



# Schoeps

Schoeps mics are still made in the same street that the company was founded in in 1948. **ZENON SCHOEPE** spends some quality time with its two co-CEOs.

In our modern industry we still have enormous respect for a hand-built pro audio product despite the fact that automated manufacturing has crept in to most stages of product build. When you see modern products built by hand by craftsmen it's a humbling and enlightening experience. But it's all about scale. If you manufacture high volumes of a small number of products then automated manufacturing makes sense for reasons of cost but if you hand-build small numbers of lots of very different types of product then your priorities are different.

After parking my car in the tight parking area at the back of the Schoeps manufacturing building and HQ in the small mediaeval city centre of Durlach near Karlsruhe, I enquired innocently about where the lorry that takes the manufactured product reverses in for docking and loading. I was told with a smile that there is no 'lorry' as each day's consignment is removed in a small van without any drama. Despite its enormous worldwide reputation, Schoeps remains a small manufacturer of exquisite microphone products that are made with love by an exceptionally skilled and loyal workforce for a discerning and appreciative professional customer base. And it is run by people who are relaxed and completely connected with their customers and their applications and are not anonymous number crunchers sitting in an ivory tower. It employs around 41 staff in 1,500sqm of space in which they develop, manufacture and distribute its complete product range. Once you get your head around that, everything makes perfect sense.

The company was started by Karl Schoeps in 1948 three houses down from the current location which he moved to in the early 1950s. The building, which dates back to 1658, was previously used as a dancehall, brewery and hotel and

offered plenty of space and scope for the future expansion that the fledgling company would need. The company name — Schalltechnik Dr.-Ing. Schoeps (Schalltechnik means audio technology) — draws attention to the young company's intention to be concerned with all aspects of sound recording and PA including cinema and it made tape recorders among other things. Those other things included s mic production which gained traction and the business grew steadily on the back of export sales particularly to nearby France. Karl Schoeps directed the company and represented it to the outside world with Willhelm Küsters taking care of the technology of the products. Küsters was assisted in his ill health by a young Jörg Wuttke in 1970 and he took over his responsibilities when Küsters died a year later. The 1970s saw the introduction of the seminal Colette microphone series and in 1980 Ulrich Schoeps, the son of the founder, joined the company and in 1986 became the assistant to his father as business director. Karl Schoeps died in 1993 having worked until the end. Ulrich took over direction of the business. Wuttke retired in 2007 but remains connected with the company as a consultant and as a shareholder. At the beginning of this year Ulrich Schoeps resigned after more than 28 years as CEO and handed control to two co-CEOs — Helmut Wittek has been at Schoeps since 2005, and co-CEO since 2009, and Karin Fléing, who joined the company in 2007 formerly as director of sales and marketing. The company remains privately owned, with Ulrich Schoeps as the majority shareholder.

The company product development history is depicted in a small 'museum' at the front of the factory — a side effect of which was the comments they received about the great looks of the classic CM 51/3 mic. The similarity in look of the V4 U stems from this, something Karin Fléing describes as 'copying ourselves'. Some of the products in the museum, like the modular series, are still made albeit with refined and improved manufacturing, according to Helmut Wittek, but still 'to the same design and still compatible.'

It's a history that has been punctuated regularly by innovation — that digitally enabled SuperCMIT blue shotgun continues to get work for freelance location recordists and serves as an indication that the owner knows what he's doing — but they have also always been big on the associated hardware. 'The application is just as important as the mic itself because you need to apply it properly so it's mandatory that we take care of that because the customer often can't,' says Helmut. 'That's part of our success and part of our philosophy.'

One of the fantastic aspects of a Schoeps mic is the quality of mechanical and cosmetic finishing. There is something incredibly satisfying about screwing furry-like Nextel parts together and having them appear seamless. This anti-reflective finish is another Schoeps first — 'We have to be the first with things because we are small and it's our only chance,' laughs Helmut.

The factory is intricately laid out over several floors and into different buildings but, with the exception of some small circuit boards, includes areas for the production and finishing of all Schoeps products — from fashioning the parts from the raw metal right through to packing the completed products into boxes





for that small van to collect. They produce their own plastic parts — this includes the transparent presentation tubes that the small mics come in — and like everything else here they manufacture it themselves because the volumes are too small to farm out to third parties. Karin: 'If you tell a Chinese manufacturer that you'd like 500 pieces, they'll think you mean 500,000!'

