

Bonsai In-Ceiling / In-Wall

Slim Array In-Ceiling / In-Wall

40 W

POWER RMS

86 dB

SENSITIVITY

8 Ω

IMPEDANCE

13 mm

DEPTH

Technical Specifications

ACOUSTIC PERFORMANCE

Power RMS	40 W
Power Peak	50 W
Sensitivity	86 dB / 1W / 1m
Impedance	8 Ω
Max SPL	103 dB
THD+N	≤0.2% @ 1W/1m
Frequency Range	300 Hz - 18 kHz -6dB
Directivity H	140° (-6 dB, 1 kHz)
Directivity V	40° (-6 dB, 1 kHz)
Driver Config	4 × Power Dense Custom Woofers
Crossover	Built-In Passive Crossover
Crossover Freq	300 Hz (rec.)
EQ Profile	Default

CONNECTIVITY

Connector	JST 2.5mm Male
Wire Gauge	JST 2.5mm connector wire (included)

PHYSICAL

Dimensions	H 90 × W 22 × D 13 mm
Weight	0.1 kg
Housing	Aerospace Aluminium
Grille	Mild Steel
Paintable Grille	No

ENVIRONMENTAL

IP Rating	–
Mounting	–

COLOUR & FINISH

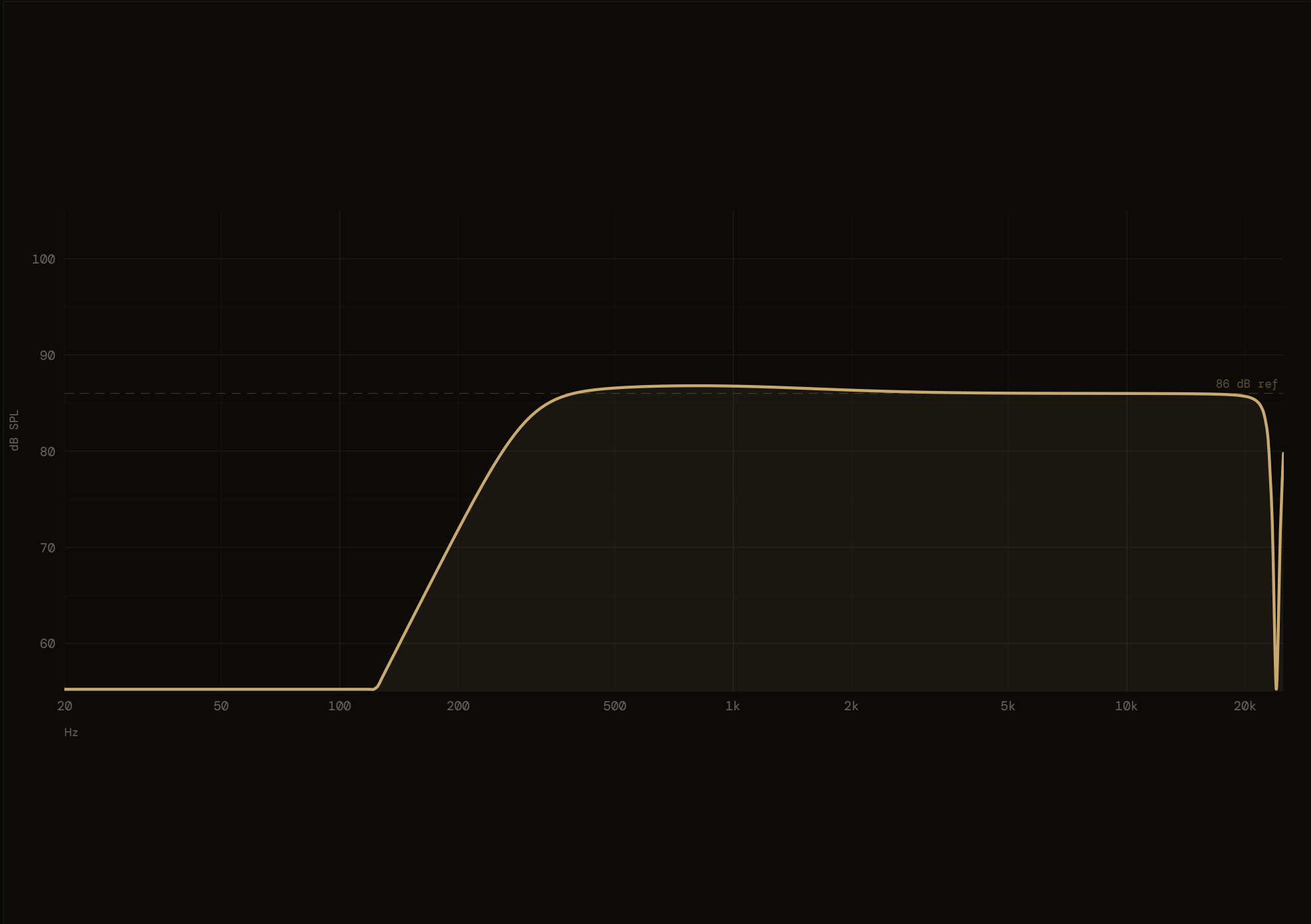
Finishes	White only · Custom RAL
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PRODUCT

