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UNITED KINGDOM

Celestion: 90 years old but more determined than ever

In this, a year celebrating an anniversary rarely seen in the pro-audio business, **Dave Robinson** discovers how Celestion plotted and executed a daring land-grab of the loudspeaker component market

CELESTION MAKE GUITAR speakers, right? Correct. But in the last few years, a sea-change has occurred for the business, and now a substantial part of Celestion's revenue is generated by sales of loudspeaker components to third-party makers of sound reinforcement systems.

How did that come about? All in good time: the company celebrated 90 years of operation in 2014, so let's have a little history first.

The first suggestion of the company above a shop in Hampton Wick in 1924, where brothers Cyril and Ray French tinkered with their designs for wireless radio sets. In a moment of serendipity, the British Broadcasting Company Ltd was taking shape around the same time, and suddenly there was a demand for the brothers' creations. Cyril French patented his first ever loudspeaker design in 1925 and called it the 'Celestion'... Brother Ray designed and built intricate mahogany cases for the speakers: original examples are still dotted around the Ipswich factory today.

Through the Second World War, Celestion made speakers for factories, tanks and submarines. In rolled the 1950s and 1960s, and the company's G12 permanent magnet loudspeaker, which had until then been used in home 'wireless' sets, found new fans on the rock'n'roll scene, as first Vox, and then Marshall, installed them in their guitar cabinets. Celestion became the sound of rock!

Skip now to 1992, when Victor Lo, a hi-fi enthusiast, acquired Celestion and hi-fi brand KEF for his Gold Peak electronics business, creating

GP Acoustics. So began the shift of high volume product manufacturing from the UK's Ipswich factory to GP's base in China, before it became what is now an accepted business strategy. KEF remains a sister 'consumer division' of GP Acoustics to this day.

Joining GP in the early Noughties, new MD Nigel Wood brought a new outlook. "There came a point when Celestion needed to decide what it wanted to be," he reflects. "Fundamentally, we were making PA drivers (a small part of the business), guitar speaker drivers (a very important part of the business) and complete speaker boxes. We reviewed the business and realised that box [designs] were old and coming to the end of their lifecycles; we would need to make a huge investment if we wanted to pursue that business. But a number of our OEM loudspeaker system manufacturers pointed out: 'Yes, we'd like to buy your drivers, but we can't but them from someone who is directly competing with us. If you want to grow your business with us, you need to think again.'"

Celestion was effectively cannibalising its own market: and so over a two-year period beginning in 2004, the company phased out its ranges of PA and installation boxes to concentrate on the component market instead.

Here endeth that – sometimes painful, but ultimately effective – period of change. Guitar speaker manufacturing continued to be as lucrative as ever for the business. But how to grow next?

It was at the NAMM Show, some five years ago or so, when Celestion's marketing/



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artist relations manager, John Paice, first revealed to *PSNEurope* the next step. "A big push into line arrays" was the kind of confidence Paice expressed. And we waited, and we waited... until, in early 2013, Paice revealed that, indeed, the sale of pro-audio drivers, both high and low frequency, was becoming a seriously big deal for Celestion. Then, at the company's 90th birthday celebrations at Prolight + Sound earlier this year, Wood revealed that not only was the company making 1,000 compression drivers a day, but that pro-audio sales generated 65% of the company's revenue, practically double that of the guitar loudspeakers.

From the 40-strong UK HQ in Ipswich, Celestion was on track to sell 500,000 compression drivers by the end of 2014. And in another five years, Wood estimates 85% of the business will be from the pro-audio sector. ("I don't want the readers to get this idea that guitar speakers aren't important to us – that part of the business has never been healthier!" he emphasises.)

Whichever way you look at it, the Celestion plan has produced incredibly impressive results. Earlier this year, *PSNEurope* sat down with Nigel Wood and John Paice to try to pinpoint just exactly what the formula for that success is.

Below are six key points

from our discussion. They're not exhaustive, but they are fundamental. As Wood said repeatedly during the interview, "This made a big difference!"

CONFIDENCE FROM THE INVESTOR IN THE STRATEGY

NW (Nigel Wood): Probably the most important thing to start with was Gold Peak. We had a discussion with the Gold Peak board saying: "We are here and we want to move to there. This will be a five-year plan, so we need to work together over [that time] to achieve our objectives." The great thing with Gold Peak is that they are more interested in the long term than the short term. So we put together a plan to work with the shareholders to make available the capital investment to drive the pro-audio business forward – that was the single biggest driving factor.

PSN: So they threw a load of investment at you?

NW: They made a lot of money available. We took that resource and we put it into engineering, we put it into product, we put it into a sales force, we put it into marketing. All of those individual elements with the plan and the commitment allowed us to be successful.

WINNING THE TRUST OF CUSTOMERS

NW: A lot of people trust us, as well. We have heritage, we've been around for 90 years. Hopefully we'll be around for another 90 years. They know that we'll be here in five years' time, in 10 years' time, and we are just a very, very reliable partner. Behind us is Gold Peak, who are a very reliable partner for finished goods contract manufacturing: Gold Peak Industries has a US\$2billion turnover, which makes us very dependable. GP knows our business is dedicated to the audio business and the music business and that is very important as well. If you're a loudspeaker manufacturer who's looking for a driver partner, you want someone you can trust for at least five years. It's really, really important.

