

# SHURE®

LEGENDARY  
PERFORMANCE™

Remember that time you had a great live sound experience with wedge monitors? You could hear all your cues without turning up the volume to eleven. The monitor engineer responded instantly to your requests. And there was zero feedback.

Not ringing a bell? You're not alone. The average wedge monitor system comes complete with dangerous volume levels, communication difficulties between performers and engineers, and plenty of feedback. Even the best wedge monitor system is limited by the laws of physics.

Enter in-ear monitoring, a concept that arose out of the need for a safer and better-sounding onstage experience. Read on to learn more about what it can do for you.

## A QUICK GUIDE TO PERSONAL MONITOR SYSTEMS

**SHURE®**  
LEGENDARY  
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**United States, Canada,  
Latin America, Caribbean:**  
Shure Incorporated  
5800 West Touhy Avenue  
Niles, IL 60714-4608 USA

Phone: +1 847-600-2000  
Fax: +1 847-600-1212 (USA)  
Fax: +1 847-600-6446  
Email: [info@shure.com](mailto:info@shure.com)  
[www.shure.com](http://www.shure.com)

**Europe, Middle East, Africa:**  
Shure Europe GmbH  
Jakob-Dieffenbacher-Str. 12,  
75031 Eppingen, Germany

Phone: +49-7262-92490  
Fax: +49-7262-9249114  
Email: [info@shure.de](mailto:info@shure.de)  
[www.shure.eu](http://www.shure.eu)

**Asia, Pacific:**  
Shure Asia Limited  
22/F, 625 King's Road  
North Point, Island East  
Hong Kong

Phone: +852-2893-4290  
Fax: +852-2893-4055  
Email: [info@shure.com.hk](mailto:info@shure.com.hk)  
[www.shureasia.com](http://www.shureasia.com)





# WHY USE PERSONAL MONITOR SYSTEMS?

Four key benefits of in-ear personal monitor systems:

- Superior Sound Quality
- Portability
- Mobility
- Customizable Mixes

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## SUPERIOR SOUND QUALITY

When performers can hear themselves without endangering ears and voices, when feedback is eliminated, and when there's less interference with the house mix, everyone involved has a better experience, including the audience. In-ear personal monitors deliver consistently superior sound quality to performers onstage without the pitfalls of wedges, regardless of the constraints of the venue. The confidence that comes with this consistency makes legendary performances possible night after night.

## Optimal Volume Levels

When using wedges, monitor engineers often find themselves in the middle of a volume war between the amplified and the unamplified. Vocalists, acoustic guitarists, and keyboardists can't hear themselves over amplified electric guitarists and bassists, let alone over the drums, which are naturally loud. So, they all ask, "Can you turn me up?"

"Maybe," is the best the engineer can offer due to the limitations imposed by power amplifier size, power handling of the speakers, and potential acoustic gain. If the room acoustics are poor, then peace is even harder to achieve. With an in-ear personal monitor system, performers enjoy studio-quality sound in a live-sound context. They can choose what they hear, and engineers aren't stuck fighting a losing battle.

## Elimination of Feedback

You know the sound of feedback: that intense buzzing whine that sends everyone's hands to their ears. If you understand what causes it, then you'll understand why in-ear personal monitors are the clear choice over wedges.

Feedback happens when amplified sound from a loudspeaker is picked up by a microphone and re-amplified. This often occurs on crowded stages where microphones and monitor loud speakers are too close together. When an entire band asks the engineer to turn up their mics, feedback is inevitable.

Gain-before-feedback is the amount you can turn up a microphone before feedback occurs. In-ear personal monitor systems eliminate gain-before-feedback issues by sealing the "loudspeakers" in the ears of the performers, thereby isolating them from the microphones. In a nutshell, they break the feedback loop.

## Hearing Health

Repeated exposure to high sound pressure levels from wedges can cause hearing loss. Earplugs help some performers, but even the best plugs alter frequency response enough to make the audio sound muffled. When performers use them properly at appropriate volume levels, in-ear monitors offer as much hearing protection as earplugs while simultaneously delivering to performers only the sounds they need to hear. With the controls in their hands, performers can adjust the volume as needed. It's the best-case scenario in hearing health.

