

Aspen 8

In-Ceiling Speaker

120 W

POWER RMS

89 dB

SENSITIVITY

8 Ω

IMPEDANCE

120.9 mm

DEPTH

Technical Specifications

ACOUSTIC PERFORMANCE

Power RMS	120 W
Power Peak	—
Sensitivity	89 dB / 1W / 1m
Impedance	8 Ω
Max SPL	111 dB
THD+N	≤0.2% @ 1W/1m
Frequency Range	40 Hz - 22 kHz ±3dB
Directivity H	100° (-6 dB, 1 kHz)
Directivity V	100° (-6 dB, 1 kHz)
Driver Config	1 × 8 inch Graphite Cone, Rubber Surround
Crossover	Built-In Passive Crossover (2-way)
Crossover Freq	60 Hz (rec.)
EQ Profile	Default

CONNECTIVITY

Connector	—
Wire Gauge	14 AWG or thinner

PHYSICAL

Dimensions	285.5 mm
Weight	2.1 kg
Housing	ABS
Grille	Mild Steel
Paintable Grille	Yes

ENVIRONMENTAL

IP Rating	—
Mounting	—

COLOUR & FINISH

Finishes	White · Custom RAL
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PRODUCT

Series	In-Ceiling Series
SKU	XSP-IC-AS8
Variants	XSP-IC-AS8-W · White Custom RAL +20%
Since	2022

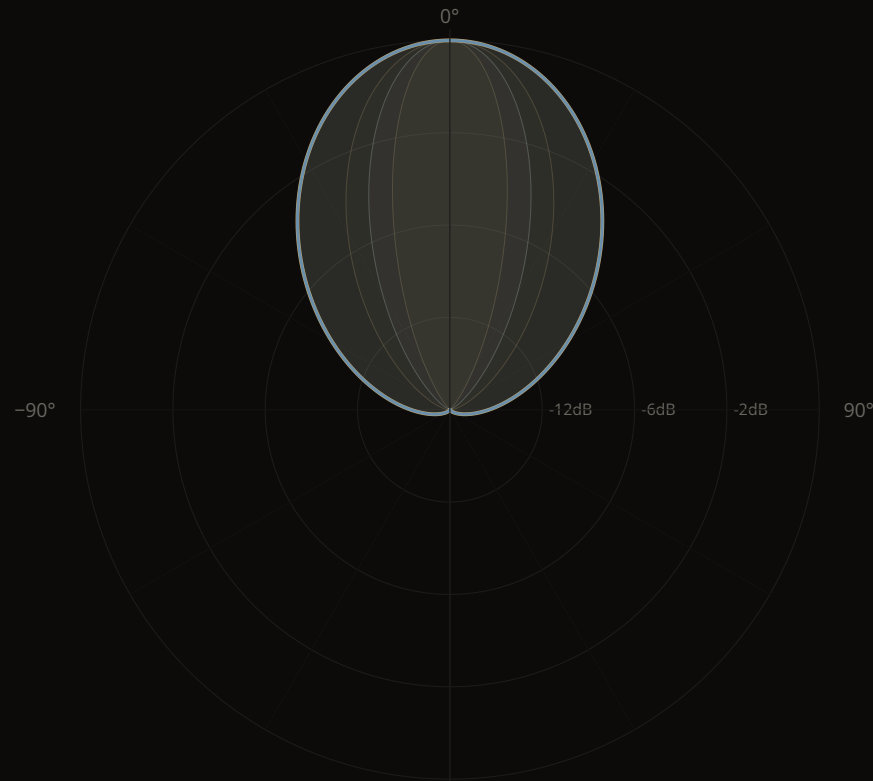
Frequency Response

On-axis · 1W / 1m · anechoic · 40Hz - 22kHz ±3dB · 89dB sensitivity · raw acoustic, no EQ



Directivity Pattern

Normalised polar response · H 100° / V 100° at -6 dB · 1 kHz · multi-frequency overlay

