

## Point Source Audio CO-7



An affordable ear-worn microphone to keep the hands free. BY JOHN MCJUNKIN

Numerous public speaking or singing applications require mobility and hands-free functionality simultaneously: product demonstrations that require the presenter to operate equipment or make adjustments, musical applications that keep both hands of the artist busy, or even just applications in which the speaker strongly prefers to have both hands available for gesturing to enhance communication. To accommodate these preferences, an integrator must decide between a lavalier mic and a head- or ear-worn microphone.

Over the years, I have begun to lean more and more strongly toward an ear-worn mic for public applications of this type. Lavs can offer incredible audio quality and clarity, but problems arise when a speaker tilts his chin downward to read a script or view a display, moving the mouth into closer proximity with the mic and radically changing the reflections in the environment surrounding the omni mic element. For that matter, even turning the chin left or right just a bit to acknowledge the audience or view a teleprompter to the side can reduce the level of the signal significantly enough to be noticeable. For most video, film, and broadcast applications, lavs work fine, but for most in-person applications, I now lean strongly toward ear-worn mics. They maintain a fixed distance between mouth and mic element, creating a consistent level, and they largely eliminate any weird phaseyness and/or reflection issues we get with lavs.

Point Source Audio introduced its latest offering in the ear-worn mic domain: the CO-7. This is one of four mics offered by the company, and the most sophisticated of the group. Point Source's microphones are generally more affordable than other manufacturers' similar offerings, and Point Source touts them as being in league with other mics in terms of quality, so I was keen to determine whether the claim would withstand my scrutiny. I evaluated a CO-7, and I found that Point Source's claims are indeed true.

The CO-7 is composed of a metal half-ring that surrounds the user's ear, with the mic's boom extending out from under the user's earlobe toward the mouth. The boom is approximately 4in. long, and it terminates with the mic's back electret condenser element. The element itself is very small, approximately 1/8in. in diameter. From the top of the half-ring ear surround, the mic's thin cable extends just over 4ft. to deliver the signal to a transmitter or adapter. Point Source makes several options available in terms of connectors or other terminations.

The mic's boom is a principal feature touted by the manufacturer. The company claims that it can be bent 360 degrees to accommodate any necessary mic placement requirement and that the boom can withstand up to 20,000 bend repetitions during its lifetime. Point Source offers video at its website to demonstrate the flexibility of the boom, in which the boom is essentially turned into a spiraling curly-cue.

The mic's electronic specifications indicate a frequency response of 30Hz to 18kHz and a sensitivity of 4mV/Pascal. The output impedance is 3k $\Omega$ , and the mic is touted as being able to handle 135dB of SPL.

In the process of evaluating a head-worn boom mic, I first want to establish that the mic can be placed in proximity to the mouth and that it will stay put once it's placed there. I've always been a bit of a stickler about this, having discovered that some head-worn mics are better at this than others. I was pleasantly surprised with the CO-7; the half-ring that surrounds the ear can be adjusted in tightness such that it sufficiently grips the ear to keep the mic still without crushing the user's ear and causing pain (and a misshapen ear). The half-ring can be placed on either ear, and the boom then adjusted to get the element near the mouth. If this single-ear mechanism is insufficient, Point Source offers an optional dual-earset version, which includes an extra metal half-hoop, which stretches around the rear of the user's head to a second half-ring for the other ear. Frankly, the single-ear configuration does quite well, but there are certainly applications in which the user may be engaged in vigorous activity (aerobics instruction, for instance) that may require a bit more robust attachment.

I was keen to test the flexibility of the boom, and I discovered that the manufacturer's claims in its regard were absolutely true. I was able to twist, turn, and bend the thing every which way without any noise added to the signal. I applied the same spiral treatment to the boom as I saw in the web video, and the signal did not suffer in the least. Again, getting the mic in the right position and keeping it there is half the battle with head-worn mics, and the CO-7 does the trick marvelously, partially as a result of this boom flexibility.

While the mic's output might not be right at 0dB at either end of the published 30Hz-to-18kHz range, it is close enough to make the claim true in my estimation. The published frequency response shows a very flat response with a small bump at around 10kHz, and hearing the mic, I trust the plot. I like a mic with a little bump in the high end to help emphasize the intelligibility frequencies. The mic provides nicely clear intelligibility, and that's far and away the most important thing to me—hence the importance of getting the mic element into a fixed location in proximity to the mouth.

Point Source makes the mic available in beige, tan, and black, with TA3F, TA4F, lockable 3.5mm, and Hirose connector options, and with the dual-earset option. Additionally, the manufacturer offers a three-pack of CO-7 mics, each in its own case, with a Point Source EM-3 earphone. The idea behind this package deal is that in a multiuser scenario (houses of worship in particular), each user can have her own setup that she doesn't have to share with others.

In evaluating a head-worn boom mic, I first want to establish that the mic can be placed in proximity to the mouth and that it will stay. I was pleasantly surprised with the CO-7; the half-ring that surrounds the ear can be adjusted such that it grips the ear without causing pain.

And considering the reasonable pricing of these mics, this is a plausible luxury.

The Point Source Audio CO-7 ear-worn microphone represents a good value for the money: a high-quality mic at a reasonable price with some innovative features that make it appealing. Getting the mic element in fixed proximity with the mouth and keeping it there is an important premium with ear-worn mics, and the CO-7 handles it nicely. The quality of the audio is also solid. I definitely recommend taking a listen. [SVC](#)

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## PRODUCT SUMMARY

- **Company:** Point Source Audio  
[www.point-sourceaudio.com](http://www.point-sourceaudio.com)
- **Product:** CO-7
- **Pros:** Excellent ear grip, extremely flexible boom.
- **Cons:** None to speak of.
- **Applications:** House of worship, classroom, broadcast, theater.
- **Price:** \$399 (\$499 with optional dual earset)

## SPECIFICATIONS

- **Element:** Back electret condenser
- **Polar pattern:** Omnidirectional
- **Frequency response:** 30Hz-18kHz
- **Sensitivity:** 4.0mV/Pascal
- **Output impedance:** 3k $\Omega$  (@1kHz)
- **Operating voltage:** 5VDC
- **Maximum SPL:** 135dB
- **Cable length:** 4ft. 0.077in. plus connector
- **Net weight:** 0.6 oz.