SE Electronics USB2200A

Hardened USB audio cynic ROB JAMES prepares to disparage SE's new USB microphone, but is in for a very pleasant surprise...

A COMPUTER IS NOT really the ideal place to plug in an analogue studio microphone, so we generally need a load of paraphernalia between mic and PC to sort out levels, impedance and phantom powering. Wouldn't it be nice if the A-D convertor was in the microphone and all you had to do was plug it into a USB port?

This is the premise behind SE Electronics' USB2200a large-diaphragm cardioid condenser mic (UK£189 + VAT). Based on the bestselling SE2200a (over 20,000 sold, apparently), with the same SE 1-inch vacuum gold-sputtered ultra-light Mylar diaphragm, the new mic has a number of innovative features that mark it out from the rest of the herd.

I also had an SE2200a (UK£127 + VAT) for comparison. The first obvious difference is the size of the packages. Both mics arrived in cardboard boxes, but the SE2200a box was almost twice the size and the reason for this soon becomes apparent once the boxes are open. The USB2200a is foam-cushioned in its cardboard box, but the SE2200a arrives inside an expensive-looking aluminium flightcase.

Cosmetics are the next obvious divergence. While the SE2200a follows the traditional rather conservative design cues set decades ago by the German classics, the USB2200A is much less of a shrinking violet and has a decidedly retro feel. Thus the SE2200a is finished in satin silver with a matt grille and comes with a completely conventional light-alloy elastic suspension mount, while the USB2200A sports a gloss white body, a chrome grill, and a chrome C mount with two finger screws either side of the body (it also fits the same suspension mount as its sibling, and this is available as an optional extra). Conditioned by many years of tediously conventional mic design, I initially found the USB2200A a bit brash for my liking. However, familiarity breeds content, or something like that, and now I've had the chance to live with it for a few weeks the look is growing on me.

Aside from the USB connection, there's also an analogue output via an XLR in the base of the USB2200A. On the back, the lower part of the cylindrical body is recessed and here you will find a standard mini-USB socket, a LED, a balance pot and a 3.5mm jack socket. The last two are a clue to the other tricks this mic has in store. There is a D-A convertor for signals returned from the workstation, and the pot mixes the analogue mic output with these for latency-free headphone monitoring. While on the subject of connections, the supplied USB cable is ridiculously short at a mere one metre. Luckily, USB extension cables are readily available and affordable.

Just below the grille the usual bass cut and -10dB pad switches are joined by a three-way switch enigmatically labelled with a dot, a P and an M. This is an analogue gain switch: just to be awkward, Macs and PCs use different reference levels for audio over USB and the switch is intended to help compensate for this. The dot position is an intermediate setting.

Invisible from the outside, the USB2200a has a proprietary chip and software set that removes noise and spikes from the 5V power delivered via USB before it is converted to energise the capsule. Noise is certainly not an issue here.

I took both microphones to the studio of local vocal and performance coach and studio owner Jedd Owen-Ellis Clark to give them a workout.

Since the USB2200a is a class-compliant USB2 device, it requires no additional driver software. It is literally plug and play on both PC and Mac and automatically appears in applications as a sound device. The one real limitation is bit depth. The output via USB is 16-bit and this means you need to pay close attention to the analogue level, using the switch and distance from mic, to avoid clipping.

We used Wavelab as the host with no problems. With the mics set up side by side in Jedd's vocal booth I recorded short sections of scales, speech and singing. Large-diaphragm mics in a small booth

mean that bass cut can be considered a necessity. As with any large-diaphragm mic, a pop-stopper is also a must-have.

With the takes lined up on different tracks of a montage for easy comparison, first impressions were revealing. Both mikes are a little bright for my BBC-trained ears but Jedd was unconcerned by this and found the slightly smoother response of the SE2200a less dynamic.

Using USB with a wide dynamic range voice, the USB2200a's 16-bit limitations become apparent. It is all too easy to clip. I actually preferred the analogue output due to a perception of slightly better bass response and smoother midrange. Overall though, the utility of the USB option plus my slight preference for the analogue output of the USB2200a makes it the winner in this company.

In short, both of these mics deliver the goods. They are commendably quiet and can take serious levels in their stride. While they wouldn't be my first choice for speech, my preferred alternatives are several times the asking price here, and lack the convenience of the USB connection.

The USB2200a will lock to 44.1kHz or 48kHz DAW clock. Resultant files are 16-bit dual mono and, with the automatic conversion (bit stuffing), 24-bit. Although many Mac and PC programs will have no trouble creating 88.2kHz, 96kHz files, this feature is not officially certified by SE.

I was predisposed to dislike this mic, on the grounds that USB is not ideal as an audio connection, but I was pleasantly surprised to discover that it was a great deal better than I was expecting. The sheer convenience of just being able to plug in and go, with monitoring thrown in, outweighs the objections and the even better performance to be had via the conventional, concurrent analogue output seals the deal. ■

PROS	**Sheer convenience; studio quality mic via USB; price.**
CONS	**Only 16-bit via USB; appearance won't appeal to conservatives; needs 24-bit capability and remote control of analogue gain to totally convince.**

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