

## Vision Series

■ The PA121 is an extremely versatile wide-dispersion, two-way loudspeaker system offering substantial power and value for a variety of professional applications that include primary sound reinforcement and supplementary fill for larger systems.

■ The low-frequency transducer is a 12" woofer with a sturdy 3" voice coil. The high-frequency section combines a modified constant directivity horn having a 1" exit, coupled to a compression driver with a 1.75" diaphragm assembly.

■ The system includes a high-level crossover network that features markedly lower (than conventional) inductance values in series with the woofer. We call this innovation LICC (Low Impedance Compensated Crossover). The benefit is delay reduction, reduced phase shift and superior transient response. Dynamic high-frequency driver protection is accomplished with a fast-response filament resistor, chosen to complement the power curve of the driver. The PA121's crossover is easily bypassed for bi-amp or tri-amp (with the PA180SW) operation via an installer-accessible changeover block. Back panel indicators display the current system setting.

■ The RCF PA121 is a part of the VISION family of loudspeaker products including full-range, cost-effective, two-way loudspeakers and complementary subwoofer cabinets. The two-way enclosures have a trapezoidal footprint for easy array configuration. All enclosures are constructed using 19mm void-free, birch plywood and finished with a scratch-resistant black coating. Transducer components are protected from the environment by a heavy gauge metal grille with open-cell poly fiber backing. The VISION products are eminently suited for fixed installation, ready for suspension, via built-in M10 inserts with metal reinforcement and forged shoulder eyebolt hardware.

## Two-Way Speaker System



### Features

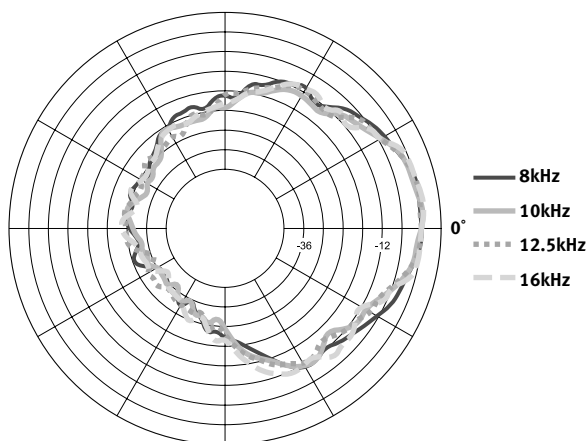
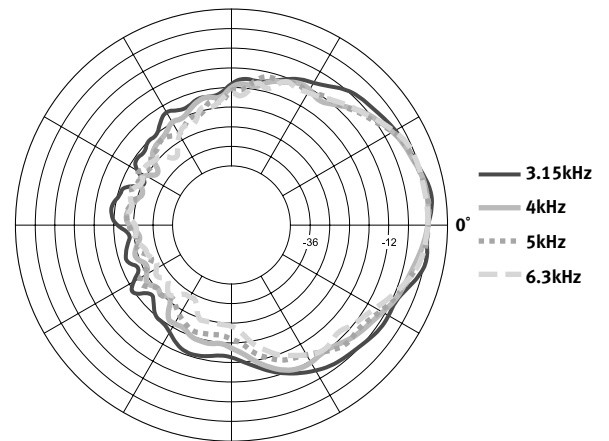
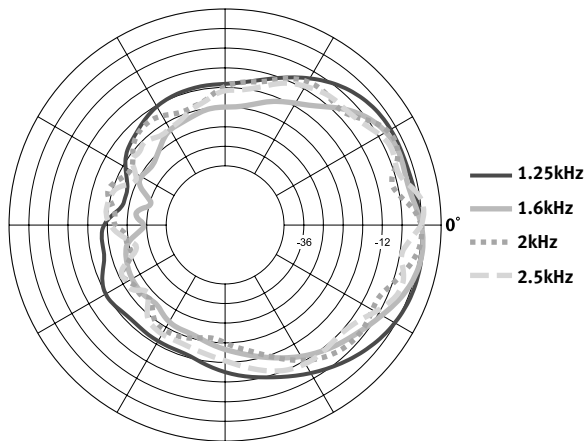
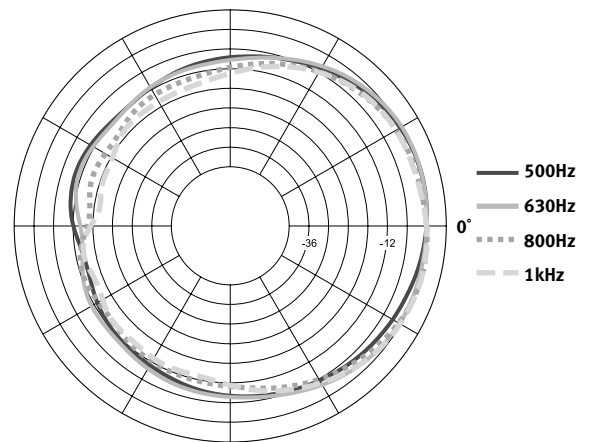
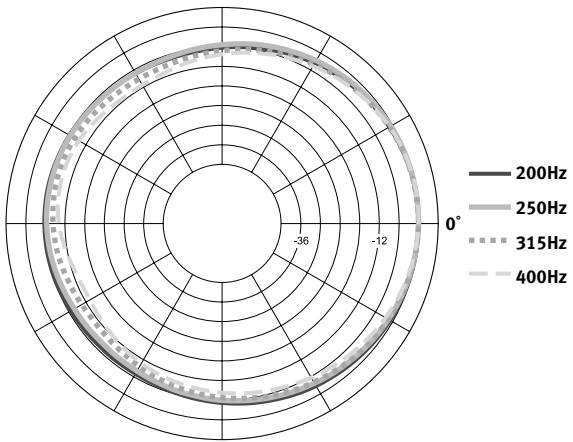
- 12" high-efficiency, 3" voice-coil LF transducer
- 90° x 70° modified constant directivity horn with 1" compression driver
- Dual-function design: built-in passive crossover or external bi-amp
- Trapezoidal enclosure for array configurations
- HF driver dynamic protection
- 19mm birch plywood construction
- Twelve suspension points (M10) and standard eyebolt hardware
- Barrier connections for permanent install-provided, Speakon® optional
- Integrated hand-carry locations

