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Knowledge is power

The amplification experts at Powersoft have had an enormous impact on the pro-audio landscape thanks to their high power amp modules and rack amps. *Zoe Mutter* travelled to the HQ in Florence to hear the company's fascinating story from its founding members.

From humble beginnings to worldwide success, pro-audio manufacturer Powersoft has enjoyed an exhilarating 20-year journey. It all began in Florence, Italy, when brothers Claudio and Luca Lastrucci teamed up with university friend Antonio Peruch to explore their passion for music and technology.

"We started off working on small projects in our garage with ambitions of launching a new audio company, our technical skills and interest in music forming the foundation," says Luca Lastrucci. "The name Powersoft perfectly summed up the products we wanted to manufacture - representing the power and software."

An amplifier for a car hi-fi system was one of the trio's first projects. "When we were at university the car was like a disco," says Peruch. "But you only had 12 volts to play with. To create a lot of power we needed to step up the voltage so this is what we focused on first. It was difficult to manufacture for the consumer end though because many large companies were present in this market so we had to change our target."

Uncertain of the path the business would follow, Powersoft's early products were designed for a variety of applications, including software for artificial intelligence services. Two years of extensive development saw them assemble the first prototype of a new generation of amplifier - a stable Class-D that could produce reliable, high levels of power, something others had failed to achieve so far.

"We didn't know what to do with it at first so we registered a patent and tried to sell the prototype but nobody believed in it," continues Luca Lastrucci. "A potential partner suggested we attend an electronics show in Milan to present our prototype. Luckily the founder of Italian pro-audio manufacturer, Outline, the late great Guido Noselli stopped by our booth to enquire about it."

"He couldn't believe a 10,000 watt amplifier could be made - this was a huge amount of power back then. So we demonstrated it to him at our makeshift office in Florence - the small apartment Claudio and I were born in - and this marked the beginning of a relationship with Outline that remains strong 20 years later."

In 1997, Outline's first order of 500 Digam 7000

amplifiers instigated a change in Powersoft's approach, encouraging the company to continue manufacturing the product itself rather than sell the project on. Business escalated quickly from there, with the first employees recruited, suppliers were sourced and an assembly and testing process established.

Changing the industry

The amalgamation of skills Powersoft's founders brought to the table formed the building blocks for success, with Luca concentrating on software while Antonio and Claudio focused on hardware. Another influential figure and one of the company's first supporters was Carlo Lastrucci - Luca and Claudio's father and Powersoft's president. He's encouraged the team from the outset. Luca says: "He told us to never give up on something you have passion for and we haven't to this day."

The current company structure sees Luca in the position of ceo and managing director, with Claudio as research and development director and Peruch taking up the role of quality assurance and global services director. Luca Giorgi came on board in 2007 as professional audio business unit manager to head up international sales and business development.

During its infancy the team tried to stand out in the market, thinking outside the box by introducing a blue amplifier. "It was a shocking colour as amplifiers were either black or grey then, but we wanted something recognisable that would express a new type of technology," says Peruch.

Whilst it was breaking the mould in product design, the company pushed to change industry views on the amplification process. Powersoft's products were Class D (switching mode technology), but large multinational companies such as Crown, QSC and Crest made analogue products.

"We were at the beginning of the digital era and any users that might have had a bad experience with Class-D amplifiers were sceptical," Giorgi elaborates. "Some thought they produced a different sound that was too cold but after two years of hard work educating people about our products we started to change the attitude towards digital amplifiers. Now every manufacturer has followed suit."



Powersoft's board of directors: Carlo Lastrucci, Claudio Lastrucci, Luca Lastrucci and Antonio Peruch

Consistent innovation

With significant product introductions scattered throughout the company's history, singling out one milestone is difficult for the founders. Although the development of its first OEM product is one of the most obvious, during Powersoft's early years it created an interactive product for telephone systems and game-changing public transport applications.

Giorgi continues: "We made the first software in Europe for bus optimisation routing called RadioBus. Customers then enquired about hardware options for the on-board system so we produced this and then launched a new division for mobility equipment."

This separation between professional and mobility equipment exists today, although they share the same R&D team. The boundaries have blurred somewhat for some products more recently, however with the development of Deva in 2013 - a unit for audio messaging and video that combines solar power, bi-directional wireless AV communication, lighting and a Class-D amplifier.