Series	Slim Array Series
SKU	XSP-IC-BON
Variants	XSP-IC-BON-WH · White
Since	2022

Frequency Response

On-axis · 1W / 1m · anechoic · 300Hz - 18kHz -6dB · 86dB sensitivity · raw acoustic, no EQ



Directivity Pattern

Normalised polar response · H 140° / V 40° at -6 dB · 1 kHz · multi-frequency overlay



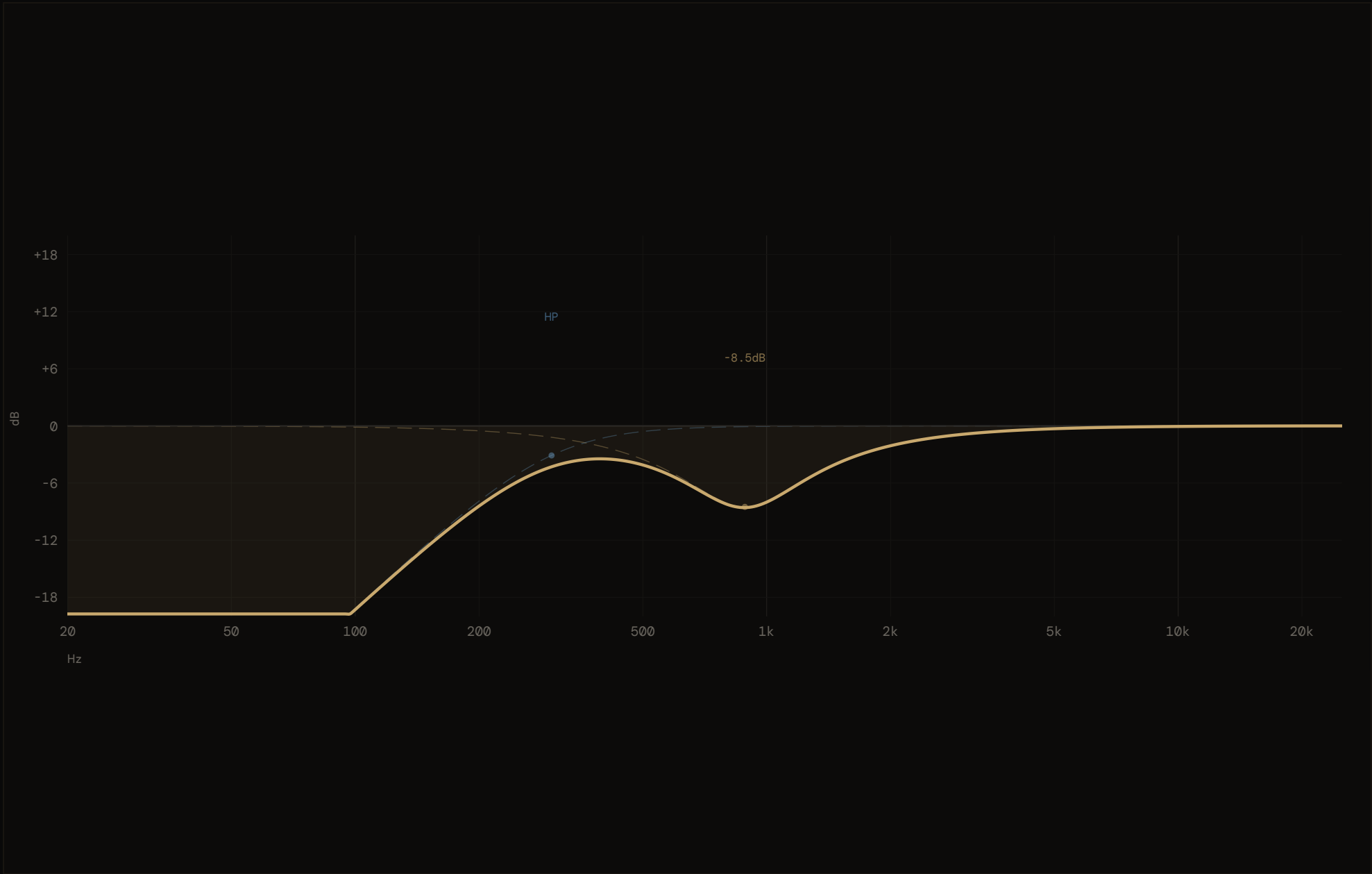
SPL vs Distance

Inverse square law · Ref: 86 dB / 1W / 1m · free field anechoic · 40W RMS / 50W Peak



Recommended EQ

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



#	TYPE	FREQUENCY	GAIN	Q
1	PK	885 Hz	-8.5 dB	1
2	HP	300 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.