PA430
PA430T

Constant-Directivity Paging Projector

COMMERCIAL

General Product Description

The PA430 and PA430T are 30-watt constant-directivity paging projectors for use in any public address or paging application.

The drivers employ rugged phenolic diaphragms, 1.5 inch diameter voice coils and “rim centered” ferrite magnet structures for long life and reliability under extreme operating conditions.

A 12 inch connecting cable, color coded for phase, is provided for connecting to the PA 430 and PA430T.

The transformer model (PA430T) includes connections for 25V, 70.7V, and 100V distributed systems and a screwdriver-operated power tap select switch. (Patent #4, 775, 766)

A nominal 60° horizontal by 40° vertical coverage pattern together with a low-frequency cutoff of 350 Hz provides excellent articulation in demanding applications.

The PA430 (PA430T) is molded from high-impact ultraviolet-inhibiting acrylic-styrene-acrylonitrile (ASA). A positive lock, super tough nylon swivel base and rear housing provides maximum mounting flexibility and ease of installation. (Patent #4,984,278)

Ideal for both indoor and outdoor applications, these drivers are well suited for any installation requiring rugged, reliable performance.



University Sound® Series

Architects’ and Engineers’ Specifications

The loudspeaker(s) shall be an integral driver and constant-directivity horn utilizing a rugged phenolic diaphragm and high-temperature-rated, 1.5-inch diameter voice coil.

The axial frequency response will extend from 400 to 6,500 Hz, and the horn shall exhibit a low-frequency cutoff of 350 Hz. Sound pressure level will be 107 dB (1 W/1 m) with a 500 to 5,000 Hz pink-noise signal applied, and the horn will produce a horizontal beamwidth of 60° and a vertical beamwidth of 40° from 1 kHz to 10 kHz.

The loudspeaker(s) shall be capable of handling a 30 watt, 500 to 5,000 Hz pink-noise signal with a 6 dB crest factor for a period of 8 hours.

The horn shall be molded, high-impact acrylic-styrene-acrylonitrile (ASA) capable of satisfactory mechanical performance in the temperature range from -4°C (-40°F) to 71°C (160°F) and not subject to sunlight embrittlement. Other major external speaker parts shall be molded nylon, finished in mesa tan to match the horn. All components shall be resistant to damage from weather, moisture and fungus.

A positive-lock swivel bracket shall provide orientation adjustment in all three places. Adjustments are made by loosening one or both of the locking nuts on the mounting hoop.

The loudspeaker(s) shall be 22.6 cm (8.9 in.) high, 30.7 cm (12.1 in.) wide and 31.0 cm (12.2 in.) deep - PA430; or 35.8 cm (14.1 in.) deep - PA430T.

The loudspeakers shall be the PA430, which has a nominal impedance of 8 ohms and weighs no more than 1.4 kg (3.0 lb); and the PA430T, which includes a 100V/70.7V/25V line-matching transformer, and has a nominal impedance of 8 ohms and weighs no more than 1.7 kg (3.8 lb).

Specifications:

Frequency Response: ..... 400-6,500 Hz ±5 dB (see Figure 1)

Power Handling, 8 Hours, 6 dB Crest Factor:
..... 30 watts (500-5,000 Hz pink noise)

Impedance: ..... Nominal: 8 ohms
..... Minimum, Above 500 Hz: 6.5 ohms (650 Hz)

Sound Pressure Level at 1 Meter, 1 Watt Input Averaged, Pink Noise Band-Limited from 500 to 5,000 Hz:
..... 107 dB

Beamwidth: ..... -6 dB @ 1.0 kHz to 10 kHz (see Figure 2)

Horizontal Beamwidth:
..... 60° (+20°, -20°) (see Figure 2)



Vertical Beamwidth:
..... 40° (+20°, -10°) (see Figure 2)



Directivity Factor R_θ (Q): ..... 15.2 @ 2 kHz

Usable Low-Frequency Limit: ..... 350 Hz

Construction:

High impact acrylic-styrene-acrylonitrile (ASA) with ultraviolet light inhibiting mesa tan finish. Positive-lock super tough nylon swivel base and rear housing.

Voice-Coil Diameter: ..... 3.81 cm (1.5 in.)

Magnet Weight: ..... 0.28 kg (0.63 lb)

Magnet Material: ..... Strontium ferrite

Flux Density: ..... 1.30 Tesla

Dimensions:

Height: PA430/PA430T ..... 22.6 cm (8.9 in.)

Width: PA430/PA430T ..... 30.7 cm (12.1 in.)

Depth: PA430 ..... 31.0 cm (12.2 in.)
PA430T ..... 35.8 cm (14.1 in.)

Net Weight: PA430 ..... 1.4 kg (3.0 lb)
PA430T ..... 1.7 kg (3.8 lb)

Shipping Weight: PA430 ..... 1.7 kg (3.8 lb)
PA430T ..... 2.1 kg (4.6 lb)

Electro-Voice®

Installation

The PA430 has been designed to accommodate a wide range of mounting and aiming requirements.

Mounting to wall, ceiling or to electrical boxes is accomplished without the common requirement of adding a steel plate to the base. Bonding straps may be used for mounting to beams. All mounting holes are knocked through only as needed, preserving a seal in the remaining knockout areas.

Wiring is enclosed within the product base, providing physical protection of wiring and personnel.

The mounting assembly provides three means of adjustment, allowing the horn to be oriented for any coverage pattern desired. Adjustment is accomplished with nuts that require minimal torque to maintain horn position and may be tightened by hand.

