

CRESTRON SAROS IC8T IN-CEILING SPEAKERS

Speaker tests above and beyond its ceiling

Reviewer: John McJunkin

There was a time—three or four decades ago—when in-ceiling loudspeakers were virtually all 6in. full-range drivers, and not always the very finest transducers available. Even as a kid I disliked the midrangey honk they delivered, and I reached the conclusion that it boiled down to economics.

Public establishments needed background music, public address, paging, or all of the above, but since the music was usually not front and center, hi-fi reproduction was not that important. And since the human voice resides primarily in the mids, these smallish full-range drivers pretty much did the trick for paging and public address. The other major consideration was (and still is) sheer numbers: It may not be economically feasible to install dozens or even hundreds of high-fidelity, three-way speaker systems when a single full-range speaker will “get the job done” (note the emphatic sneer quotes). Fast forward to the present day. Two major changes resulted in a renaissance of installed speakers, and the Dark Ages of installing bad speakers are now but a memory. Better materials and design have facilitated higher-quality speakers at lower prices, and patrons have begun to demand better sound. A proliferation of market competition has also contributed to better but cheaper speakers. Now we have great in-ceiling speakers, and one of the major players is Crestron. It offers the Saros series including the IC4T, IC6T, and IC8T speakers, which are based on 4in., 6 in., and 8in. LF drivers, respectively. I evaluated a pair of the IC8T version, and was treated to fine fidelity.

The Crestron Saros IC8T is a two-way, in-ceiling speaker enclosed in an aluminum backcan and with an 8in. LF driver and 1in. horn-loaded HF driver. The wide-dispersion, dome-type HF driver and LF driver share a center axis. The diameter of the backcan, along with the mounting flange, is just more than 12in., requiring a ceiling cutout of 11.2in. The entire assembly mounts to rails and a support ring above the ceiling. The depth of the can is about 9in. and requires just that much depth above the ceiling for mounting. Once mounted, a zero-bezel frameless



grille is held in place with powerful magnets and secured

with a safety tether. This is one of the features I like most about this speaker. From an aesthetic standpoint, it is very unobtrusive, and with its paintable grilles, it can be made to blend in to near invisibility. Its backcan features a covered terminal block and safety tether points for use with the optional SPKA-ST-15 safety kit. The speaker features a matching transformer for operation in 70V or 100V modes, or it can be bypassed altogether for 8Ω operation. The rotary switch used to determine the mode is located on the front of the speaker, granting easy post-installation access for adjustment if necessary.

The IC8T's 8in. diameter LF driver is formed of polypropylene, with a ring-mode-decoupled cloth surround, and housed in a steel basket. The HF driver is a horn-loaded titanium dome—its diameter just a sliver less than 1in. The crossover point between the two components is 2.5kHz, and the nominal impedance of the speaker is 8Ω. There are five transformer taps available for 70V distributed operation: 3.75W, 7.5W, 15W, 30W, and 60W. In 100V operation, there are four transformer taps available: 7.5W, 15W, 30W, and 60W. The published frequency response is 50Hz to 20kHz, ±3dB, with an overall range (±10dB) of 40Hz to 20kHz.

I listened to a wide variety of sources through the IC8T to get a han-

dle on the performance of the speakers under real-world circumstances. The environment was a carpeted room with textured, painted drywall ceiling and walls. The speakers were mounted in-ceiling in a stereo configuration with a wide separation leveraging the 12ft. height above the floor. I listened first to speech, specifically paging and announcements, followed by voiceover from a PowerPoint presentation, and then on to broadcast, and eventually film dialog. I listened both with and without the ambient environmental noise created by people. I was particularly pleased with the speaker's performance in the low mids, which delivered a very full, round male voice, and adding some gravitas to female voices in the alto range.

The remainder of the spectrum necessary for speech was well represented with one minor exception. In my opinion, the speaker could deliver a bit more in the highs—particularly the “intelligibility range” from 2kHz to 4kHz. I looked at Crestron's published frequency response curve, and I was not surprised to discover that at about 1.8kHz, level tapers off by about 4dB SPL over the frequencies up to about 3.6kHz. It then climbs back up around 11dB SPL up to around 6kHz. There's another dip of about 7dB SPL centered around 8kHz, and of course it finally tapers off to 20kHz, gently and as expected. To my ear, these attenuations in the high end diminished the intelligibility of speech enough to get me to swivel my head to direct my 47-year-old ears toward the speakers to achieve a little more clarity. This is definitely not a deal-breaker. In the applications for which these speakers will be used, equalization will almost certainly be available, and just a couple of bumps from a third-octave graphic EQ will easily bring the necessary sparkle back enough to arrive at solid intelligibility—even for us old guys who don't hear 22kHz anymore.

