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Sennheiser XS Wireless In-Ear Monitoring Set

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A condensed history of Sennheiser:

In 1945, the company was founded. In 1946, it began building microphones. In 1955, it began building miniature magnetic headphones. In 1957, it began producing wireless mic systems.

Of course, many things have happened between then and now. Sennheiser had already produced multiple wired and wireless microphone systems. And, while substantial historical information regarding their development is available on the company's website, the documentation of the development of its IEM systems is not as well-noted. In fact, Sennheiser has three such products: the top-of-the-line 2000 and mid-level G4 systems and now the entry-level XSW.

With a few IEM products designed for professional application, Sennheiser took advantage of the available technical advancements, applying them here to produce this so-called entry-level wireless microphone system.

Mics, listening devices, wireless systems...and go!

The cool thing about the XS Wireless is that it is a complete entry-level system with some professional feature sets. Targeted to musicians, the system is equally at home in a variety of musical environments, including houses of worship, bands playing gigs (it's perfect for getting the volume down on small stages), school performing arts programs, community theatres, and just about any application where performers need to hear themselves better. At about \$600 for everything needed to get started, it's a pretty good value.



The XSW IEM SR stereo transmitter, XSW IEMEK stereo receiver, and IE 4 in-ear headphones.

What's in the box?

Once again, Sennheiser has done a superior job of packaging its product. In a small, cardboard, laptop case-sized box, the company has utilized all-recyclable materials to keep the system secure in shipping while ensuring a minimal environmental impact. The components comprise the XSW IEM SR stereo transmitter, XSW IEMEK stereo receiver, and IE 4 in-ear headphones. Included are an NT 12-5 CW power supply, BNC antenna, XSW rack mount kit, and a pair of AA batteries. The IE 4 headphone is just one item that helps to make this kit a great way to get started with a personal monitoring system. Of course, if you happen to have your own IEMs, you can use them, but there's no need to make that additional investment if you don't. The IE 4s are designed and

manufactured specifically for the XSW system. They also come with additional sizes of ear adapters.

The XSW IEM SR stereo transmitter is available in five different frequency ranges (A, B, C, E, K) with four of the five providing 30mW of RF power. (The legal limit in the US is 50mW.) The K band provides 10mW of power. The RF transmitting range is up to 328'.

The transmitter frequency response is 45Hz to 15kHz. The audio inputs are two electronically balanced XLR ¼" combo sockets. The frequency response for the receiver is 45Hz to 15kHz as well. You can expect about six hours of operation on the two AA batteries. The receiver weighs in at 62 grams, which is just a tad over 2oz.

The IE 4 headphones are dynamic single-driver units and feature a 1.4m



XSW transmitter front panel. The basic controls provide a fair amount of functionality.



XSW transmitter rear panel. The inputs are electronically balanced XLR 1/4" combo sockets.

cable (4.6') with a 3.5mm (1/8") gold-plated stereo plug. The frequency response is 40Hz to 20kHz.

Feature set

As noted, the XSW IEM is complete and ready to go. It's just about as close to plug and play as you can get for a wireless system, especially considering how complex UHF frequency range wireless coordination can be.

There are multiple audio modes to accommodate different setups or performance situations, including mono, stereo, or a two-channel "focus mode," which provides the ability to prioritize one input over another from the receiver for user-specific monitoring. Also available are EQ and limiter features to help personalize the system for specific tastes and situations.

The XSW system provides 24MHz of UHF bandwidth with frequency presets in eight different banks, each of which has 12 channels; there's also the ability to optionally tune manually. This enables up to 12 separate stereo mixes.

An infrared sensor allows the ability to sync receivers to the transmitter. The system can also allow for an unlimited number of receivers to be used with a single transmitter, which is great for choirs or when multiple people need to hear the same mix.

Sennheiser also makes available, via its website, a five-part video tutorial series that reviews basic setup and use

as well as some of the more unique features, including focus mode.

Also, the receiver has a built-in limiter that you can engage for added hearing protection, as well as the ability for EQ adjustments to further personalize your set.

Taking it for a drive

The system was pretty easy to unbox and set up. The only thing was identifying the proper AC adapter. Of the three supplied, two appeared to be applicable for US use, but with no clear indication of which one to use where. I picked the one with the red sticker (it had a little hole in each of the two prongs), plugged it in, and powered up the unit. Success!