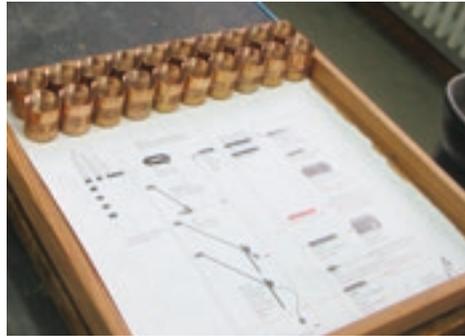
Metal parts are made on a selection of machines that are reconfigured when required. They build to stock and to order but you have to factor in the breadth of the Schoeps portfolio so there are a few times a year when small quantities of less mainstream products — including special versions — are produced. The upshot is that the workshops are always very busy balancing the unceasing demand for the shotguns, for example, against those small volume annual one-off orders. It means that everything has to be organised very efficiently as the plant is pretty much working at full capacity all the time. They give the example of a conference room mic setup in which 100 table mic tubes are ordered that are a couple of centimetres shorter than their 'standard' offering. They will build them to order because they can and because it makes a difference to the customer.

A process of modernisation is ongoing with further efficiencies being looked for and implemented. The newest machine is a laser engraver — logos were previously etched into the brass but can now be much more intricate and include customers' logos. There are some truly splendidly detailed bits of metal work going on here with routing, turning and drilling from solid copper bars. The tray of bits shown in the photo are all produced on the one machine. They also have computer controlled CNC machines and because of the standardisation of the tube diameters used throughout the range of products this means you see parts produced to a common certain point and then taken off for different levels of machining to transform them into specific products.

The assembly area has batches of the raw components that are put together into part-completed products. There are no photos allowed in the capsule manufacturing area where the parts come together and are tweaked but we have included one example of a box of the 46 'pieces' that go into an MK 4 capsule. It takes about 20 minutes to make one, including all the measurements that are tied into the serial number. The ladies who work here train for a year and stay for long careers. There's even a mother and daughter working here — the mother being three years from retirement and 44 years' service. You'll have to take my word that there's a lot of manual work at this stage including 'deburring' of the minute drill holes in the surround. 'There is so much IP here,' says Helmut. 'The last 5% of the quality is the most expensive. It's not just the perfectness of the frequency response — it's the fact that we've been creating this frequency response for 40 or so years. It means you can have a pair with one from 2015 and the other from the 70s.'

The finished capsules are baked and put in humidifiers to age them and are checked afterwards; if they haven't deviated by then then they are unlikely to in the future.

An electronics development lab is key to Schoeps performance because the dynamic range of the capsule is too high for 'normal' electronics, according to Helmut. 'Of course, it's not only analogue now, it's digital too and that doesn't make things easier. One centimetre away from a very low current



could now be a digital processor, which can be very loud in terms of interference.'

There are full repair and service facilities at the HQ and while Schoeps doesn't recommend a service interval, users should be mindful of how the mics are stored and where they used. A service can involve a complete clean, the contacts are checked, things are replaced if needed, you can even get a new housing, and receive your mic back as good as new for a lifetime's use. Some customers send in their batches of mics each year simply for checking.



The development area of the company includes electronics, digital and CAD facilities along with rapid prototyping with 3D printing. There's also a custom metal work area that can prototype, make product one-offs when required, and make the tools for the metalwork rooms. There is so much expertise, craftskills and experience apparent throughout the Schoeps building. Like all intelligent companies they invest in people. The appointment of two co-CEOs may seem strange but it is not unknown in German companies.

'It was a very prepared and slow move and was something that was quite natural,' explains Helmut. 'Ulrich Schoeps wanted to preserve the company as a family-owned business but he didn't want to work as an MD until he was 80, which he saw with his father. We have worked together with him for ten years, in my case, and eight years, in the case of Karin, and we took increasingly more responsibility.'

'Ulrich had done the administration for decades and he had the technical side of company covered by Jörg Wuttke. When Jörg retired I came in and together with my colleagues we did the technical development but more and more I got involved with the administrative stuff and concentrated more on professional sales,' he says.

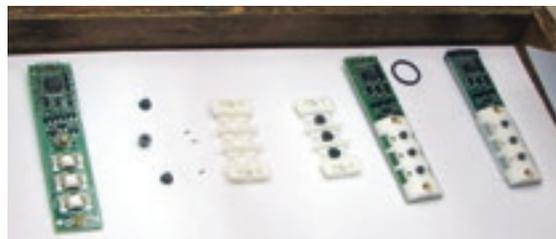
'Ulrich was always in charge of international sales and he handed worldwide sales over to me some two years ago,' adds Karin.