- Cluster Configurations
- Live Music Reinforcement
- High-Level AV Playback
- Large Speech Systems

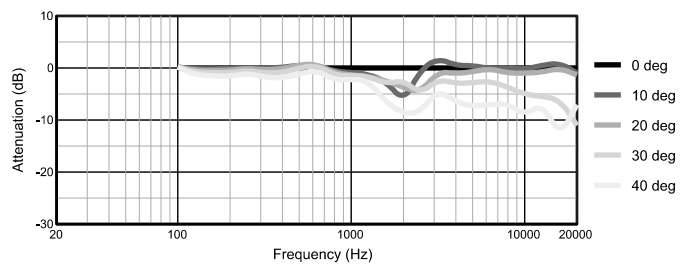


# PA121 Two-Way Speaker System

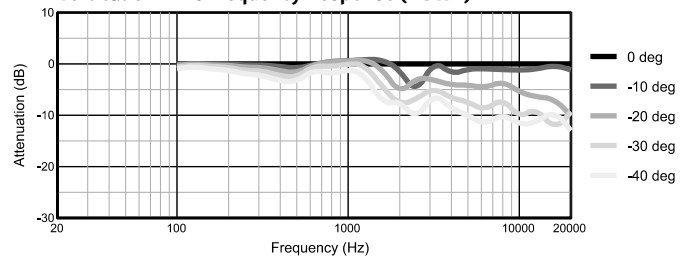
## PA121 Vertical Polars



Vertical Off-Axis Frequency Response (UP)



Vertical Off-Axis Frequency Response (DOWN)



# PA121 Two-Way Speaker System



## Architects' & Engineers' Specifications

The two-way loudspeaker system shall be self-contained and consist of the following components: (1) a 12-inch, low-frequency driver; (2) a high-frequency section consisting of a constant directivity horn and compression driver; (3) a two-way crossover network; (4) a vented enclosure.

The low-frequency transducer shall be a cone type loudspeaker having a cone diameter of at least 12 inches (300mm). It shall have a voice coil of at least 3 inches (76mm) in diameter. It shall present a load impedance of  $8\Omega$ . Sensitivity shall be at least 99dB when measured at 1m with an input of 1 Watt and have a power rating of at least 250 Watts (AES), 1000 Watts peak.

The high-frequency section shall have a compression driver with a diaphragm of at least 1.75 inches (44mm) in diameter. It shall present a constant impedance load of  $8\Omega$ . It shall be connected to a constant directivity horn having a throat diameter of at least 1 inch (25mm) and a nominal coverage pattern of  $90^\circ$  horizontal by  $70^\circ$  vertical. Sensitivity shall be at least 107dB when measured at 1m with an input of 1 Watt and the power rating shall be at least 35 Watts (AES), 140 Watts peak.

The system shall be crossed over by an internal, high-level, passive network having a response of 12dB/octave. The nominal crossover frequency shall be 2kHz. The low-pass section of the network shall have minimum inductance in series with the low frequency driver. The high-pass section of the network shall be equalized to optimize the performance of the constant directivity horn. A dynamic high-frequency protection circuit based on a low-value, low-mass filament resistor shall limit the current available to the compression driver. A switch shall be provided to disconnect the crossover network, but not the high-frequency protection circuit, from the drivers to allow bi-amp operation.

The enclosure shall be a vented design with an internal volume of at least 1.94 cu. ft. and a vent tuning of 60Hz. It shall be constructed using 0.75 inch (19mm), void-free birch plywood and finished with black, scratch-resistant paint. It shall be trapezoidal shaped with  $15^\circ$  angled sides. A full size, detachable, perforated steel grille, finished in black scratch-resistant paint and lined with an open-cell poly fiber backing, shall be provided. At least 12 reinforced threaded metal sockets (M10) for

attaching mounting hardware, three eye bolts and two hand-carry locations shall also be provided. The overall dimensions of the enclosure shall not exceed 25.00 x 15.12 x 15.35 inches (637mm x 384mm x 390mm). Connections to the loudspeaker shall be a barrier strip. A Neutrik 2xNL4 Speakon® connector plate shall be available from the manufacturer as an option.

The performance of the two-way loudspeaker system shall be as follows: long-term power handling, at least 300 Watts RMS; peak power handling, at least 1200 Watts; frequency response, 100Hz–18kHz at  $-3\text{dB}$ ; maximum SPL, 129dB (anechoic–1m); sensitivity, 99dB SPL (1W/1m anechoic);  $-6\text{dB}$  coverage, measured average 2kHz–16kHz,  $90^\circ$  horizontal by  $70^\circ$  vertical. The two-way loudspeaker system shall be a model PA121 manufactured by RCF.

