



IW31-EZ PRODUCT SPECIFICATIONS

System Type	3" full-range, in-wall (10 W transformer for 25/70.7/100 V or transformer bypass)
Impedance (Nominal) ¹	8 Ω
Sensitivity dB @ 2.83 V / 1 M	85.5 dB
Sensitivity dB @ 1 W / 1 M ²	85.5 dB
Frequency Response (±3 dB) ³	190 Hz - 14 kHz
Frequency Response (±10 dB) ³	115 Hz - 22 kHz
Max. Program Power ⁴	40 W
Max. Continuous Power RMS ⁵	20 W
Max. Power SPL @ 1 M ⁶	98.5 dB
Coverage Angle (±6 dB @ 2 kHz)	180°
Coverage Angle (±6 dB @ 10 kHz)	45°
Coverage Angle (Avg. 2-10 kHz)	120°
Directivity Factor (Q)	4.5 (averaged 100 Hz - 10 kHz) 2.8 (2 kHz)
Directivity Index (DI) dB	5.5 (averaged 100 Hz - 10 kHz) 4.4 (2 kHz)
Tap Selector (Transformer Accessory Only)	Six-position rotary switch or transformer bypass
Transducer: Full-Range Driver	76.1 mm (3") polypropylene driver with butyl rubber surround
Low-Frequency Voice Coil	19 mm 0.75"
Enclosure Material	ABS baffle, steel backcan
Grille	Corrosion-resistant, powder-coated aluminum
Inputs	Hardwire lead
Backcan Height	88.9 mm 3.5"
Visible Height	127 mm 5"
Visible Width	127 mm 5"
Weight	1.4 kg 3 lbs
Packaging	One per box
Included Accessories	Conduit connector, paint mask, and wire nuts
Optional Accessories	Pre-construction bracket (AC-IW3-PCB), theft-resistant stainless steel grille (AC-IW3-TRG)
IP-Rating	IP5X
Certifications	CE, RoHS, UL 1480A, UL 2043

Description

The IW31-EZ is a premium full-range 3" in-wall speaker for applications requiring 8 Ω or distributed audio solutions. The IW31-EZ incorporates a low-profile grille with a total visible footprint of 5" square and an integrated backcan and driver design for ultra compact installations in wall plates. The in-wall speaker includes a six-position tap switch with a transformer bypass position. Mounting hardware is included and features a fast and secure constant tension SpeedWing™ mounting system. All components in the IW31-EZ are completely weatherized for indoor and outdoor applications.

Features

- One 3" (76.1 mm) full-range high-extrusion, high-fidelity polypropylene driver with butyl rubber surround.
- Weatherized components for indoor/outdoor applications.
- Rapid installation, blind-mount fixed-wing mounting mechanism with constant tension design affixing to wall thicknesses ranging from 0.1" (2.5 mm) to 1.5" (38.1 mm).
- Shallow 3.5" deep all steel backcan with integrated backcan, driver, and baffle configuration.
- Ultra-compact design with a total visible footprint of 5" square.
- Corrosion-resistant, powder-coated aluminum grille with snap fit attachment.
- UL 1480A and 2043 approved.
- High-quality black or white paint finish.
- Included accessories: conduit connector, paint mask, and wire nuts.
- Optional accessories: pre-construction bracket (AC-IW3-PCB), theft-resistant stainless steel grille (AC-IW3-TRG)

¹ Impedance listed per IEC 60268-5 with a minimum less than 80% the nominal impedance

² 1 W/1 M sensitivity determined using nominal impedance

³ Frequency response measured in half or full space as dictated by speaker mounting configuration

⁴ Max program power is 3 dB above max continuous power

⁵ Continuous power rating, EIA-426-B test

⁶ Max output based on max continuous power

Transformer Taps

70.7 V	Output	100 V	Output	25 V	Output
10 W	95.5 dB	10 W	95.5 dB	1.3 W	86.5 dB
5 W	92.5 dB	5 W	92.5 dB	0.7 W	84 dB
2.5 W	89.5 dB	2.5 W	89.5 dB	0.4 W	81.5 dB
1.3 W	86.5 dB	1.3 W	86.5 dB	0.2 W	78.5 dB
0.7 W	84 dB			0.1 W	75.5

Applications

Engineered for rapid installation and low profile mounting for smaller venues, the IW31-EZ is ideal for retail, restaurants, conference rooms, education facilities, transportation hubs, correctional facilities, or any setting where full-range intelligibility, low-profile design, and in-wall installation ease are paramount.