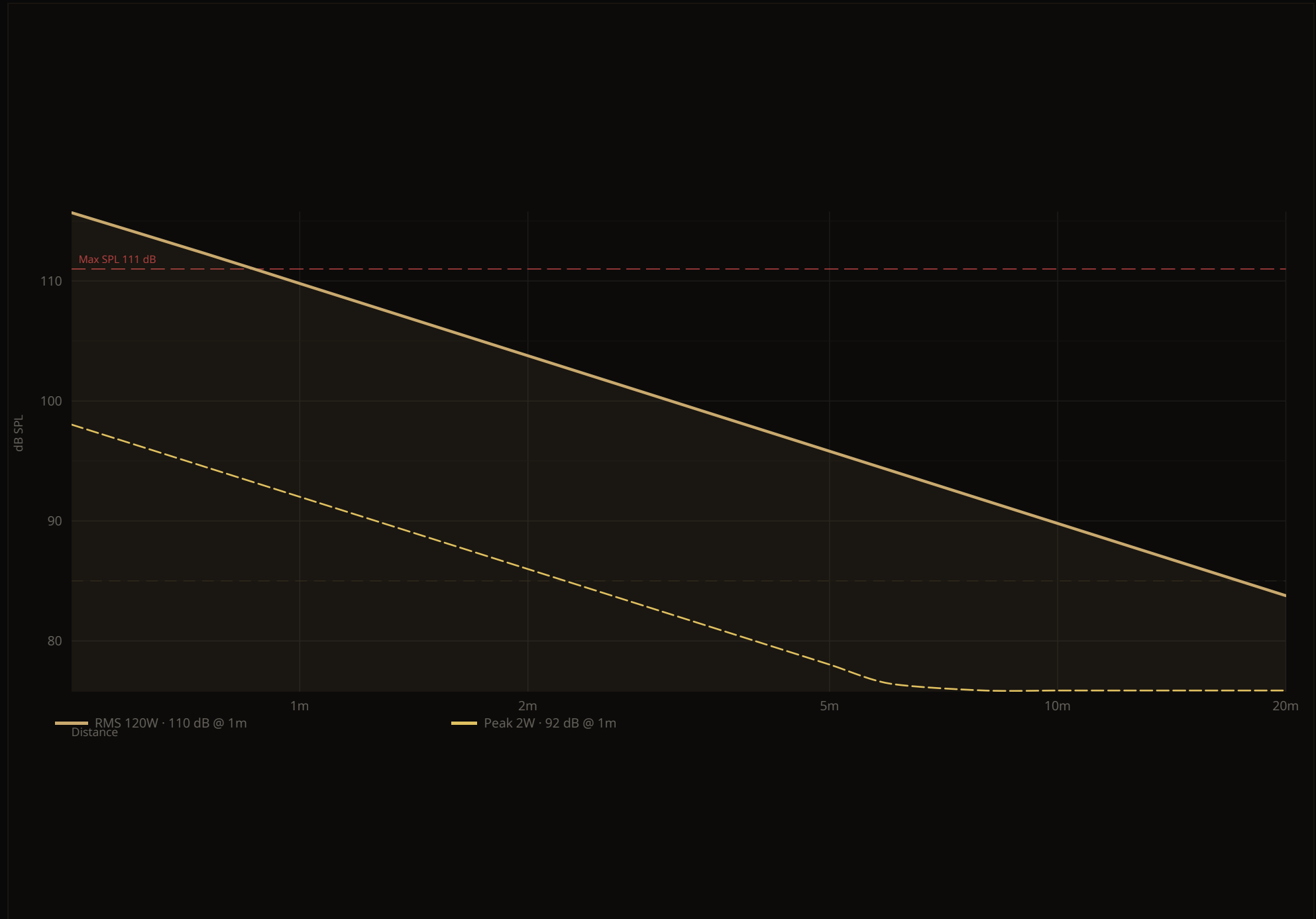


H 100° (-6dB, 1 kHz)

V 100° (-6dB, 1 kHz)

