product specification

FX1295

12 inch Coaxial Vocal Monitor

tq install™ SERIES

Overview

The FX1295 is a portable, coaxial stage monitor that provides the output capability and pattern control of a normal 2-way loudspeaker in a significantly more compact enclosure. Its neodymium coaxial transducer and 90° x 45° horn provide broad coverage, and its large format 3-inch compression driver assures robust high frequency headroom. Its multi-faceted enclosure includes 45° and 60° angles for short and medium distances. For longer distances a 20° angle may be achieved by placing the enclosure on its side. In all cases the coaxial transducer may be rotated to provide appropriate coverage angles.

Fulcrum Acoustic's **TQ**™ processing is an integral part of the FX1295 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 FX1295's unique **TQPassive**™ internal crossover is designed to work in conjunction with **TQ**™ processing. It provides the high efficiency, excellent damping, and precise directional control normally associated with bi-amplified operation, but it does not require a second amplifier and processor channel. There are no resistive components in the crossover to heat up, so its response remains consistent even at high levels.

The clarity and source separation provided by the FX1295 allows performers to clearly distinguish their own voice in the midst of many others; a capability which not only helps the performers, but makes monitor mixing easier and less critical. In addition, its unique shape and compact size makes it unusually unobtrusive on stage, and non-distracting on camera. These qualities make it an ideal choice for houses of worship, theaters, performing arts centers, and more.

Performance Specifications[1]

Operating Mode
Single-amplified w/ DSP

Operating Range [2]
90 Hz to 20 kHz

Nominal Beamwidth (rotatable)
90° x 45°

Transducers
HF/LF: Coaxial 3.0" titanium diaphragm compression driver; 12.0" woofer, 3.0" voice coil; single neodymium magnet

Power Handling @ Nominal Impedance [3]
57 V / 400 W @ 8 Ω

Nominal Sensitivity @ Input Voltage [4] (whole space)
105 dB @ 2.83 V

Nominal Maximum SPL (peak / continuous)
131 dB

Equalized Sensitivity @ Input Voltage [5]
100 dB @ 2.83 V

Equalized Maximum SPL [6] (peak / continuous)
126 dB

Recommended Power Amplifier
400 W to 800 W @ 8 Ω

Physical Specifications

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

Mounting / Suspension Points
None

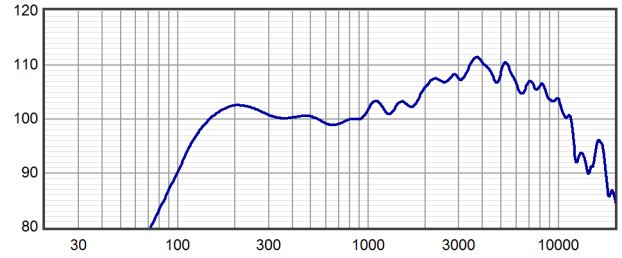
Dimensions / Weight
See page 5

Finish
Black painted enclosure w/ matte black grille

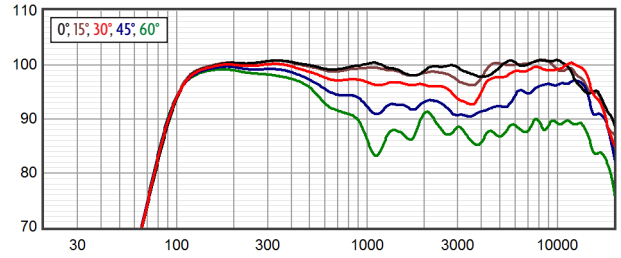
Options

White or custom color finish

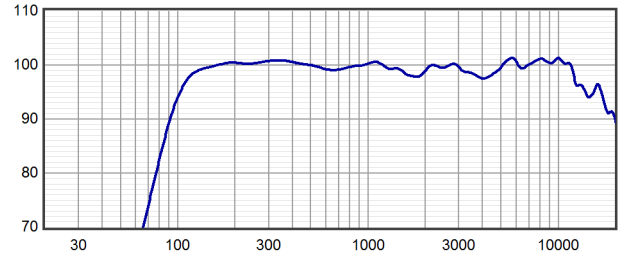
Axial Sensitivity (dB SPL, 2.83 V @ 1 m) [7, 8]



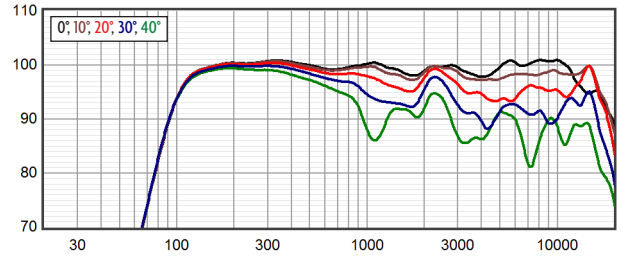
Horizontal Off Axis Response [7, 11]