During installation, after punching out the desired attachments, the base and horn are loosely secured with one screw. This leaves hands free to wire nut the product zip cord and feed wiring together. After tucking wire connections into the electrical box or base, install remaining screws.

Transformer Model (PA430T)

A transformer and power selector switch are installed in the rear housing.

The level of the PA430T may be adjusted by moving the switch setting (see Table 2) using a coin or screwdriver; turn clockwise to increase the power. Since the same switch and transformer are used for either the 100 volt, 70.7 volt or 25 volt line, the power setting depends upon the amplifier output that is used, 100 volt, 70.7 volt or 25 volt.

CAUTION: When connected to a 100 volt or 70.7 volt line, do not use the switch settings marked "**DO NOT USE**," as this may result in excessive power driving the PA430T.

Low-Frequency Driver Protection

For proper system operation, program information should be highpassed at 300 Hz or higher with at least a 6 dB per octave slope filter. This is best accomplished before the power amplifier using a low-level crossover; however, protection of amplifier and paging projector may alternately be accomplished using a capacitor in series with the projector. Table 1 gives values for such protection capacitor. Polyester capacitors are recommended, but non-polarized electrolytic or two series back-to-back connected electrolytics, each of twice the value shown, may be used.

Table 1 - Recommended Series Protection Capacitor

8 Ohm Driver	25 Volt Line	70.7 Volt Line	100 Volt Line
25 V	50 V	150 V	150 V
100 *mf*	50 *mf*	5 *mf*	2.5 *mf*

Table 2 - Power Taps

Power	Impedance		
	100 Volt	**70.7 Volt**	**25 Volt**
30 W	335Ω	167Ω	-
15 W	670Ω	335Ω	42Ω
7.5 W	1,360Ω	670Ω	84Ω
3.7 W	2,700Ω	1,360Ω	170Ω
1.9 W	5,400Ω	2,700Ω	340Ω

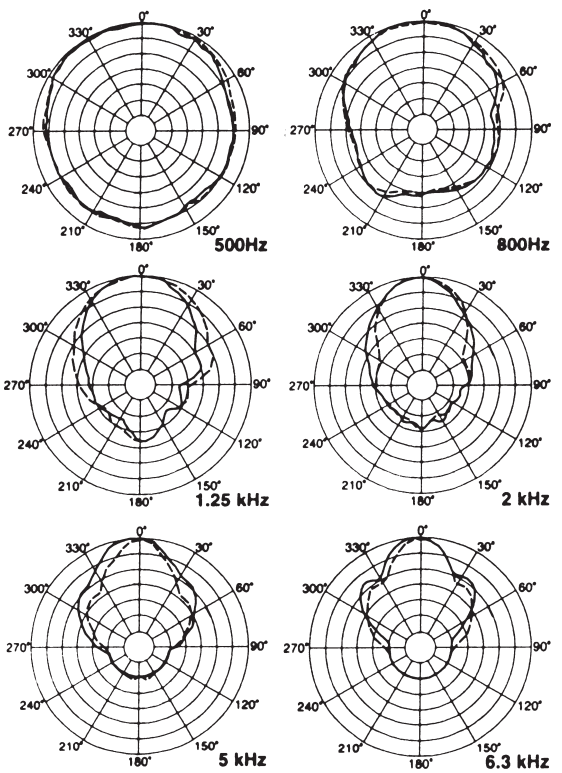


Figure 1
PA430 Polar Response

Figure 2
PA430 Frequency Response
(1 watt at 1 meter)

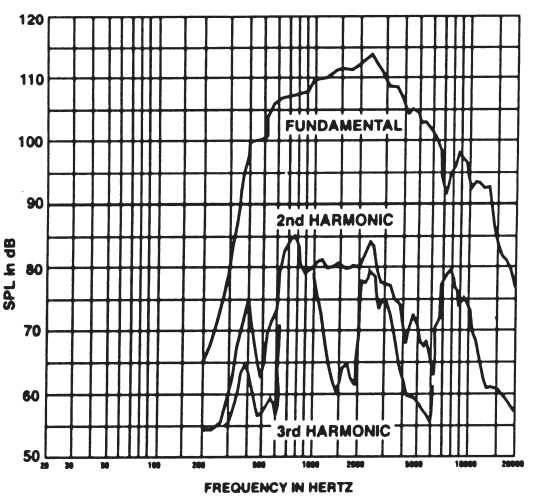
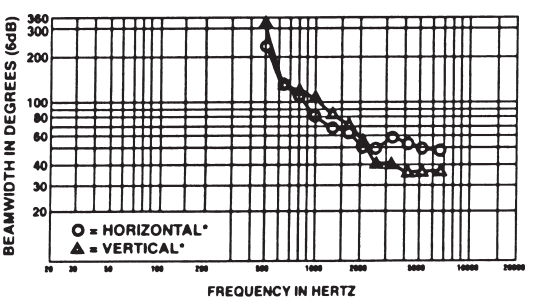


Figure 3
PA430
Beamwidth vs. Frequency



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Electro-Voice®

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For customer orders, contact the Customer Service department at 800/392-3497 Fax: 800/955-6831
For warranty repair or service information, contact the Service Repair department at 800/685-2606
For technical assistance, contact Technical Support at 1(866)78AUDIO
Please refer to the Engineering Data Sheet for warranty information.
Specifications subject to change without notice.