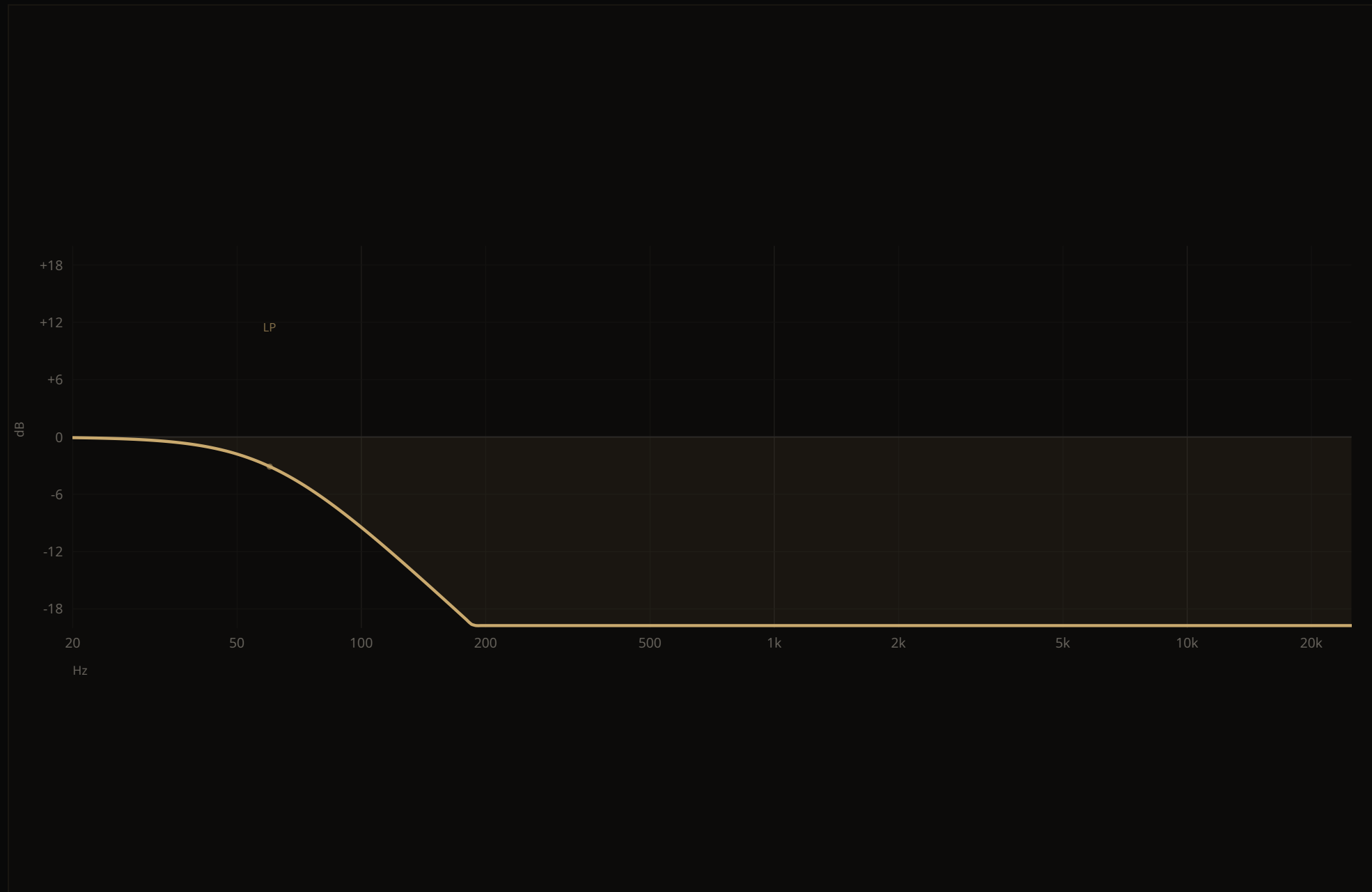
SPL vs Distance

Inverse square law · Ref: 89 dB / 1W / 1m · free field anechoic · 120W RMS / nullW Peak



Recommended EQ

Profile: Default · combined biquad cascade (bold) with individual filter contributions (dashed)



#	TYPE	FREQUENCY	GAIN	Q
1	LP	60 Hz	-	0.7

Profile: Default · RBJ biquad cascade · fs = 48 kHz (ADAU1701 DSP)

Proprietary Technologies



PsySculpt

ADAU1701 DSP implementing Fletcher-Munson equal-loudness compensation. Pre-Comp Loudness L&H Post-Comp Log-Decay Peak Detector Dynamic Bass DAC. Tonal balance stays consistent from background levels to concert SPL.



XS-Flow

Micro-waveguide geometry precision-machined into the enclosure interior. Channels the rearward acoustic wave around the magnet structure, reducing compression and harmonic distortion at high excursion.



Nano Resonance

Intentionally heavy cone mass forces the natural resonant frequency well below the target passband — genuine low-frequency extension from an enclosure only 12–23 mm deep, defying Hoffman's Iron Law.



PrecisionXover Array

Air-core inductors, polypropylene film capacitors and metal-film resistors. Component matching held to ± 0.5 dB for inaudible channel-to-channel variation across the array.



AeroFrame Chassis

6061 aerospace aluminium machined as the structural chassis, acting as a passive heatsink drawing heat away from the voice coil through direct thermal coupling — no fans, no thermal compression.



PowerDense Dynamics

Copper-silver composite voice coil conductor. Significantly higher continuous power in the same former diameter — higher thermal ceiling without increasing coil mass or inductance.