



product specification

P

8 inch Coaxial Loudspeaker

prophile[™]
SERIES



Overview

The Prophile™ P is an ultra-compact, high efficiency coaxial loudspeaker that packs the output of a traditional 8 inch, horn-loaded HF loudspeaker into a much more compact enclosure. Its horizontal orientation, small vertical dimension, and trapezoidal shape allow it to be positioned extremely close to ceilings and under balconies. The P's low profile also makes it very useful as a front fill system when placed on the edge of or installed into a stage apron.

Fulcrum Acoustic's **TQ™** processing is an integral part of the P design. Sound, innovative acoustical design combined with state of the art digital processing leads to exceptional clarity and precise transient response, even at very high sound pressure levels. The required digital signal processing can be provided by one of many supported platforms.

The P is an excellent option any time extremely limited space is available. Its high efficiency results in impressive levels, and its 100° x 100° coverage and coaxial design make it especially effective in close quarters. Low frequency extension to below 100 Hz enables it to integrate well with subwoofers and at 16 ohms, the P is an ideal choice for low impedance distributed systems where a high loudspeaker-to-amplifier ratio is desirable.

Technologies

The Prophile P includes a neodymium-based coaxial transducer which allows the compression driver diaphragm to be positioned very close to the woofer voice coil. This allows the system to maintain coherent summation and consistent off axis response through a passive crossover, allowing it to be powered with a single amplifier channel.

Performance Specifications¹

Operating Mode

Single-amplified w/ DSP

Operating Range²

90 Hz to 20 kHz

Nominal Beamwidth

100° x 100°

Transducers

HF/LF: Coaxial 1.7" titanium diaphragm compression driver; 8.0" woofer, 2.0" voice coil; single neodymium magnet

Power Handling @ Nominal Impedance³

63 V / 250 W @ 16 Ω

Nominal Sensitivity @ Input Voltage⁴ (whole space)

101 dB @ 4.00 V

Nominal Maximum SPL (peak / continuous)

131 dB / 125 dB

Equalized Sensitivity @ Input Voltage⁵

95 dB @ 4.00 V

Equalized Maximum SPL⁶ (peak / continuous)

125 dB / 119 dB

Recommended Power Amplifier

250 W to 500 W @ 16 Ω

Physical Specifications

Connections

(2) Neutrik NL4 Speakon
Pin 1+/-: Full Range
Pin 2+/-: NC

Mounting / Suspension Points

(2) M6 x 1.0 yoke points

Dimensions / Weight

See pages 5 & 6

Finish

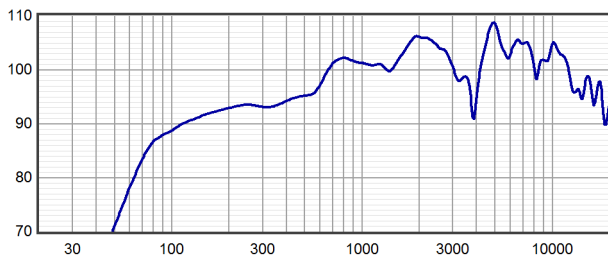
Black painted enclosure w/ matte black grille, or
White painted enclosure w/ matte white grille

Options

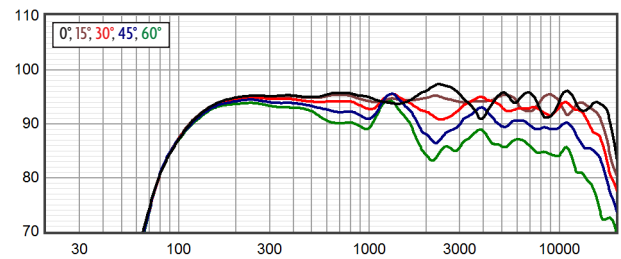
YK-P yoke bracket, Terminal strip input, Custom color finish,
Weather-resistant (WR) enclosure & hardware