Patented Technologies

SoundTube Entertainment and the MSE Audio Group constantly develop new technologies which enhance audio product performance. SoundTube Entertainment innovations are protected by multiple U.S. and international patents, which explicitly cover SoundTube dome, enclosure and dispersion technologies. The MSE Audio Group actively defends its patents in order to protect SoundTube resellers and end-users.

Technical Data and Specification Tools

SoundTube Entertainment strives to provide complete and effective technical information and data to dealers, engineers and designers. All data is available from SoundTube Entertainment or at www.soundtube.com.

Technical data and downloads include:

- EASE™ data - 3-D polar plots.
- EASE™ Address - 2-D modeling for distributed systems
- AutoDesk® Revit® software
- Tech Sheets - technical information and architectural specs for system engineers
- SoundTubeSPEC™ - Proprietary speaker placement software

Independent Data Acquisition and Verification

All data for SoundTube speakers is independently collected from and verified by NWAALabs (www.nwaalabs.com) using their proprietary MACH testing system. All data is collected and analyzed according to ASTM, ISO and AES standards using EASERA, TEF and MLSSA. Full balloon data including both phase and magnitude is compiled into a variety of formats including EASE 4.x, GLL and CLF.

Architectural Specifications

The loudspeaker shall consist of one full-range 76.2 mm (3") polypropylene driver with butyl rubber surround. The low-frequency voice coil diameter shall be 19 mm (0.75").

Performance specifications for a typical production unit shall be as follows: Usable frequency response shall extend from 115 Hz - 22 kHz (± 10 dB). Measured sensitivity (2.83 V input, 1 M) shall be at least 85.5 dB. The speaker shall have a nominal impedance of 8 Ω . The speaker shall be available for 25/70.7/100 V modes and shall include a six-position tap switch with a transformer bypass position. Rated power capacity shall be at least 20 W continuous (RMS) and conform to EIA-426-B. Maximum continuous power output at 1 M shall be 98.5 dB.

The full-range transducer shall have a polypropylene cone with butyl rubber surround.

Installation for the speaker shall be by two-screw, blind-mount, constant tension winged assembly and shall attach to wall thicknesses ranging from 2.5 mm (0.1") to 38.1 mm (1.5"). The fixed-wing assembly shall be constructed of steel. The external wiring shall be by hardwire lead.

The maximum backcan dimensions shall be no more than 88.9 mm (3.5") in height. The maximum visible dimensions shall be no more than 127 mm (5") in height by 127 mm (5") in width. The system shall be for indoor/outdoor applications.

The enclosure shall be constructed of steel. The grille shall be constructed of powder-coated aluminum for lasting performance and affix to the speaker baffle via snap fit. For theft prevention and durability, an optional stainless steel grille with stainless steel one-way screws is available (AC-IW3-TRG).

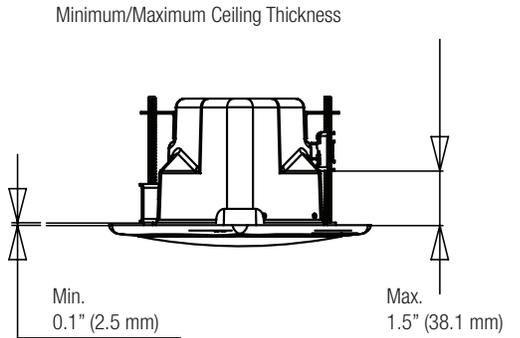
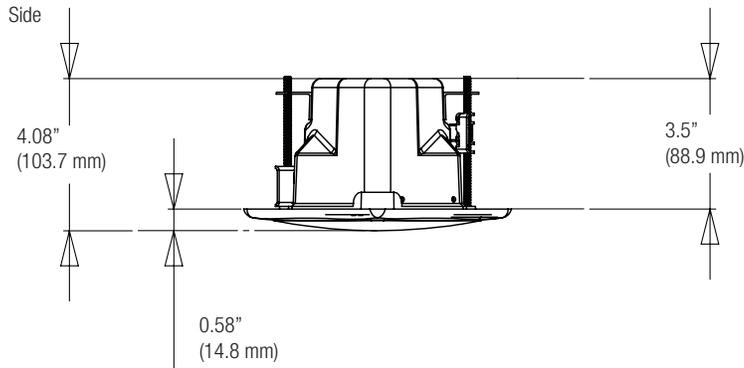
The system shall be the IW31-EZ for low or high impedance applications.