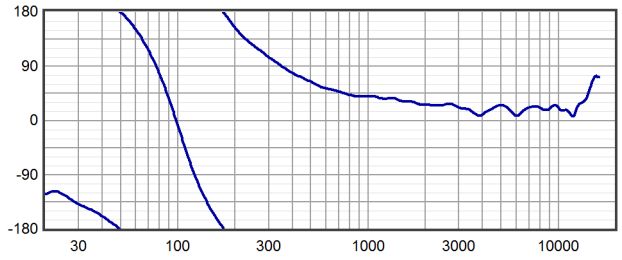
Axial Processed Response (dB) [7, 9]



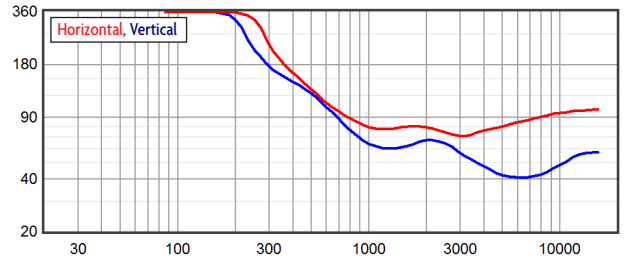
Vertical Off Axis Response [7, 11]



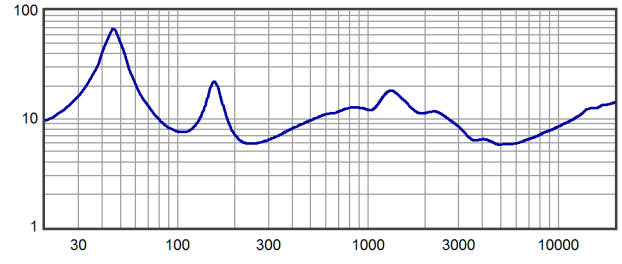
Axial Processed Phase Response (degrees) [7, 10]



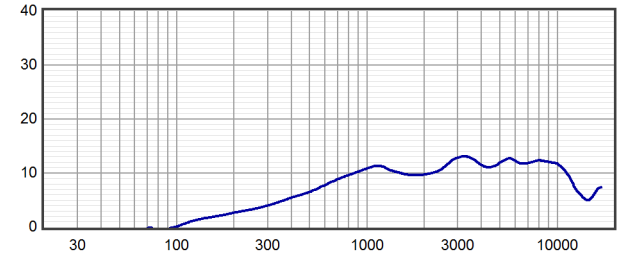
Beamwidth [7, 12]



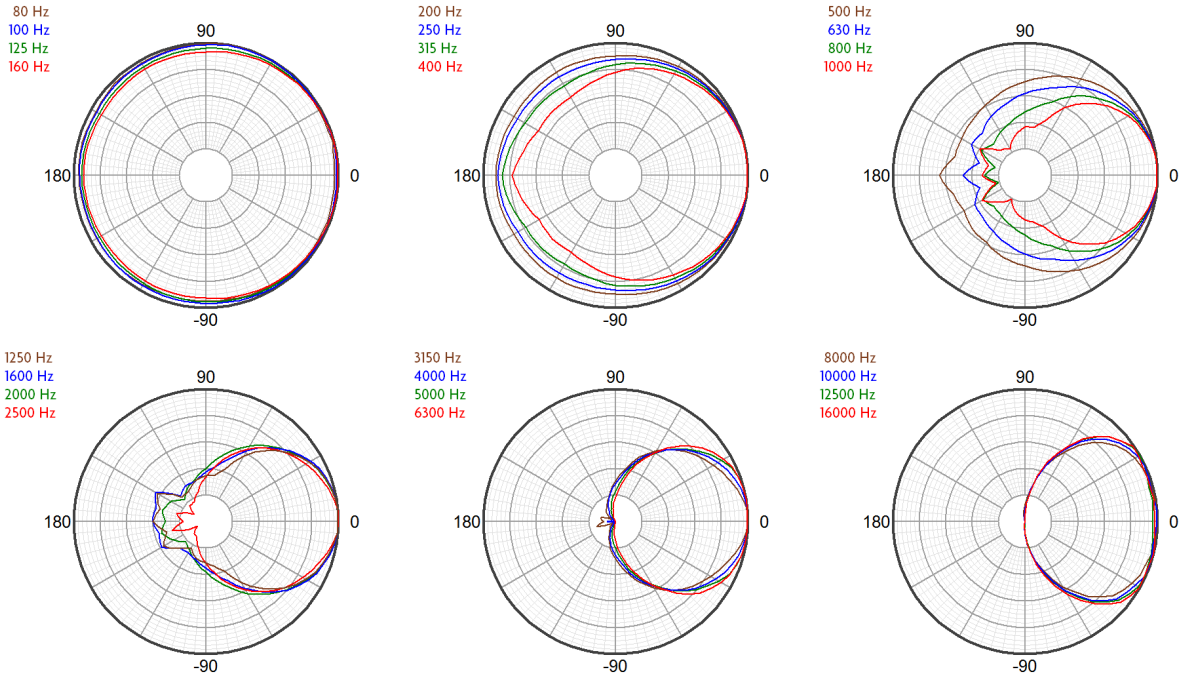
Impedance (ohms)