For Giorgi, the K Series' introduction at the end of 2004 stands out as the flagship and he believes the X Series multi-channel amplifier platform - which launched last year and raised power levels further - will fill this role for the next decade.



PHOTOS: POWERSOFT

Competitors as well as customers took note of the technology behind the K Series, adds Giorgi: “The fact that more than a decade on there is no real copy is testament to the patent, the design’s strength and the complexity of the technology.”

“That product line transformed us into one of the market leaders. Blogs referred to it as the Ferrari of power amplification and I still believe it’s a tech masterpiece in terms of reliability and performance.”

“Continuous innovation followed and with M-Force moving magnet transducer technology we presented a new approach for creating this type of product. Such innovations allow the industry to move forward to a different era of performance.”

Powersoft was also responsible for the first power module prototype - introducing a smaller amp and the concept of moving it inside the cabinet. Claudio says: “Some found the idea of active speakers strange at first but now the market has responded positively and we’ve opened up the amplification possibilities. It’s a growing market so we invest heavily in developing new power modules.”

Giorgi adds: “It’s also worth noting that when you enter into a market such as this which I would say is quite conservative and features big players you have two choices - become the leader in cost and offer a product at a lower price or do something

different and better whilst not compromising on price. We went with the latter option which was a risk but we believed strongly in the product.”

Powersoft went on to inspire companies through creations such as the scalable, flexible DigiMod module, representing industry progression and a move towards producing self-powered loudspeakers.

As well as improving efficiency and power through the development of pulse width modulation technology, Powersoft was the pioneer in power factor correction which impacted on the production and distribution of electricity. “We struggled at first because it was an additional cost and people questioned why they should pay more. We never stopped believing this was the future and after 20 years it’s commonplace and everybody says they offer it,” says Giorgi.

A powerful responsibility

A dedicated team of 60 works at the main Florence headquarters with a further 80 employed at Powersoft’s two Italian manufacturing bases. The operation has always prided itself on its products’ quality achieved through not cutting costs.

An openness with customers regarding product specs is also imperative. “Some years ago amp data sheets included slew rate and damping factor but

few manufacturers make this information available now,” says Giorgi. “These crucial parameters describe amplifiers’ behaviour and ability to quickly reproduce a change in audio. When we released the K Series including this data was a USP and we still make it available for all products.”

The R&D department forms around 30 per cent of the work force at the Florence HQ with around 25 people focusing on hardware, software or mechanical design in this division. Luca Lastrucci elaborates on the extensive procedure behind the R&D of such first class technologies: “Sometimes we investigate potential new products, driven by market demand, and others are long-term projects that might be five or 10 years in development. The testing process involves simulation - electrical, mechanical, acoustical, thermal and magnetic.”

“All our testing equipment is developed in-house. We could sell it but we view having this unique equipment as an advantage over other companies. Maybe we’re not at the top in terms of price but we justify this through the performance of products developed through extensive investment in the simulation and testing stages.”

Another key concern is maintaining the company’s green credentials and meticulous production procedure. Peruch adds: “A higher level »

of engineering allows greater automation. Thorough inspections occur and at the end of construction a system control checks each product.”

This has resulted in a low percentage of units being returned - out of 200,000 in Europe only 1,000 need attention every year. However, many of these issues are caused by misuse.

Being green is also a large part of Powersoft's ethos. Solar panels - generating 500kW of power at its Bologna plant and 1,500kW at the Gorizia production plant - make production very efficient.

The environmentally-friendly qualities of its products further strengthen Powersoft's GreenAudio Power philosophy. To create products that are as green as possible the company invests 11 per cent of its turnover into research and development.

Luca Lastrucci adds: “We've always tried to minimise our impact on the environment and now with power factor correction our technology package puts the company top of its game in this respect. Being green has always been important to us but it became more essential five to 10 years ago.

“It used to be harder to sell more expensive products offering efficiency benefits or a greener approach but now you're at a disadvantage if you aren't green.”

Although future tech development is strictly under wraps, Luca Lastrucci reveals maintaining these green credentials and focusing on power electronics and audio processing will continue to be at the heart of upcoming projects.

Global presence

Despite still being proud of the company's Italian roots, to achieve the international success it celebrates today - selling products in more than 55 countries - the team had to expand into other territories and grow a network of distributors, partners and authorised service centres.