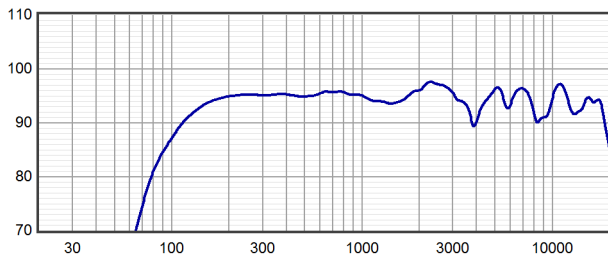
Axial Sensitivity (dB SPL, 4.0 V @ 1 m)^{7,8}



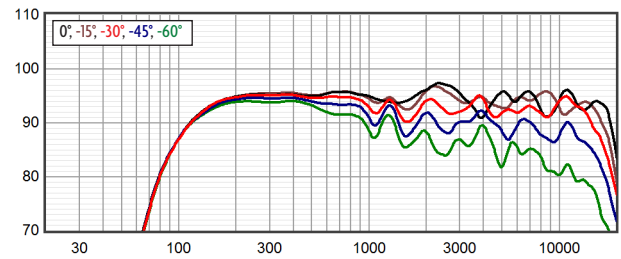
Horizontal Off Axis Response^{7,11}



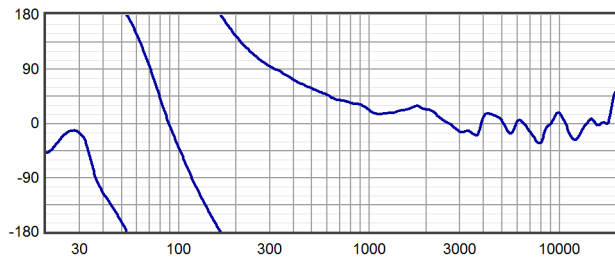
Axial Processed Response (dB)^{7,9}



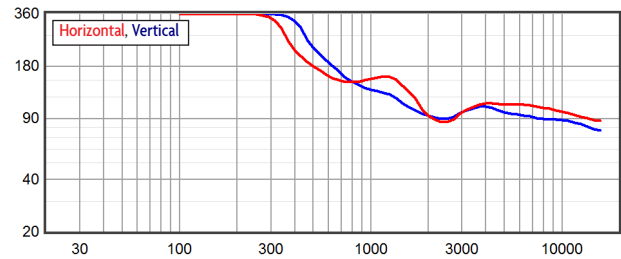
Vertical Off Axis Response^{7,11}



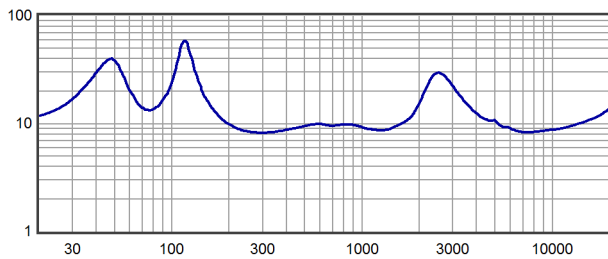
Axial Processed Phase Response (degrees)^{7,10}



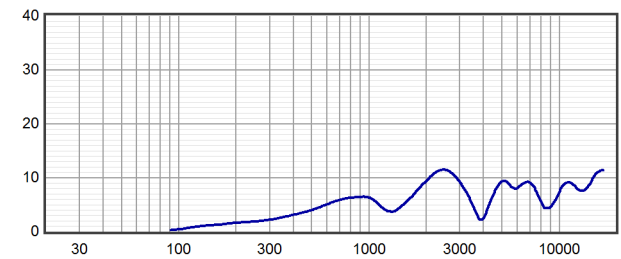
Beamwidth^{7,12}



Impedance (ohms)