SoundTube®

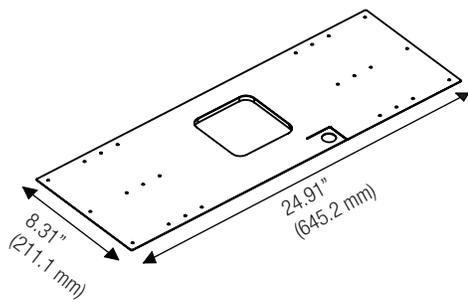
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All SoundTube speakers come with a 5-year limited warranty and 3-year warranty on all electronics.

Mechanical Drawings

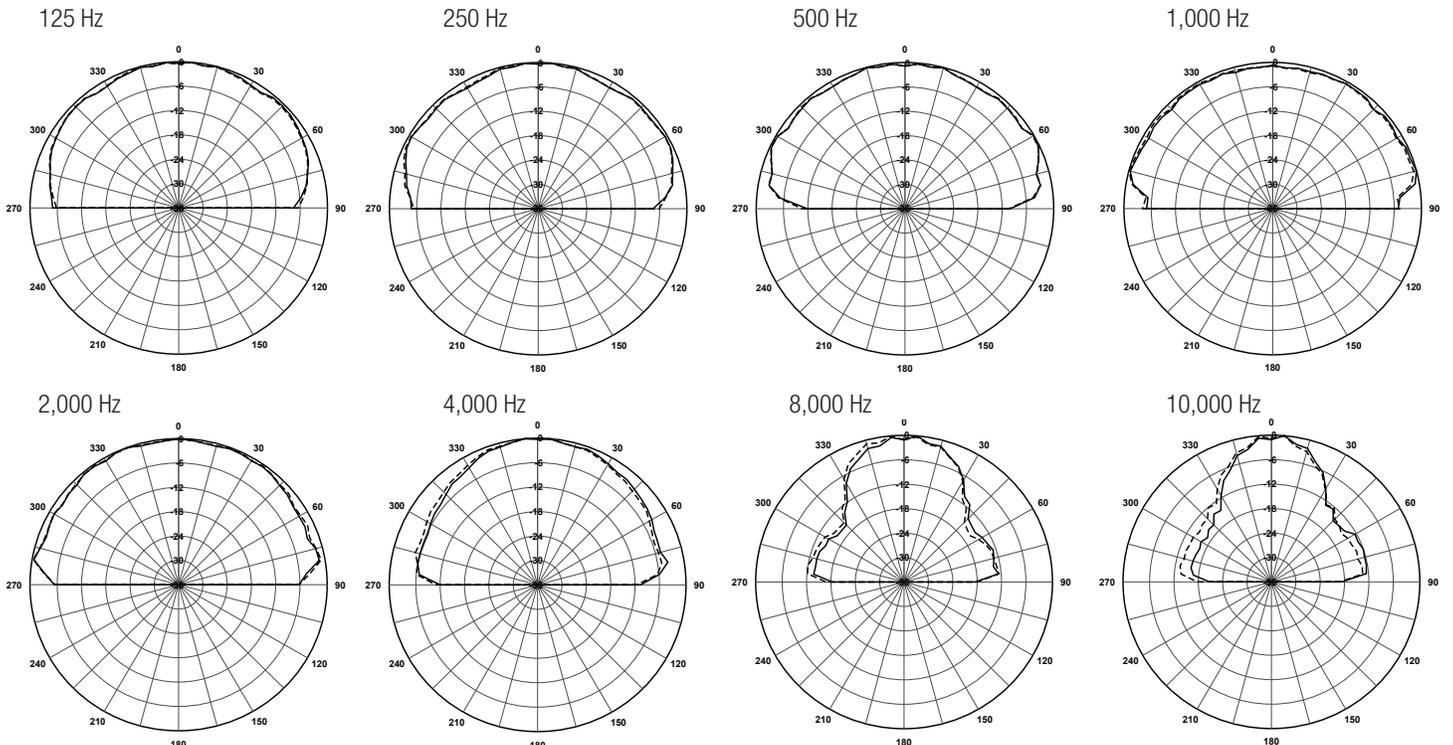


Optional Accessories



