music and announcement applications.

Mounting hardware is stainless steel, while the light gray ABS housing is treated with UV inhibitors for protection from the sunlight.

Sealed with a silicon gasket, the rear housing has a weather-tight cable gland-nut that allows for up to .79 inches cable size. Mounting is via a versatile yoke bracket for precise aiming and stable support. Complete with a screen for protection against birds and nesting insects

This trouble-free music horn is loaded with features designed for longevity and high level performance. Speaker complement consists of a 6-1/2" backward-firing weather treated code, and smooth yet powerful horn tweeter, with high-power 70 V transformer.

		500	1K	2K	4K	8K
MSH60T	V	118	69	26	16	43
	H	180	160	110	80	60

Dispersion characteristics in degrees; orientation (H) horizontal (V) Vertical

MODEL	Frequency response	Related Power	SPL dB @1w/1m	Dispersion @ 2 kHz	Weight	Transformer 70.7-VOLT TAPS
<b>MSH60T</b>	100-20 kHz	75 Watts	99	112° x 90°	27.4 lbs	60, 30, 15, 7.5
<b>MSH30T</b>	100-20 kHz	35 Watts	99	112° x 90°	26.4 lbs	30, 15, 7.5, 3.75

## MPS SERIES

### Medium Format Music and Sound Projectors



Similar to the MSH Series (above), the MPS Music and Sound Projector is a completely weatherized unit suitable for use in harsh outdoor environments (IP 66).

Despite its rugged nature, the MPS reproduces music with astonishing fidelity. Smaller than the MSH, the MPS still provides many of the same qualities like high sound pressure levels, directivity and high speech intelligibility.

MODEL	Frequency response	Related Power	SPL dB @1w/1m	Dispersion @ 2 kHz	Weight	Transformer 70.7-VOLT TAPS
<b>MPS15T</b>	190-20 kHz	20 Watts	97	90° x 50°	7.92 lbs	15, 7.5, 3.75, 1.87
<b>MPS30T</b>	190-20 kHz	35 Watts	97	90° x 50°	7.92 lbs	30, 15, 7.5, 3.75



## VAT SERIES

### VAT Attenuators

The VAT Series monaural attenuators are available in 20, 40 and 100-watt models. Built for durability, long life and great aesthetics, they flush mount in standard commercial-grade electrical outlet boxes. Patented knobs have been designed to mount without setscrews for superb eye appeal. Colors, rack mounting and priority features are available.

The autotransformers used in this series are made of the finest materials including sealed switches, silver-plated contacts, high-quality steel and copper wire. Therefore, they have a flat, wide frequency response from 20-20,000 Hz. Units have ten 3 dB attenuation steps and

positive off position, each clearly indicated on the plate. Total attenuation is 30 dB. All models have make-before-break contacts for continuous sound without unwanted electronic signals.

The VAT Series has a number of options. To order priority switching, add “-PS” immediately after the model number. To indicate color required add a suffix as follows: (-W) white knob and wallplate; or (-S) stainless steel wallplate and black knob.

(Example: VAT20-PS-W indicates priority switching with white knob and wallplate.)



MODEL	Power rating	Frequency response	Dimensions H x W x D	Plate size	Insertion Loss	Priority switch	Weight
<b>VAT20</b>	20 Watts	20 Hz-20 kHz	4.5 x 2.75 x 2.5	1 Gang	.4 dB	No	0.75 lbs
<b>VAT-PS</b>	20 Watts	20 Hz-20 kHz	4.5 x 2.75 x 2.5	1 Gang	.4 dB	Yes	0.85 lbs
<b>VAT40</b>	40 Watts	20 Hz-20 kHz	4.5 x 2.75 x 2.5	1 Gang	.6 dB	No	1.00 lbs
<b>VAT-40PS</b>	40 Watts	20 Hz-20 kHz	4.5 x 2.75 x 2.5	1 Gang	.6 dB	Yes	1.10 lbs
<b>VAT100</b>	100 Watts	20 Hz-20 kHz	4.5 x 5.25 x 2.5	1 Gang	.6 dB	No	1.60 lbs
<b>VAT100-PS</b>	100 Watts	20 Hz-20 kHz	4.5 x 5.25 x 2.5	1 Gang	.6 dB	Yes	1.70 lbs

## “PD” SERIES

### PD Compression Drivers

The conservatively rated “PD” Series drivers when mounted on “H” Series large format horns are designed to “cut through” in high-noise environments and over long distances. Their housings are zinc die-cast to protect the inner workings and have a fine screen to protect against nesting insects. Their screw-on design with a 1-3/8”-#18 pitch prevents air or water leakage.