Its distributors must value quality and performance. “We are not a leader in price,” Giorgi admits. “So we don't want distributors to collect brands and sell them at a low price. Once we enter into a partnership they become part of our family.”

Europe was the obvious choice for early expansion, followed by the US when John Lee, former Crest president, expressed his belief in Powersoft and suggested they open a new company in the US with him. “Although this closed because the results were poorer than expected we now enjoy a healthy level of business in the US and it's a very important market for pro-audio,” Luca adds.

“We never invested too much in the Italian market because it has a different approach to business - it was too political rather than driven by evaluating facts and performance. Success in South America followed because they value powerful audio there. Our next move was into Asia and this along with the US has been full of opportunities for us ever since, especially in large sporting venues.”

In the meantime, the company dipped its toes in the American market once again by establishing Powersoft US in 2005. However, the competitive market in this territory made launching a sister company dedicated to the US challenging at first.

This global presence was accelerated by the company's education programmes. Being innovators forced them to train customers in the



PHOTOS: ZOE MUTTER

The Powersoft team at the Florence HQ: Bottom right - marketing and communication manager, Francesco Fanicchi, and professional audio business unit manager, Luca Giorgi

products they introduced to market.

“Education is important for us because we always roll out new concepts and technologies that might be unfamiliar to people. Our Sound School and other training programmes have informed users about the benefits of our products,” says Giorgi. “We want everyone - from sound engineers through to consultants - to understand what is possible.”

Pioneers in power

In 2013, Powersoft announced it had surpassed the 700 million watts mark. So without doubt power level has always been important, but especially so in the beginning when manufacturers needed to differentiate themselves to shorten the time to market. A higher level of power also means fewer amplifiers are needed to run the same system.

Versatility shines through in many of Powersoft's products, making them adaptable to multiple

Traditional AV has been a fairly unexplored market for Powersoft in the past because its products' power was not always suitable for this application. In the last few years, however, an install product portfolio has been developed.

“Our amps are starting to be used for projects we wouldn't have dreamed of before,” says Luca. “For example, in the past few months our new Ottocanali 12,000 watt eight-channel amplifier featured in installations for an international fashion brand. With this product, Deva and others in the pipeline, I believe the use of our amplifiers will continue to grow quickly in the world of traditional AV.”

Family values and customer care

As well as announcing further innovations, at Prolight+Sound attention will turn to celebrating the company's twentieth year. Powersoft's early ambition was to become a competent player in the audio market, developing new technologies and ideas. Two decades on, the team not only excels in terms of innovation, it continues to value customer care and heavily invest in developing its technical support network, comprising 22 certified centres around the globe.

Proud to be one of a small collection of independent audio companies, Powersoft enjoys making its own decisions rather than being directed from outside the business. The team strongly believes innovation cannot be driven by anyone who is only looking at figures.

“We didn't grow quickly because we are a family company,” says Luca Lastrucci. “It was the passion of our distributors that acted as the basis for our business and perhaps we could have made more money by selling part of it to a large group but we decided to keep the team fairly compact and extend the family to include each of our dedicated employees. Reputation in the market is of great importance to us. We can lose money but we cannot lose our reputation.”

Giorgi sums up the company's ethos in a single sentence: “As the technology develops our mission remains the same - to do something different with creativity and passion.” ■

“Our father told us to never give up on something you have passion for.”
Luca Lastrucci

markets. The K Series was initially intended for touring due to its size and power but it is now being adopted for installations such as theatres, stadiums and other environments requiring a lot of power.

Club venues - including collaborations with Pioneer DJ - are opting for K Series too. Powersoft's M-Force technology has also made waves in this area, recently fuelling one of the largest subwoofer club installations at Avalon Hollywood.

Claudio adds: “The weight still makes it perfect for touring and customers have told us we've added years on to their lives because they didn't have to lift heavy amps. Stability and power consumption make it well suited to installations, with an install at Munich Airport's Terminal 2 in 2005 recovering the money spent on 380 amplifiers in three years of operation through electricity savings.”

X SERIES

**NEVER BEFORE HAS THE AMPLIFIER
REACHED SUCH A HIGH LEVEL OF INTEGRATION**

Processing, routing, measurement, control and power distribution are now included into a single platform. X Series by Powersoft: amplification evolved.