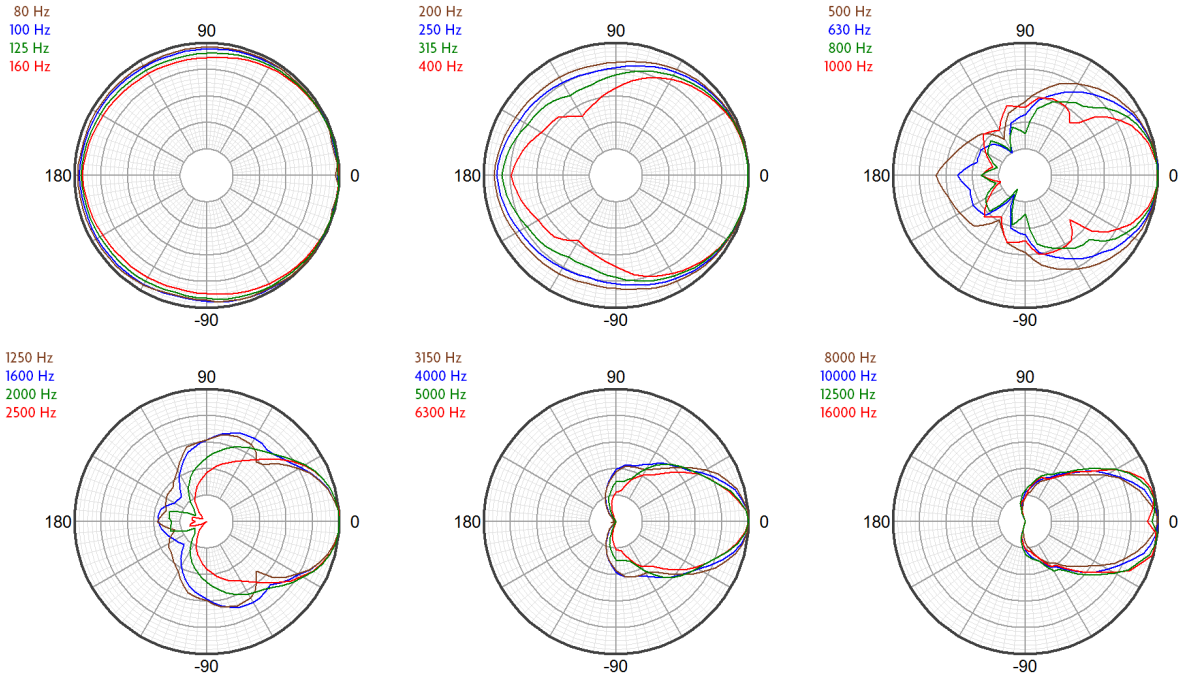
Directivity Index (dB) [13]



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



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



Technologies

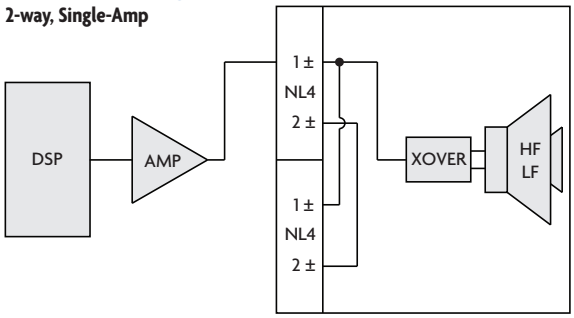
The proprietary horn employed in the FX1295 represents a modern digital-signal-processing-aware update to the traditional horn-loaded coaxial loudspeaker concept. The well-known benefits of the coaxial approach have been realized without the familiar shortcomings of historical designs. Fulcrum Acoustic's **Temporal Equalization™ (TQ™)** digital signal processing techniques eliminate midrange colorations and high frequency harshness while producing a smooth, seamless coverage pattern through the crossover range.
In fact, the coaxial transducers were designed from the ground up to take advantage of the unique capabilities of **TQ™**.