Available in 16-ohm or 70.7-Volt models, this versatile line may be connected in series or parallel, as the application requires. As with most high performance drivers, replacement diaphragms are available.



MODEL	Frequency response	Output	Power connection	Power handling	Dimensions Inches
<b>PD30</b>	180-7.000 Hz	16 Ohms	30 Watts	35 Watts	4.49 x 4.14
<b>PD30T</b>	180-7.000 Hz	70.7 Ohms	30, 15, 7.5 Watts	35 Watts	5.00 x 5.83
<b>PD60</b>	160-7.000 Hz	16 Ohms	60 Watts	75 Watts	5.00 x 4.73
<b>PD60T</b>	160-7.000 Hz	70.7 Ohms	60, 30, 15 Watts	75 Watts	5.83 x 5.83

# Consoles & Accessories

## BBX / BRG / MBK

### Mounting Accessories



Loudspeaker **Mounting Accessories** assist speedy but secure installation of LCS/PCS, CCS Series, and torsion-mount RCS speaker packages.

Designed to work in tandem with BRG tile bridges, the one-piece **BBX enclosures** are heavy-gauge cold-rolled steel (CRS) black epoxy coated to prevent rust. They protect speakers, increase SPL and enhance low frequencies. Utilizing recycled-wool sounddeadening pads, models have perforated “earthquake” straps and four combination 3/4”–1-1/8” plus four 5/8” knockouts.

The BBX is also available for blind mount installations by adding the suffix (H) to the model number.

**BRG Tile Bridges** have positioning flanges to hold enclosures snugly without fasteners, allowing quicker installation. Each is made of heavy-gauge galvanized steel with strengthening ribs; additional positioning attachment holes are pre-drilled in each unit.

**MBK Mounting Brackets with Slide-and-Lock™** members attach torsion-spring RCS Series speaker packages in “blind-mount” and other applications.

MODEL	Description	Mounting SPKR Size	Speaker	Mounts with	Dimensions Inches
<b>BBX5</b>	Enclosure	5.25" Torsion	RCS5	BRG5	6.25 x 6.125 x 3.75
<b>BBX6</b>	Enclosure	6.5" Torsion	RCS6	BRG6	7.5 x 7.25 x 3.75
<b>BBX8</b>	Enclosure	8" Torsion	RCS8	BRG8	9.31 x 9 x 4.25
<b>BBX8B</b>	Enclosure	8" Screw	LCS/PCS	BRG8B	10 x 8.25 x 4.5
<b>BRG4</b>	Tile Bridge	-	CCS4	-	23.75 x 11 x 0.5
<b>BRG5</b>	Tile Bridge	5.25" Torsion	RCS5	BBX5	23.75 x 11 x 0.5
<b>BRG6</b>	Tile Bridge	6.5" Torsion	RCS6	BBX6	23.75 x 12.75 x 0.5
<b>CBG06</b>	Tile Bridge	-	CCS6	-	23.75 x 12.75 x 0.5
<b>BRG8</b>	Tile Bridge	8" Torsion	RCS8	BBX8	23.75 x 11 x 0.5
<b>BRG8B</b>	Tile Bridge	8" Screw	LCS/PCS	BBX8B	23.75 x 14 x 0.6
<b>MBK5</b>	Mounting Brkt	5.25" Torsion	RCS5	-	6.5 x 2.375 x 4.5
<b>MBK6</b>	Mounting Brkt	6.5" Torsion	RCS6	-	8.375 x 2.375 x 4.5
<b>MBK8</b>	Mounting Brkt	8" Torsion	RCS8	-	9.5 x 2.375 x 4.5

## “D” SERIES

### Desktop Paging Microphones



The low-impedance, “D” Series, desktop paging microphones have a supercardioid polar pattern that greatly reduces unwanted feedback. Their remarkably slim design is made possible by a neodymium magnet structure, slim gooseneck and special windscreen construction. The lightweight zinc die-case base is topped with ABS to support its 2 mm steel gooseneck and turned aluminum capsule housing. The entire unit is finished in matte black with white accents.

Ideal for restaurants, factories, warehouses and other paging systems, they are used by office managers, receptionists, secretaries, hosts/hostesses and other attendants.

The DSM2010 has a momentary P-T-T switch, while the DSM2000 has both the P-T-T as well as a lock-on feature.



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