

# Josephson C720

The fact that the choice and affordability of proper 'grown up' microphones has reached new peaks in recent years has made it that much harder for small and 'different' brands and products to cut through the glare. JON THORNTON believes he's found a great one.

Although in comparison to some of the bigger German or Austrian outfits, hitting 20 years in the business of microphone manufacture might still class you as a young upstart, for a company like Josephson Engineering it's a significant milestone. Significant, because 'boutique' is the order of the day here — volumes are low, quality is high, and customers have arguably some of the most critical ears in the industry. And despite all of this — or perhaps because of it — there's still time and space for some innovative thinking. The C720 is a case in point. Made in a limited production run of only 20 microphones (one for each year of the company's existence), it's a curious confection of classic microphone design and construction and some novel ideas.

This is immediately apparent as soon as you open the rather nice Pelican case that the microphone ships in. The microphone itself is a large, metal-bodied tubular construction with an integrated yolk assembly. But what at first appears to be a foam pop shield over the business end is in fact the capsule housing. Rather than the traditional metal mesh, Josephson has created the housing from an open-cell metal foam. As this structure is entirely self-supporting, it avoids the need for supporting bars or rings inside the housing, which, it's claimed, significantly reduces internal reflections and the associated ringing or frequency response anomalies. The material is open enough to be reasonably acoustically transparent, yet rigid enough to protect the capsule and provide the necessary screening properties. The one downside is that it doesn't provide quite the degree of pop, wind and (let's face it) spit screening of more conventional approaches —

so there's an additional very fine mesh screen inside the basket to help out.

This unusual construction houses a dual, large diaphragm capsule, with each side delivering a cardioid response. However, there's a singular lack of a pattern select switch (or any other switches for that matter) on the microphone itself. And therein lies the other slightly unusual feature of the C720. The captive cable that leaves the microphone terminates in a 7-pin XLR, and a splitter lead is included that delivers the output of each capsule half via separate impedance conversion/preamp stages on two 3-pin XLRs. As a result, you can choose to use either of the two capsule halves in isolation, or combine them at different levels and phase relationships to achieve any pickup pattern you want. The key advantage here is that this can also be done in postproduction if required, by simply recording both outputs to two separate tracks. Of course, in itself, this is not particularly new — Josephson has offered a number of variations on this theme with other microphones in its Series 7 range, and Sennheiser's MKH 800 Twin has identical functionality.

Internally, the C720 uses a discrete Class A circuit for each capsule half — a pair of FETs in a 'cascade' arrangement directly drive a custom Lundahl output transformer. This uses amorphous metallic glass as its core, which apparently results in a much higher overload point. The whole thing looks and feels incredibly well engineered and assembled, and the end result is a very solid and quite weighty package.

Despite this, the C720 sets up nicely on a stand (and I do like American manufacturers who thoughtfully provide a thread adapter as standard for us Europeans), and the thumbwheel screws on the yolk tighten and loosen firmly and easily to aid in placement.

First test for the C720 was male vocals, using a single, cardioid output from the microphone via a Millennia HV3C preamp. First impressions are that it sounds like it looks — incredibly solid.

In fact, it's hard to get away from that adjective even after more detailed listening — there's a depth and reach to the low-mids that gives a solidity to male vocals without even the vaguest hint of boxiness or strange resonances. Higher up the frequency range things remain very neutral and understated, the response sounds quite flat with nothing overly hyped, but at the same time manages not to sound clinical. How much of this is attributable to the novel capsule housing, and how much to the capsule and electronics is debatable, but it does give the impression of almost direct-injecting a sound source to your brain.

Things really get interesting, though, when you start combining the two outputs. Bringing the rear facing capsule up in the mix to an equal level obviously results in an overall omnidirectional response, with the expected increase in ambience and a reduction of proximity effect when used close in. The latter effect is somewhat useful on vocal sources, but this really works a treat when recording an acoustic guitar. Bleeding in just a small amount of the rear capsule widens the pickup pattern slightly and really lets you balance room tone against direct sound with a minimal amount of colouration or phase issues.

Getting back to a vocal source, bringing the rear facing capsule back into the mix but this time with it's polarity reversed, and the cardioid pattern starts to tighten — eventually leading to a near fig-8 response. At the same time the tonal characteristics of the on-axis sound start to shift as well — most noticeable as a little more high-mid presence and 'reach' to the sound. It really is a very 'tuneable' characteristic, and sounds much richer than simply reaching for some EQ.

Inspired by these initial experiments, it was time for something a little more radical, so I tried the C720 as a room mic on a drum kit. It was set up with the diaphragms at 90 degrees to the drum kit, and the outputs mixed to give a near fig-8 response with a null point facing the kick drum. Again, adjusting the relative levels of the two capsule halves allows you to almost steer the null point around a little, with similar results to moving a conventional microphone around slightly to find that perfect bit of 'air' in the room. There are also some interesting results to be had by keeping the polarity of the capsule halves the same, but panning them left and right rather than summing them together — there's a nice stereo ambience effect to be had here that's highly mono compatible.

At a time when the choice of microphones and manufacturers is arguably wider than it has ever been, there's a real danger that your palette can start to become a little jaded (*Very good point and well said Jon. Ed*) So when a microphone comes along that really grabs your attention and inspires you, it's a wonderful thing. And the C720 does just that. There's virtually nothing you can point to that's bad about this microphone. OK, it's not cheap (UK£2760 + VAT), there's no shockmount, and you'll have to move quickly to secure one of the 20 that are being manufactured. If your pockets are deep enough, I'd recommend you do just that. ■

## PROS

Fabulously solid sound; accurate and honest without being clinical; massive flexibility in twin outputs; great build quality.

## CONS

Price and availability — that's about all...

## Contact

JOSEPHSON ENGINEERING, US:  
Website: [www.josephson.com](http://www.josephson.com)  
UK, KMR Audio: +44 208 445 2446