- ✓ Touring
- ✓ Installation

8 lo-Z
hi-Z
channels

Dante™

CHANNEL
ROUTING

SRM

PEC

THREE PHASE
LOAD BALANCING

Armonía
Pro Audio Suite™



INDUSTRY VIEWS
IAN COOKSON, communications manager, Calrec (audio mixing consoles)

"More and more broadcasters are pushing the technological boundaries of audio production. In this fast paced, technologically progressive era, tv companies want to ensure their systems can produce programmes efficiently and to demanding specifications, so they are increasingly demanding more versatility and integration from their audio equipment.

To achieve this, consideration has to be given not only to the mixing console itself but also to the audio network and how efficiently it can be controlled, how it interacts with other equipment and how all this data is managed.

"Having all the audio hardware in a facility connected to a network, or having the ability to quickly and easily



add it, increases flexibility. Thus, any microphone in any studio can be routed to any mixing console or recorder. With this kind of adaptable infrastructure it is possible to meet the studio production requirement for a variety of productions, with the minimum of time and expense to set it up."

MAILE KEONE, vice-president marketing, Listen Technologies (assisted listening)

"When venue operators consider the quality of sound experience for their listeners, many tend to ignore a large percentage of their potential audience: people with hearing loss.

Assistive listening technology helps people with hearing loss in environments where it is difficult to hear. It's mandatory in many countries including the UK, the US and much of Europe. There are three types: radio frequency, infrared and induction loop (also known as hearing loop). Each has its own strengths.

In a classroom or boardroom which needs to provide privacy it would be best to purchase an infrared assistive listening system because the sound transmission cannot travel through walls. A theatre, however, may want to consider an induction



loop because patrons can use their hearing aids as receivers (as long as they are equipped with telecoils). If a patron does not have a hearing aid with a telecoil, venues can purchase supplemental receivers equipped with neck loops that work with the induction loop much like a patron's hearing aid."


FRANCESCO FANICCHI, brand and communication director, Powersoft (amplifiers)

"Some features are making technologies relevant for the pro-audio market, but networking and control are having the biggest effect. The equalisers and crossovers that once took up several rack spaces and had lots of unreliable controls have been superseded by digital signal processing (DSP) implementation in software. The integration of DSP inside the power amplifier is another change, providing users with an extra level of capability and tools for running their PA in a safe manner but without compromising the final performance.

The key innovation in power amplification is the tighter integration with loudspeakers and the environment. Faster processing enables a feedback loop to be closed through the amplifier and being able to adapt to the changes in the environment where the performance is carried out."


KARL CHRISTMAS, sales and marketing manager, Yamaha Commercial Audio (UK & Rol – mixers, processors, power amplifiers, speakers)

"Audio networking is having a huge effect in both the installed and live market sectors - in particular, the ever-greater affordability of good quality audio networking with remote control options. It is making systems of previously undreamed-of flexibility possible.

The most important criterion is how various components of the system integrate. Choosing matching mixers, amplifiers, loudspeakers and matrixing products ensure that not only the customer enjoys the best end results from the system, but they also save time and money because each element is designed to work seamlessly with all the others."


LARS-OLOF JANFLOD, marketing director, Genelec (loudspeakers)

"The technology development that is having the biggest effect on the market is what's happening around so-called 3D audio - with the likes of Dolby with Atmos, Auro Technologies with Auro 3D, and alongside this Barco with its involvement with Auro 3D and also with its ownership of the ISONO technology.

First and foremost, it would be nice to think that people buying our product would also be calibrating their monitors acoustically to the room in which they are going to use them. Secondly one should consider the type of work one is doing and what the listening distance is in the room, as well as the need for SPL and frequency response - all of which is content driven."


PAUL ISAACS, vice-president of marketing and product design, Sound Devices (portable mixers, audio and video recorders)

"As the audio and video capture landscape continues to evolve, there is a move towards a more streamlined production workflow. Most productions are now being shot in multi-cam requiring multiple ISO video feeds and multi-track recording and playback.

Remote control-over-IP, wireless control, audio-over-IP, Dante and multi-drive recording for instant back-up and deliverables have played an important role in the development of industry products.

But reliability, redundancy, and workflow efficiency of a product are the most vital aspects to consider for audio and video recorders for mission critical events, such as live concerts or broadcasts, during which there is only one chance to capture the event."