

# Sennheiser XSW Digital

Simple can be versatile — **SIMON CLARK** tests an ultra-compact wireless system



The first radio mics I ever used were UK-made VHF units with a simplex transmission path. The audio quality was pretty good for voice, they weighed a fair bit, were about 8x6cms and, if you kept the transmitter antenna straight, had a range of about 75m. They cost a bloody fortune.

With this Sennheiser entry-level fully digital XSW range you get audio quality which, to my ears, at least equals and in some respects exceeds that 40-year-old system, weighs less than 70g, is about the size of my thumb, claims a range of 75m (more on that later) and costs under £300. This product range is priced well under Sennheiser's 1.9GHz AVX models, which beat them by having removable batteries, higher RF output and marginally higher specs overall, but lose dramatically in the latency stakes at 19ms against XSW's 4ms.

XSW models operate in the 2.4GHz band, yes that's right, crowded Bluetooth country. Indeed, the GFSK transmission modulation and aptX Live codecs used are pure Bluetooth Audio. The 8:1 compression codec is 'lossy', but I could only hear it working when I really pushed



/ XSW Digital with 3.5mm jack connected to camera

the system beyond reasonable limits. In normal use on speech any artefacts are inaudible. The unusual design philosophy here is that there are three different transmitters and receivers depending on your application. There are XLR units, 3.5mm locking jack variants and ones with a 6.25mm jack for use with guitars and their amps. The demon tweak here is that you can mix and match variants so, a dynamic mic with an XLR connector can be connected to a guitar amp or a DSLR while a guitar could feed your mixing desk without a DI box and so on. Sennheiser sell ten different sets containing various combinations and accessories like XLR pairs, 3.5mm pairs and some with an ME-2 lavalier or a base model dynamic handheld included.

## Simple operation

Operation is very simple, the units boast only one button and a multi-colour LED, and here are my whinges: the button feels cheap and lacks physical feedback so, when pressing and holding for the pairing or switch off functions I found myself unsure if the switch had actually operated. I ended up pressing uncomfortably hard and I wonder how long that switch will last. Secondly my often repeated plea on behalf of the many millions who, like me, are colour blind. It's all very well telling me that the mute function turns the LED from green to yellow, or that for the battery at <5% it glows red while fully charged is green but, don't expect me to be able to see that. To be honest I doubt if a normal sighted person could see the LED in bright daylight. It is, I accept, features like this which keep the cost down so dramatically.

Pairing is achieved by switching on two units and holding the button until they both stop flashing. A receiver will remember up to four different transmitters and Sennheiser provide coloured (sensible, bright blue, red and yellow amongst them) stickers so you can identify a paired collection. I love the little icons which differentiate between transmitters (a guitar or

mic symbol), a 3.5mm receiver (a camera symbol), an XLR receiver (mixer symbol) or a 6.25mm receiver (a picture of an amp). These are essential because otherwise the transmitters and receivers are indistinguishable. There is no tuning procedure or gain control. The system seems to be unity gain so, what you stick in one end is what you get out of the other.

Sennheiser say the XLR transmitter is for a dynamic mic but, perversely and in the cause of thorough testing, I stuck it on a +4dBu mixer output and it didn't flinch. Emboldened I tried the 3.5mm model on the headphone output of my home stereo and, unless I got very silly with the volume it coped admirably, a nominal line level appearing at an XLR receiver. At the National Film & Television School we are now using XLR pairs to send guide audio to cameras from Sound Devices 688 separate recorders in case of timecode issues. Using 2.4GHz means no problems with incoming 600MHz range radio mics.

## Diversity reception

It is a diversity reception system, difficult to believe in such a tiny package but, consider the wavelength at 2.4GHz and it makes sense. I have not been able to replicate Sennheiser's claimed reception range even with line of sight but, a respectable 40m is possible. Like all digital wireless systems, when it fails it just mutes with none of the warning hisses and buzzes of analogue. The built-in battery has a life of 5 hours per charge, but we take power from the camera to the USB-C charging socket so we can shoot all day. The lavalier set is supplied with an ME-2, not my favourite mic by a long chalk but, when coupled with a Sanken COS11 the system sounded just as good as the grown up analogue radios I use on TV dramas.

This is a remarkable product line at this price point. Online video content makers, for instance, can now get professional sounding wireless results for less than the cost of a professional miniature microphone. **T**

## resolution/VERDICT

**PROS** Price. Audio quality. Low latency. Ease of use. Small. Lightweight. Flexible. Internationally used frequency.

**CONS** Non-replaceable battery. Flimsy feeling switch.

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