## Reduced Vocal Strain

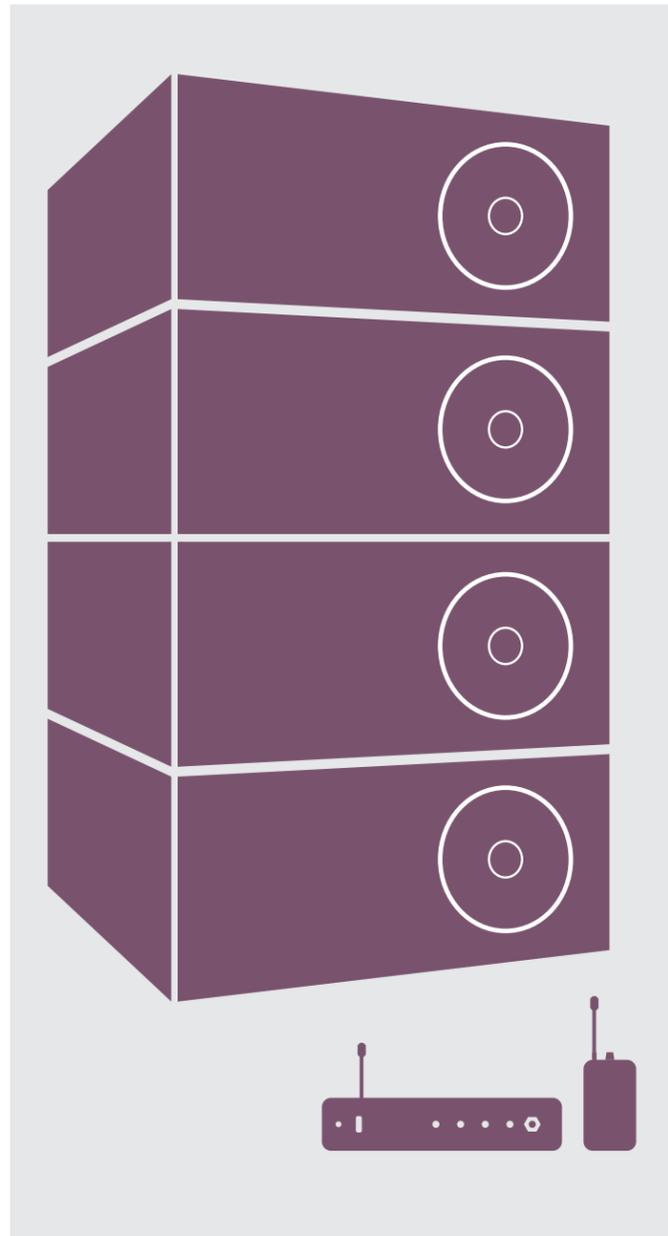
The most powerful singer is no match for an amplified guitar turned way up, or even a drum kit as-is. When singers can't hear themselves over the stage mix—which often happens with wedge monitors—they push their voices too hard. The voice is a body part and subject to strain, which can damage vocal chords and shorten singing careers. In-ear personal monitors allow singers to hear themselves clearly, without having to scream over guitar amps and wedges. In addition to their own vocals, singers can include in their mixes as much or as little of the other instruments as they like.

## Stereo Monitoring

A distinct advantage of most in-ear monitor systems over wedges is the ability to listen in stereo. Our ears are made for stereo listening, so a stereo mix more accurately resembles a natural listening environment. When performers are able to listen to a natural-sounding mix, they are more likely to listen at a lower volume. This means healthier ears over the long term.

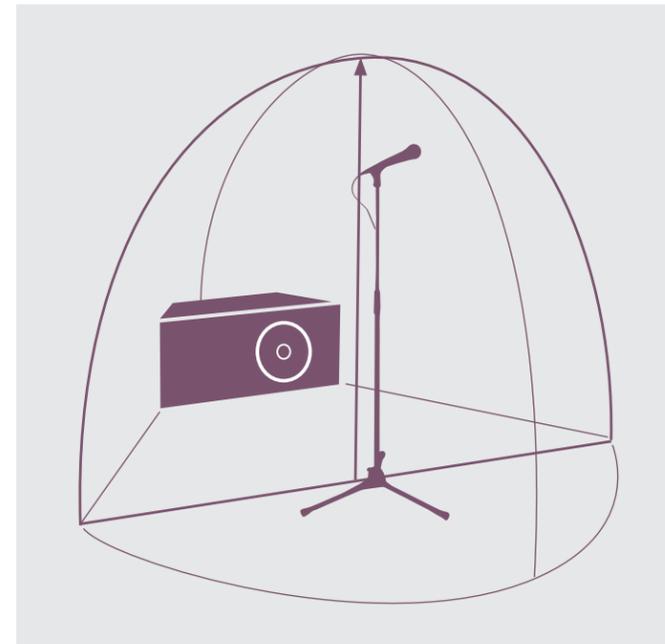
## Clean Audience Mix

Wedge monitors are directional at high frequencies, but they become omnidirectional at low frequencies. Low frequency bleed from the backs of the wedges can muddy the house mix and make vocals unintelligible to the audience, especially in smaller venues. When performers use in-ear monitors, the front-of-house engineer can concentrate on delivering the best possible mix to the audience without having to compensate for bleed from the stage mix. So, performers aren't the only ones who benefit from in-ear monitoring. The audience benefits too.