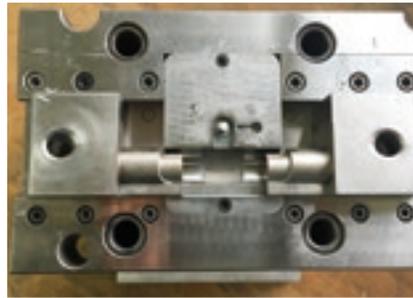
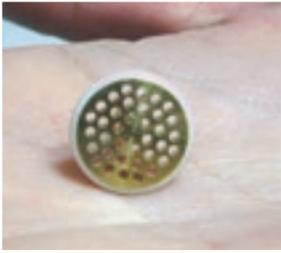
'Now that we had managed the administrative, sales and the technical responsibilities the move was performed publicly with Ulrich's full retirement in January,' explains Helmut. 'Now we are alone and 100% in charge; it's a new situation and it's challenging. Ulrich wants the company to change and to stay modern and he wants us to decide that without him so that's what we're doing.'

#### How are you modernising?

Helmut: 'We have a legacy here of wonderful microphones and a great customer group all over the world and we want to preserve this expertise and the trust of the users in the products and the

company. We have always had that connection with our customers. But we have new technologies and new ways of developing manufacturing. We want to be more efficient. When you look back 30 years there were engineers in-house here





who were experts in their field. Nowadays we are working on technologies that require more teamwork and expertise in very specialised fields and this has changed in lots of companies. The electronics people work with CAD people and together with the capsule designers to improve the interference of the circuitry in the housing. It's a combination of these skills that is teamwork in the best sort of way and we have to build the infrastructure to allow this to work and to be managed. So it's a combination of high individual skills, teamwork, new technology, digital, of course, and our legacy.'

#### **Schoeps remains unique in being broad in product range, specialised in market sector yet so small as a company.**

Helmut: 'That's true but it's a niche market. We cannot make out customer groups bigger just by changing these habits; it is a niche market and we are happy to work in it because we are very good at it. And the number of professional users in the world is quite small but they require the best tools to work with and the value they get from our product is high.'

'If you look at our production, the material we work with, the number of employees, then you will see that our price is reasonable — there is no high margin hidden here. And you can spend much more on other microphones and they'll be made much more cheaply!'

#### **What are your thoughts on digital?**

Helmut: 'We are looking at how digital can add value and we're looking at it honestly. We've produced a White Paper on the Pros and Cons of digital mics. If you're honest, some of the Pros are really marketing aspects not really Pros of the technology. For example, noise floor and dynamics — analogue mics have the greatest dynamics if you combine that with a correctly set sound chain. A digital mic makes this a little easier to achieve but it's not true that it's better. We are looking at the practical application aspects for the customer and we don't just want to sell digital and leave the problems for the customer to sort out.'

Karen: 'It's not just about AES42, there will and are other output types and we have to make sure that what we do can adapt to these. We want to make

sure that the capsule you saw being assembled by hand here can be used by all types of future technology.'

#### **How do you see mics play a part in the audio networking future that we are heading towards?**

Helmut: 'I don't know! AOIP is technology that has an important role in audio infrastructure and this will get more important. Where and how to use a mic within that infrastructure is not yet clear because once again we have to make sure that we don't only have 'Cons' but also some 'Pros'. It makes sense for ease of use, perhaps, to put the network interface directly in the mic preamp. That depends upon some aspects that we can't choose or control — the

infrastructure, protocol, the cabling, the plug, the power, the miniaturisation of the parts. I hear that you can now remotely control the gain of a mic using this method — wow! The gain in the digital domain just decreases your dynamics if you turn it down. It's not just about getting rid of the multicore cable and buying the cheaper ethernet cable, that's not the whole story. We have to find features that are Pros.'

#### **What's special about Schoeps?**

Karin: 'Our people are special. We have engineers who still regularly talk to customers and they know the products and they know sound engineering. They can explain and understand questions and answer in a non-marketing way. And we make really good products that are technically excellent so they are a pleasure to sell and use.'

#### **I've noticed that you repeatedly use the word 'tool' to describe mics ...**

Helmut: 'Maybe we don't want to overemphasise the role of the microphone — it's important but it's also very important how you place it and use it. You need to know your job; it doesn't do magic. I'm not saying that it doesn't make a difference! How big that difference can be — and the frequency response of some other mics might be the same — is remarkable.' ■

#### **Contact**

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