The coaxial transducer in the FX1295 includes a 3 inch diaphragm compression driver. The large diaphragm area permits the compression driver to operate at frequencies too low for smaller compression drivers to handle. This allows the high frequency horn to smooth the polar response of the low frequency section in the frequency range where the horn would otherwise cause shadowing. It also allows the compression driver to produce extreme sound pressure levels with an effortless sonic character.

The coaxial woofer's large radiating surface works in conjunction with the HF horn to improve directional control at the bottom of the horn's operating range, increasing directional control beyond what can be accomplished by the horn alone. The coaxial transducer's compact, neodymium magnet not only minimizes weight, but also allows very tight spacing between the compression driver and woofer voice coils. The delay between the driver outputs is thereby minimized, which allows the coaxial device to work well with a passive crossover.

Connection Diagram

2-way, Single-Amp



Mechanical Specification Drawings

2D and 3D DXF 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.*

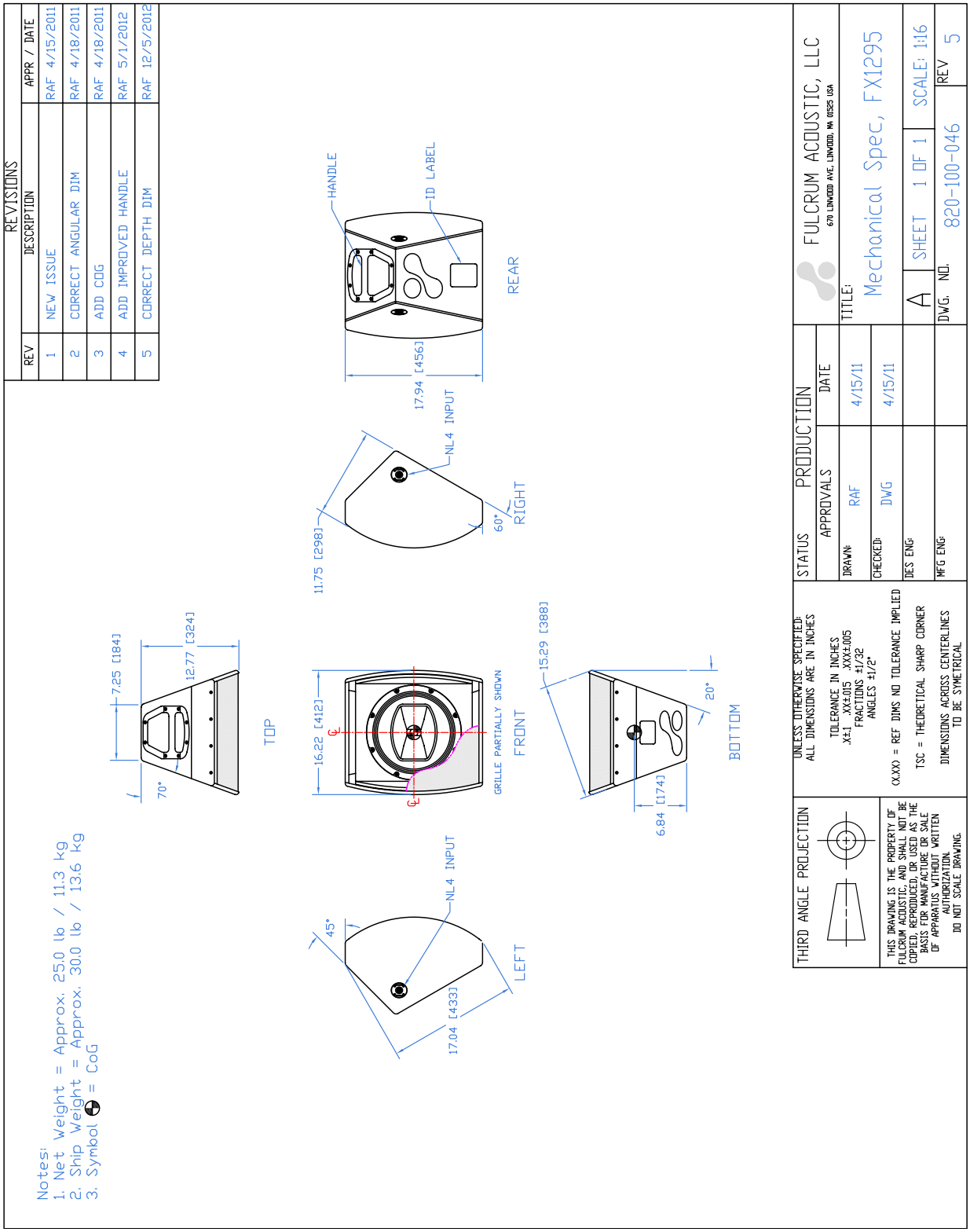
[9] **Axial Processed Response** *The axial magnitude response with recommended signal processing applied.*

[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 proceessing 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* $10^{Di/10}$.



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