## Portability

A traditional floor monitor system includes at least three wedges weighing roughly 45 pounds each, plus at least one amplifier at 55 pounds each. Touring bands that haul all that gear from gig to gig need larger vehicles, which cost more in fuel. Likewise, for stage crews working at venues that require a nightly set strike, that's a lot to lug. Not so with in-ear monitors.

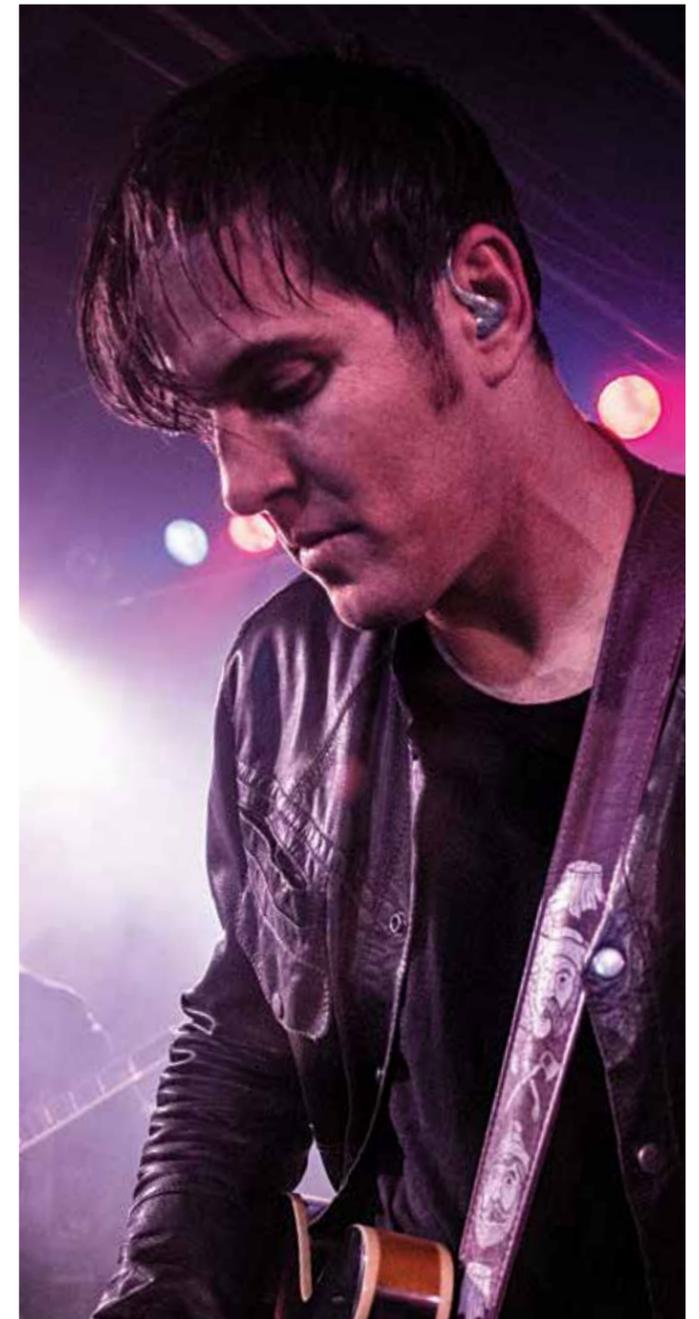


A complete in-ear monitor system fits in a briefcase, which means greater fuel economy, and less time wasted on setup and teardown, not to mention less muscle strain. Additionally, eliminating the clutter of wedges and speaker cables gives the stage a cleaner, more professional look, which matters for bands performing at weddings, worship services, and corporate events with different aesthetic standards than the average night club.