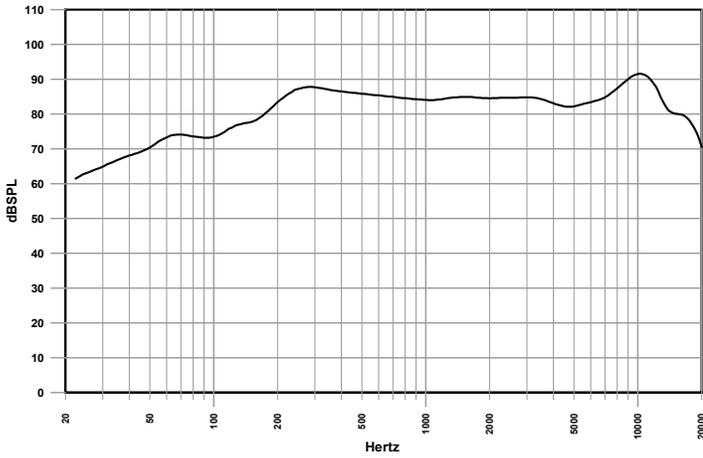
Pre-Construction Bracket
(AC-IW31-PCB)

Plots

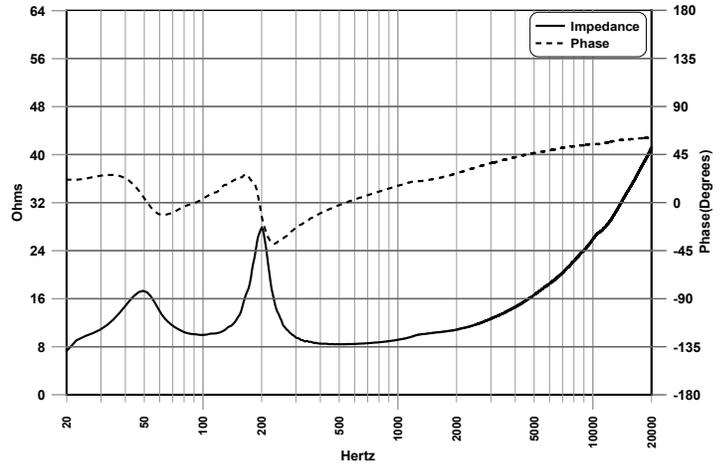


Graphs

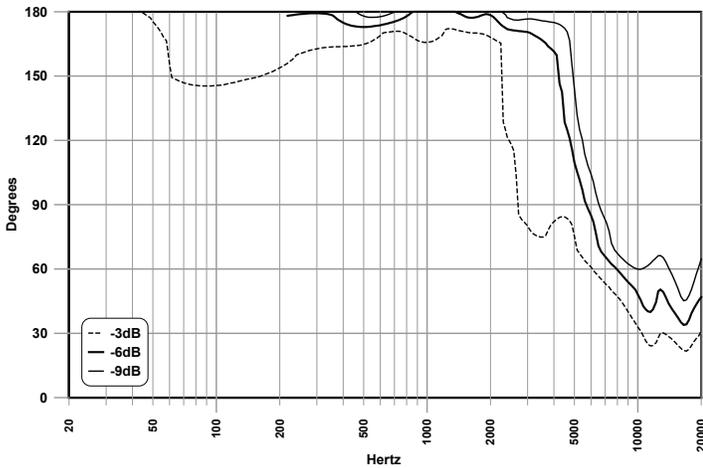
Frequency Response



Phase/Impedance Response



Vertical Beamwidth (± 6 dB)



Directivity Index (DI)