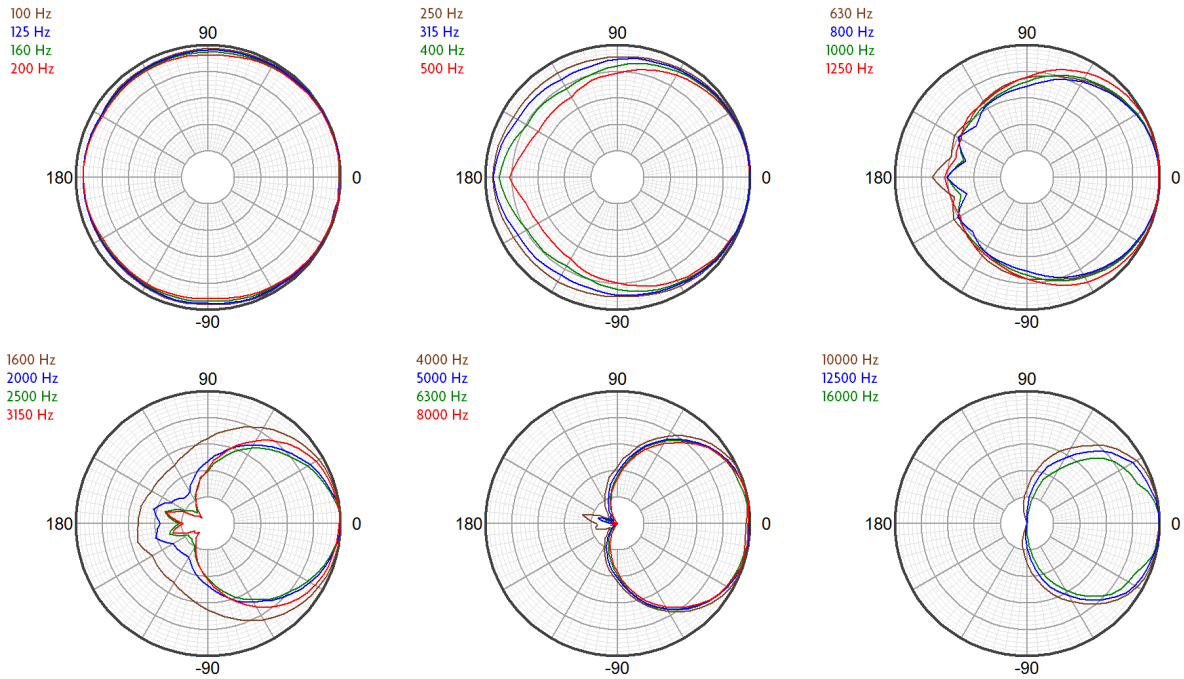


Directivity Index (dB)¹³

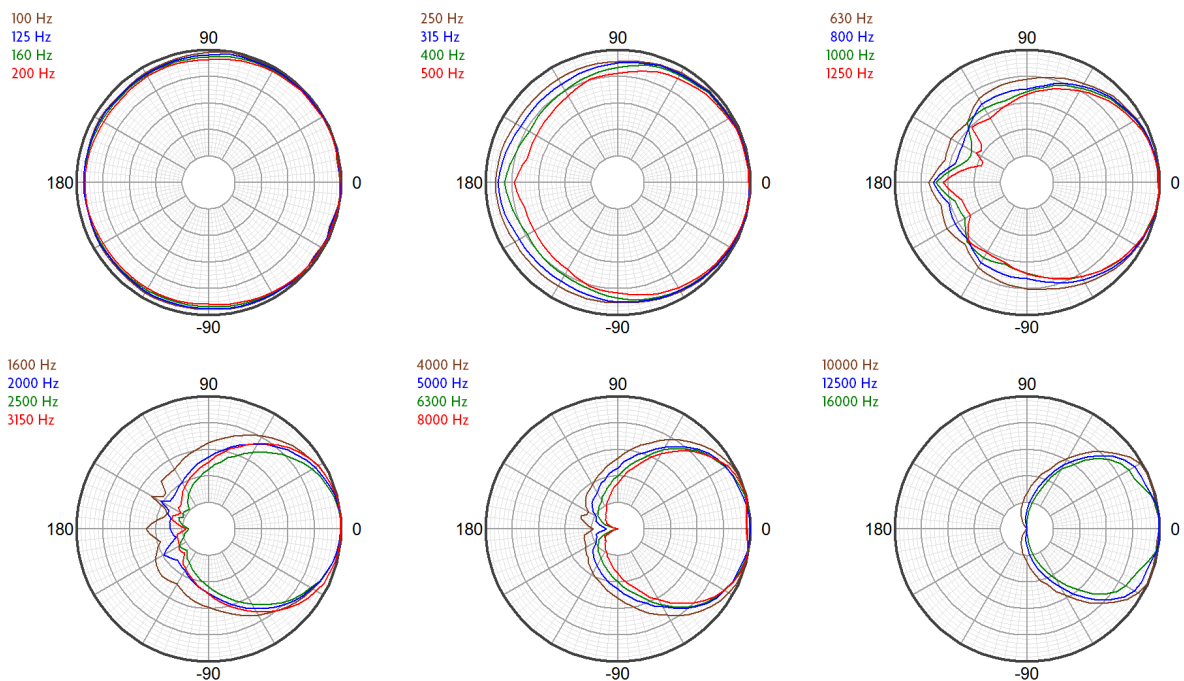




Horizontal Polar Response (30 dB Scale, 6 dB per Major Division)



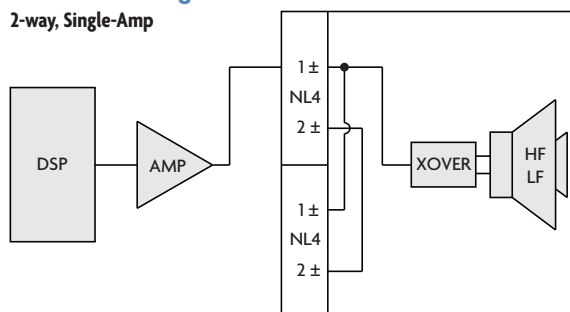
Vertical Polar Response (30 dB Scale, 6 dB per Major Division)





Connection Diagram

2-way, Single-Amp



Mechanical Specification Drawings

2D and 3D DWG dimensional drawings are available for download at www.fulcrum-acoustic.com/support.

Notes

- ¹ **Performance Specifications** All acoustic specifications rounded to nearest whole number. External DSP with Fulcrum Acoustic-provided settings is required to achieve the specified performance.
- ² **Operating Range** The frequency range within which the processed response is within 10 dB of the average.
- ³ **Power Handling** Based on the AES power handling of the transducers.
- ⁴ **Nominal Sensitivity** The 1-meter-referenced SPL produced by a 1 watt band limited pink noise signal, with no processing applied.
- ⁵ **Equalized Sensitivity** The 1-meter-referenced SPL produced when an EIA-426-B signal is applied to an equalized loudspeaker system, at a level which produces a total power of 1 watt, in sum, to the loudspeaker subsections.
- ⁶ **Equalized Maximum SPL** The 1-meter-referenced SPL produced when an EIA-426-B signal is applied to an equalized loudspeaker system, at a level which drives at least one subsection to its rated power.
- ⁷ **Resolution** All response graphs are subjected to 1/6 octave cepstral smoothing with a gaussian weighting function.
- ⁸ **Axial Sensitivity** The SPL plotted against frequency for a 1 watt swept sine wave, referenced to 1 m with no signal processing.
- ⁹ **Axial Processed Response** The axial magnitude response with recommended signal processing applied.
- ¹⁰ **Axial Processed Phase Response** The axial phase response with recommended signal processing applied, and latency removed.
- ¹¹ **Horizontal / Vertical Off Axis Responses** The magnitude response at various angles off axis, with recommended signal processing applied.
- ¹² **Beamwidth** The angle between the -6 dB points in a loudspeaker's polar response.
- ¹³ **Directivity Index (Di)** The ratio of the on-axis sound pressure squared to the spherical average of the sound pressure squared at a particular frequency expressed in dB. To convert the directivity index to directivity factor (Q) use the formula $10^{Di/10}$.