The front panel of the transmitter is very stark. On the far left is a headphones output. Next to that is a volume knob. Just a little off center, to the left, is the main screen. To the right of the screen are up and down buttons. To the right of them are the set and sync buttons and on the far right is the standby (power) button. The rear panel is equally stark, with DC in power (courtesy of a wall wart power supply), left/mono and right/mono audio inputs, and the antenna connection.

The receiver has a screen at the top center on the front and battery compartment access just below that. Behind the battery access door are up/down menu control buttons and a set button. Of course, the batteries go in there, too. On top is the volume knob, phones output, link LED indicator, and a non-detachable antenna. The volume knob also does double duty as the off/on switch.

Ready, set, go

A quick start guide is included, basically showing how to set up and get the system running. For more detailed info and operating instructions, there is the Sennheiser Documentation App (available via Google Play and the Apple App Store). The information can also be accessed online at <https://en-us.sennheiser.com/xsw-iem-set>, or https://www.sennheiser-sites.com/responsive-manuals/XSW_IEM/EN/index.html#page/XSW_IEM/XSW_IEM_02_Instructions_EN.3.14.html#ww1028922.

My preference was to go online. Once there, I was able to download information and select links to the instruction manual. One cool aspect of the online manual was the use of basic animation to indicate which meter activity should be present at a given point in the instructions. It's probably in the app as well, though I much prefer seeing the info on a larger screen. The apps are definitely the way to go if you are out in the field at a gig, or if you are comfortable reading documents on a phone screen. (I'm old, so I'm not.)

The system comes preset to a frequency; if it works where you are, then you are lucky and good to go. If not, and you run into interference, experiencing dropouts and hits, it's a simple process to find a frequency that works in



XSW receiver pack.



XSW receiver pack battery and control access.



XSW receiver pack with IE 4 headphones.

your area. The instruction manual includes information regarding how to perform a frequency test to determine if there are interfering frequencies in your specific location. I had some initial dropouts, so I went through the process. The first step is to have the transmitter off, then turn on the receiver. Move the receiver around the performance area. If there is any RF deflection as indicated on the RF meter on the receiver, that means it is moving around rather than indicating nothing. I found a clear frequency within the available presets, and I was off. There are a few options regarding syncing up the transmitter and receiver: running through the frequencies manually on either device until they both match (after you've found and selected the clear frequency for your area), selecting a preset frequency on the transmitter, and then syncing it to the receiver or setting the frequency manually on the transmitter manually and then syncing it with the receiver.

A lot of info is available via the online instruction manual; however, it can seem a mite disjointed. I sometimes found myself in a loop, clicking

on a link within an instruction set and soon finding myself back where I started.

That said, the system itself is very easy to operate. I would certainly recommend this for a house of worship on a budget, looking to get into upgrading production values for its worship band. However, if at all possible, I would counsel the individual musicians to purchase their own in-ear devices. Sennheiser has a number of units (Including the IE 100 PRO, IE 400 PRO, and IE 500 PRO), some of which were reviewed in previous issues of this magazine, which will afford better performance than the included IE 4. If that is not possible, then the IE 4 is certainly serviceable.

More me

The aforementioned focus mode is very handy for small setups or when the ensemble is used to having everyone use basically the same monitor mix. Of course, since an unlimited number of receivers can be used with a single transmitter, that makes it easy right off the bat. However, what if you get into a situa-

tion where, say, the singer wants to be more on top of the instruments? Focus mode allows the use of the two inputs as two mono inputs. With the vocal in one input and the instruments in the other, the user can turn up the vocal channel from the receiver to get a mono mix with the vocals hotter than the instrumental mix, and voila, more me. Additional units could be added for more flexibility (more mixes), but unless desired, there's no need to get individual transmitters and receivers for each ensemble member.

The simplified technology of the XSW system makes managing multiple systems extremely easy, which is a boon for any facility with staff that might not have professional levels of RF coordination training or experience. The icing on the cake is it makes for a very flexible small system with one or two transmitters and multiple receivers. For clubs, houses of worship, or community or school theatres, the XSW IEM is just the ticket for entry into the world of wireless IEM systems. 📶