Beyond just speech and dialogue, I went on to listen to a very wide variety of music genres, and found the speaker to deliver very good fidelity. The 90-degree conical dispersion covered a broad area at the height of 12ft. above the floor, and would be wide enough to facilitate at least a moderately wide stereo placement even with 8ft. ceilings. The low end was pleasant to my ear, if maybe a little tubby, which I expected somewhat, having seen the 240Hz bump in the published frequency response graph. I was not troubled by it, however. I was generally impressed by the low end, which is pretty solid for an 8in. LF driver. The IC8Ts could benefit from the deployment of a 12in. or 15in. subwoofer, but even failing that, these speakers deliver reasonably consistent levels across the entirety of the range of human hearing—bearing in mind the aforementioned variations in the curve. Even at relatively high SPLs, there was no hint of distortion or brashness, yet another important factor in choosing a speaker for paging or PA.

The Crestron Saros IC8T is a shining example of just how far we've come from the early days of in-ceiling speakers used for BGM, paging, and the like. It delivers nearly the entire spectrum of human hearing with no distortion, even at higher SPLs. With a touch of EQ, it delivers enough of the “intelligibility frequencies” to make speech crisp and clear, cutting through the ambient noise of the environment. They deliver music in a pleasant way, even for foreground musical applications. They're aesthetically unobtrusive and flexible in terms of signal routing, offering 70V and 100V distributed audio modes, along with

PRODUCT SUMMARY

COMPANY: Crestron | www.crestron.com **PRODUCT:** Saros IC8T

PROS: Aesthetically unobtrusive, delivers warm, round low mids, very good build quality

CONS: Dips in frequency response between 1.8kHz and 10kHz require a minor treble boost

APPLICATIONS: Background music, foreground music, paging, sound reinforcement

PRICE: \$300 each

SPECIFICATIONS

WOOFER: 8in. (203mm) polypropylene w/ring mode decoupled cloth surround and steel basket

TWEETER: 0.98in. (25mm) titanium dome, horn loaded

CROSSOVER FREQUENCY: 2.5 kHz

IMPEDANCE: 8Ω nominal with transformer set to “8Ω”

TRANSFORMER TAPS: 3.75W/7.5W/15W/30W/60W @ 70V; 7.5W/15W/30W/60W @ 100V

FREQUENCY RESPONSE: 50Hz to 20kHz (±3dB)

FREQUENCY RANGE: 40Hz to 20kHz (-10dB)

POWER HANDLING: 150W program (8Ω)

SENSITIVITY: 90.5dB @ 1W/1m

COVERAGE: 95° conical (nominal)

INPUT: (1) 4-pin 5mm detachable terminal block; speaker input with parallel pass-thru;

MAXIMUM WIRE SIZE: 12 AWG

TRANSFORMER TAP: (1) Recessed screwdriver-adjustable rotary switch on baffle to select; 70V/100V tap or 8Ω (bypass)

TEMPERATURE: -2° to 120°F (-19° to 49°C)

HUMIDITY: 5% to 95% RH (non-condensing)

ENCLOSURE: Aluminum, plenum-rated, 1/2in. or 3/4in. conduit knockout top and side

BAFFLE: ABS UL94V-0 plastic

GRILLE: Steel with textured finish, paintable, magnetically held, “zero-bezel” frameless,

SAFETY TETHER

MOUNTING: Flush ceiling mount using 4 integral 2-step toggle clamps, 2.4in. (61 mm) maximum surface thickness, 8.9in. (226 mm) minimum mounting depth, 11.2in. (285 mm) diameter recommended cutout, tile bridge included, (2) rigging points for safety tether (SPKA-ST-15 sold separately)

DIAMETER: 12.07in. (307mm)

DEPTH: 9.10in. (231mm)

WEIGHT: 12.5lbs. (5.7kg)

8Ω operation. They should be on the short list for anyone in the market for quality in-ceiling speakers.

John McJunkin is the principal of Avalon Podcasting in Chandler, Ariz., and produces and co-hosts a top-rated morning radio talk show in Phoenix. He has consulted in the development of studios and installations and provides high-quality podcast and voice production services.