THE SUN KING

CAN A MICROPHONE THAT COSTS LESS THAN £450 MATCH UP TO MICS WORTH THOUSANDS?

WORDS: SIMON CROFT

A while back, I was at a pro audio convention when I got talking to a sound engineer who had brought along a mic of his own to sell. I knew at a glance that this was not anything I could afford to buy.

This was not just any only mic; this was the vintage, valve large-capsule condenser that tops most engineers' list of most wanted mics. "How much are you looking for?" I asked out of curiosity. "Four thousand pounds," he replied. Two days later, he sold it.

So what is it about large-capsule condenser microphones – particularly ones with valve preamps – that makes them so desirable? The short answer is 'the sound'. While all well-made condenser mics have an extended frequency response that makes them ideal for recording, the ones with large capsules also add a certain depth that makes them especially flattering to vocals.

You see, the capsule is the bit inside the mic that translates vibrations into current and it seems that a bigger capsule makes for a bigger sound. Add to this the 'proximity effect' - where the mic sounds a little browner in tone if you move in close to it – and you have a sound that singers love.

Now, there was a time when all condenser mics had valves in the preamp circuits because that was all the technology there was. Then along came transistors and mic manufacturers decided that they could do the job more reliably and cheaply with the new technology.

The manufacturers might have been right about the 'reliably' bit. Certainly, it's not a good idea to find out if a valve mic bounces. But sound engineers and musicians found that they preferred the sound of the original valve units. As often happens, it took manufacturers a long time before they noticed this trend – by which time, old mics in good condition were changing hands for big money.

"The diaphragm in the Helios is seven times thinner than a hair."

At this point you may the wondering why all recording mics aren't made this way if they sound so good. To make a high quality condenser mic requires precision engineering. The part of the capsule that captures sound vibrations is called the diaphragm and in the Sontronics Helios it is seven times thinner than a human hair. As you can imagine, the wider the diaphragm is, the harder it gets to make it so incredibly thin. Not only that, the mylar it is made from is covered with a fine coating of gold to make it conductive and then it has to be put through an artificial aging process.

So let's look at the Helios package. In addition to looking great, the mic has been designed so the body is away from the part that houses the capsule (so that there is a minimum of unwanted sound reflections from the casing). ▸

SONTRONICS HELIOS MICROPHONE

WHAT ARE THEY?

That sound engineer's Holy Grail, a large capsule condenser microphone with a valve in the preamp circuitry.

WHY SHOULD I WANT ONE?

Some of the most valuable and respected mics on the planet are valve condensers, which are highly prized for a big, warm sound that can add a bit of magic to almost anything from vocals to drums. If you'd like to own a bit of what makes top class studios sound the way they do, here's a chance at an affordable price.

SRP: £449.99
08701 657456
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"I can't believe Sontronics managed to keep the price of the Helios so low."

ROAD TEST

If you peer into the grille, you can see that the capsule is a dual diaphragm design. This enables the mic to be set to omni, cardioid and figure-of-eight polar patterns – or anywhere in between.

There's little else on the mic itself because the controls are on the included power supply. If you look at the two audio sockets on the power supply, you'll see that one is marked 'mic in' while the other says 'line out'. A line level output is fantastically useful in large venues because you can run long lengths of cable without the sort of signal loss you would get at mic level. In a home recording setup, it means you can bypass the mic preamp in your system, which may give you slightly improved quality.

There is a cool blue LED marked 'tube ready' which tells you when the valve has warmed up. Next to this, there is a -10dB pad to prevent loud signals overloading the mic and a bass rolloff, if you want to minimise proximity effect, or stage rumble.

But the coolest addition of all is the dial that allows you to set the pickup patterns. I have seen this feature before but never on a mic at this price. I'm going to be straight with you here – given that this makes the capsule almost twice as complicated to build and needs a special power supply, I can't believe that Sontronics managed to keep the price of the Helios so low.

I should mention the flightcase, the mic case and the cables, because they're all generous inclusions. But they're totally overshadowed by probably the most versatile mic you will ever own. The Helios really delivers. **PM**

You know that kind of reverent hush that descends on a rehearsal room or studio when someone opens a guitar case to reveal a seriously expensive instrument? You know, five seconds of silence, finally broken by someone saying "oh wow, that looks brilliant" in a stunned croak. That, my friends, is the reception that greeted the Sontronics Helios mic.

You have to imagine the build up. I turned up at my friend's house with a cardboard box. So far, so what? Then I pulled out the Sontronics flightcase. Hmmn, that looks rather big and expensive for a microphone case. When I opened the case to reveal about the largest power supply you could hope to see and a wooden case for the mic itself, suddenly, I had a whole band's attention.

Actually producing the mic had a remarkable effect. When the guys saw that fabulous piece of retro engineering, the atmosphere changed from Sunday afternoon round a mate's house to 'a recording session'. No one got hyper tense but you could tell that everyone was now taking things seriously. Just as well, because we were about to attempt a style of recording rarely done in the last 50 years. Welcome to the wonderful world of one-mic, one-room, one-take blues.

My mission was to capture drums, upright piano, double bass, electric guitar and vocals in one shot with no overdubs and no extra mics to help me get a sound balance. In case you haven't got it fella, we're talking mono here.

Having made one-room live recordings before, I know that it's really important that the band creates its own balance. But on this session, it was critical because virtually the only control I had was where to place the mic and how high the volume was set.

Actually, I had more options than you might think. For one thing, we cheated by using a little amplification on the double bass, so there were two instruments that came with volume controls.

Then there was the question of where the instruments were positioned relative to the mic, as well as where the mic was in the room. Because the guitarist was also the singer, we placed him fairly close to the mic but put his amp further away, near the bass player. The drums we put as far away as possible, in the corner, and the piano was just to the left of the mic.

There was a lot of time taken tuning and damping the drums, as well as a fair bit of decision making regarding how much we needed to take off the piano (anything that didn't require a screwdriver, basically).

One of the biggest aids I had was the adjustable polar pattern of the Helios. I started off with it set to omni but because I was almost facing the mic out of a corner, I decided to adjust it more towards a cardioid pattern, which gave me less of the room sound and brought the band 'closer' – at least that's how it sounded.

Weirdly enough, I discovered by accident that the Helios sounds even warmer when the top of the mic is facing the floor rather than the ceiling. That was a new one on me but I have since been told that there are a number of mics that have this odd characteristic. For our session, mic down got the thumbs up.

I can't begin to tell you how 'real' the final recordings were. Despite the fact that they were mono, you felt you could hear where every instrument was physically positioned in the room. And there were so many tiny details to hear, such as the way the double bass could set off the snare slightly, due to the vibration.

Despite our deliberately basic methods, this wasn't the sort of recording that would have come out of a blues session in the 1950s. It was way too clean for that but I'd like to think it was the kind those guys would have made if the recording technology had been up to it.

Everyone in the band loved the sound I got, with "warm but really clear" being the general opinion. If we had had two Helios mics on tap, I'm sure we could have made great stereo recordings as well. **PM**