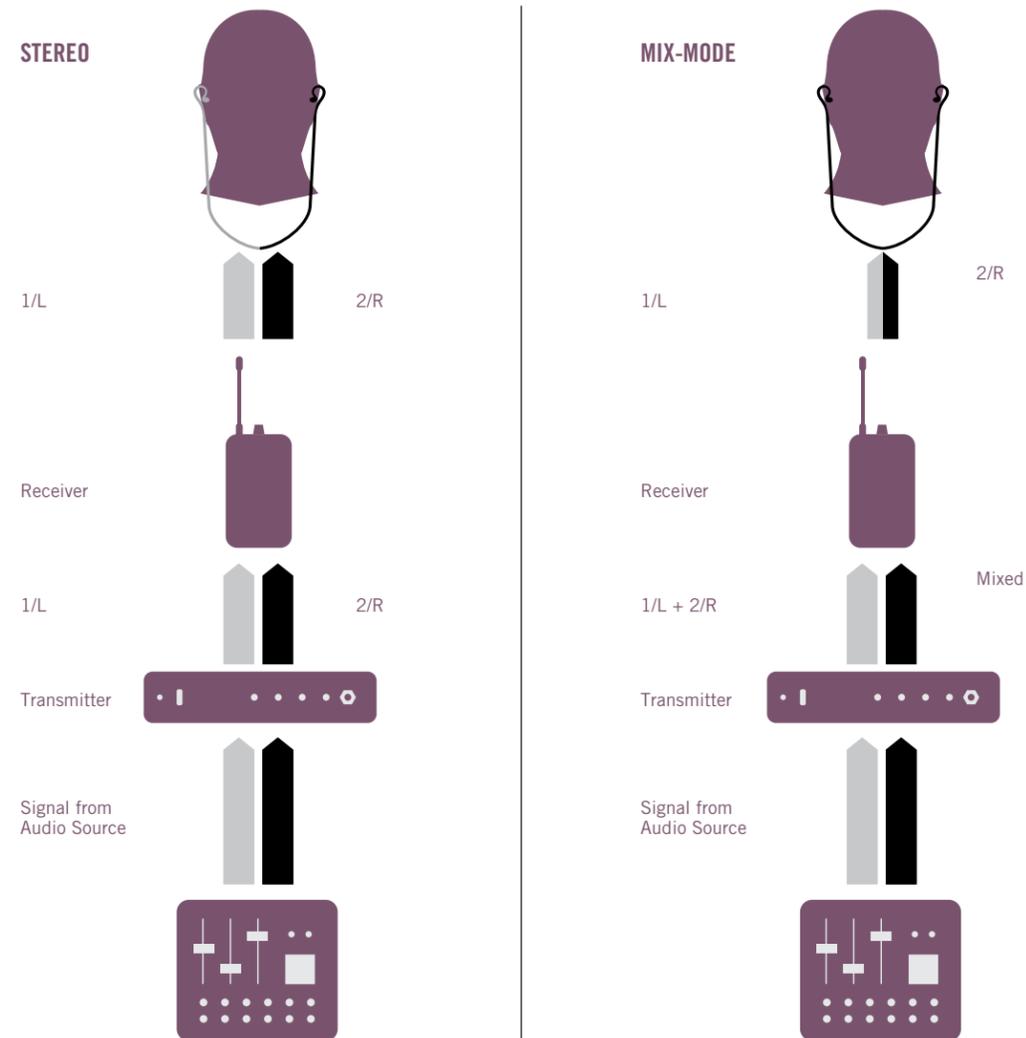
## Mobility

When you use wedge monitors, you're limited to a sweet spot onstage where the mix sounds as good as it gets. Move a little to the right or left, and things go downhill. The directional nature of loudspeakers, especially at high frequencies, accounts for this effect. Using in-ear monitors is like using headphones: the sound goes where you go. So, if the lead singer wants to play to the crowd on either side of the stage, she hears the same mix wherever she goes.

The mobility benefit extends from stage to stage, too. Because in-ear monitors form a seal that blocks ambient noise, your mix isn't affected by individual room acoustics. No matter where you're performing, you'll hear the same mix. That makes it much easier to deliver a consistently strong performance night after night.



**Please note:** most personal monitor systems are capable of producing very high sound pressure levels, which could cause hearing damage during periods of prolonged use. So, while personal monitors can provide a benefit to hearing health, they must be used responsibly. If you experience ringing in your ears or temporary loss of hearing sensitivity (temporary threshold shift), please discontinue use immediately and contact a licensed audiologist or seek appropriate medical help.



**Personal Control**

The most empowering aspect of in-ear monitoring is having direct control over what you hear. You'll still rely on the monitor engineer for fine adjustments, but you can adjust the overall volume and choose different mixes yourself.

To adjust the volume, simply turn the knob on the bodypack. If you use a stereo mix, you'll hear the same mix in both ears, but you can pan left and right in case

you want to hear more or less in either ear. If you use a system with MixMode®, you'll hear a summed mix in both ears. From there, you can use the bodypack controls to adjust the balance of the sound sources. For example, you might prefer to have vocals and guitar in the left ear, and drums and bass in the right.

When band members control their own mixes, the monitor engineer can concentrate on creating the best possible audience mix.



**A CUSTOM MIX IN FOUR SIMPLE STEPS**