JP (John Paice): Plus, we have our own factory in Guangdong province, which means both design and manufacture remain within the organisation, so there are no project disclosure issues.

SHARING THE STRATEGY WITH CUSTOMERS

NW: When we started to develop the software tools and the initial products, we shared with key customers, in confidence, what we were trying to do and how we were trying to get there. They were very supportive.

PSN: You're talking about the line array developers, the sound reinforcement systems builders.

NW: Yes, and their support and feedback proved what we were trying to achieve was correct. They were buying into the plan, into the dream. So to really ensure we have the right market products we work very, very closely with our customer engineers.

JP: It's a two-way process. It's not just, 'Can you tweak this, can you tweak that?' – increasingly, it's, 'What is the end point you are trying to achieve with this new product?'. And understanding that final goal enables us to work faster and design better. You can

also gain valuable insight into how the marketplace might be shifting. Steerable column arrays, for instance: when we started to develop these compact array drivers, the AN series, it suddenly became apparent that it wasn't just one or two esoteric little projects that were out there, it was actually a shift in the marketplace.

NW: Having our engineering team meet with a customer's engineering team is probably one of the most important meetings we do. It's so important for both partners. They can see in a year's time what will be available from a driver so they can start to design their products around our products, and we can see what their requirements will be as well. When we work very closely with our customers we work in strict confidence as well, because commercially sensitive issues are discussed.

PSN: What is the shortest time you can go from a customer meeting to producing final product?

NW: It depends on how complicated the product is. But anywhere from 90 days to two years.

THE RIGHT TEAM AND THE RIGHT TOOLS

PSN: So Nigel comes back from China with the green light to invest in staff and machinery.

NW: We did invest in a lot of engineering tools as well, because ultimately we are an engineering company so we want our engineers to be as efficient as we can possibly make them.

JP: When I started in 2003, there was Ian [White] who was for many years our head of engineering (and now works for us as a consultant), Paul Cork [then senior project engineer, now head of engineering] and one other project engineer, a couple of people in the drawing office and that was it, really. Now we have a development team of 11.

PSN: You claim to have the largest R&D team of any driver manufacturer.

JP: As well as the development team we also have a dedicated research team that feeds both the Celestion and KEF brands. That works well because ultimately, the acoustical science is the same. All research and development is conducted in the UK.

PSN: The software is your



Celestion woofers on the production line in Ipswich

secret weapon, right?

JP: We've spent 15 years developing our own software; we call it Projector. It allows us to understand the activity of each little tweak in a model of a loudspeaker design. Projector takes the principles of FEA – finite element analysis (a mathematical approach to solid mechanics) – and applies them to loudspeaker manufacture: mechanically, thermally, acoustically, electrically. We believe that no one else models all four of those elements together.

RELIABILITY AND CONSISTENCY IN MANUFACTURING

NW: When we moved into the pro-audio sector, we realised it's difficult to make good compression drivers consistently. We saw that as a challenge, and an opportunity. [With some manufacturers]

you can get [lower] prices for the drivers but they don't have the consistency. We put a lot of engineering and factory effort into manufacturing small precision parts to high tolerances. Because we have a large factory, we have massive capacity – and because of that we grew compression drivers manufacturing very quickly. More than 1,000 compression drivers are sold every day.

SEE IT THROUGH

PSN: What does Celestion need to do next in order to stay on top of its game?

NW: We are half way through our [10-year] journey. We are very comfortable with our strategy but as we learn about the market, as the marketplace changes, we have to tweak and refine the strategy. I guess, hopefully, what will happen over the next couple of years is that we bring out some

innovative products that will hopefully change the industry.

PSN: How often do you have to report into Gold Peak?

NW: Every quarter, more or less. On a day-to-day basis we're pretty much left alone to run the business.

PSN: And that works for both of you?

NW: What you seem to find is that when you run a very successful business, you are left alone!

PSN: And Gold Peak is run by the same man who bought the company 20 years ago?

NW: Yes – Victor Lo.

PSN: And he still has the passion for hi-fi?

NW: Absolutely. He is very, very passionate and an interesting character: every time I meet Victor, he says, 'You need to invest more money in this business!' It's a nice problem to have. ■

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THE NEODYMIUM PROBLEM

PSN: Two years ago, you weren't using neodymium magnets, just ferrite ones.

JP: There was a point – probably burnt into Nigel's memory – where the price of the neodymium shot up double, treble, even more.

NW: At its peak the cost increase for us to buy the neodymium magnets for any particular driver was greater than the selling price of the driver.

JP: At that stage it becomes much more difficult to justify. What we tried to do instead was hedge against

any further price increases by looking again at the well-used ferrite technology and see what we could do to that. Obviously one of the key advantages of neodymium is the weight...

PSN: About half the weight, isn't it?

JP: With the FEA software we looked at how we could pull out as much of the metal weight as possible to make lighter ferrite drivers, so that if the price of neodymium stayed high there was a lighter ferrite option.

NW: We now have lighter weight

ferrite and neodymium drivers, so we make both types of product. Also, the price of neodymium has come down to a more sustainable level. It's, like, three times the price of what it was three years ago – but it's not 20 times the price.

PSN: Wow!

NW: Yes – wow. That was an interesting time! Now, Today we just warn our customers about the last couple of years of volatility and that nobody really knows the future price of neodymium. Just be warned!