

# POLAR

## Press Release

### **POLAR Integrated Solutions Stretch Armstrong Building's AV Capabilities**

Newcastle University can trace its earliest origins to 1834 and the establishment of a School of Medicine and Surgery. In 1871, Armstrong College was founded for the teaching of physical sciences and the two merged to form one division of the federal University of Durham. After a series of further college mergers across the twentieth century, the University of Newcastle Upon Tyne, now trading as Newcastle University was formed in 1963. As has been the case across the generations, a combination of being globally ambitious and regionally rooted is still at the core of Newcastle University's values.

The Armstrong Building is a stunning Grade II listed building completed in 1888, that still plays a key role in the social and academic life of the university. Situated within the building is the King's Hall, a beautiful space where prestigious events including graduation ceremonies and concerts take place. Opened by and named after King Edward VII in 1906, the hall seats 500 delegates and in 1967 hosted the presentation of an honorary degree to Dr Martin Luther King. The Armstrong Building also contains number of lecture theatres and classrooms.

At the request of Newcastle University, POLAR Integrated Solutions was invited to submit system designs that would address a number of AV issues at the site. The university constantly strives to develop and improve every aspect of its technical provision for the benefit of all stakeholders and POLAR made recommendations for the three key areas of The Armstrong building that the university wished to address. Integrators Roche Audio Visual were engaged to install the solutions. Whilst each of the three areas required its own dedicated solution, it was also important that these solutions could tie in with each other, to provide the most comprehensive and flexible range of options throughout.

The first brief concerned the King's Hall itself where the university required a solution to effectively facilitate intelligible audio for presentations and live sound applications. The heritage nature of this multi-use setting demanded that the hall's beautiful aesthetic must not be compromised, requiring the solution to be as invisible as possible. In common with many such venues, whilst the high ceilings and panelled interiors of the hall are an impressive sight, they conspire to create highly reverberant spaces, where overcoming the acoustics can present a significant challenge.

POLAR's wide experience of assisting in such sensitive spaces led them to recommend a Renkus-Heinz Iconyx solution. Controlled via software to create beams of audio that can be focused on the audience and away from hard, reflective surfaces, Iconyx speakers minimize reverberance and deliver intelligible sound exactly where it is required. Another compelling feature of this market leading brand is its slim, low-profile design allowing the speakers to blend discreetly with their surroundings, making them a perfect sonic and aesthetic fit.

2 x Renkus Heinz ICL-F-DUAL-RN Live Arrays were positioned in The King's Hall in conjunction with 2 x IC2 15S subs. These powerful arrays produce impressive sound levels whilst blending discreetly into their surroundings, easily meeting the requirement to direct speech, live and background music exactly where it is required. In this instance, the entire floor of the hall and a



seated balcony area to the rear, were effortlessly covered. A Biamp TesiraFORTE AI AVB was installed to control all signal processing in the venue and enable audio and video content in the hall to be routed to and received from the other two key venues in the Armstrong building via ethernet. An Australian Monitor AMIS 26 distribution amplifier was employed to power the audio for the hall's video screens/ tv units.

Two relatively small reception rooms in The Armstrong Building are often used for presentations and after-dinner speeches. The university required a small system for local sound reinforcement and presentation audio that utilised a visibly discreet and unobtrusive loudspeaker system. One room would host the presentations, with the other acting as an overflow space. POLAR recommended a system based around Novasonar speakers. These flatpanel loudspeakers are integrated into original construction materials to transform walls, ceilings and furniture into sound reproducing surfaces, perfectly meeting the requirement for discretion.

4 x Novasonar Dynamic 60 GK in gypsum plaster board (standard 500mm x 652mm) and 2 x vibration free Novasonar Boxer GK 100-2 subs were integrated into the walls of the rooms to achieve a completely invisible installation. The Dynamic 60s and Boxer subs were powered by Australian Monitor AM41P and AM22P amplifiers respectively. A beyerdynamic TG V50d handheld microphone with on/off switch was supplied for presenters and a Biamp TesiraFORTE AI AVB controls DSP, allowing content to be routed to and from the other venues in the building via ethernet.

The wood-panelled Keeton-Lomas room is a Harvard style lecture theatre in the Armstrong building, used for lectures, presentations and conferencing. The university required a wireless microphone system with local sound reinforcement and program audio capabilities, able to hold video-conferences with other locations, including The King's Hall, utilising a networked high definition video system. As with the reception room, the loudspeakers were to be as discreet as possible. Each seating position was to have a desk microphone and its own dedicated sound reinforcement. Further requirements included USB output for lecture capture, a feed to adjoining seminar rooms, the capacity for using software codec such as Skype for conferencing and that the system could integrate with a VC system.

A beyerdynamic Quinta wireless conferencing system was chosen. Offering three frequency bands, Quinta can silently, seamlessly and automatically switch to an interference-free frequency, should the need arise. Its high level of wireless encryption provides protection against unauthorised listening and it offers straightforward, user-friendly operation. Quinta's control unit meets all the European Telecommunications Standards Institute's requirements and its numerous functions can be controlled and configured via smartphone or tablet pc. Whilst the Quinta system can be a portable solution, its storage cases acting as charging units, in this instance it was permanently installed, with each unit being powered by its own PSU. A total of 63 delegate MU31 and 1 MU33 microphones were supplied for the system, all employing beyerdynamic's Revoluto technology. This microphone array technology creates a much greater voice range than standard gooseneck microphones, with the result that delegates can be more relaxed about their positioning when speaking. 2 x beyerdynamic TG V50w handheld wireless microphones enabled presenters to move around the theatre.

To complete the DSP picture in the Armstrong building 2 x Biamp TesiraFORTE models were installed. A TesiraFORTE CI (with AVB) External Codec Conferencing Solution with AEC technology ensures superior conferencing audio and integrates directly with soft codec technologies via USB and a linked TesiraFORTE AI AVB enables the Harvard Lecture Theatre to join the networks in the other two venues.

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To meet the local sound reinforcement needs, following the example of the reception rooms, Novasonar loudspeakers were installed. 4 x Novasonar High Gain 60 PN Mini speakers, specifically designed for integration with wooden materials, were used, along with 2 x Boxer GK 100-2 subs, driven respectively by Australian Monitor AM41P and AM42P 4-channel amplifiers. Once again, the installation was entirely invisible.

Stuart Leader, Director of POLAR Integrated Solutions:

"The Armstrong Building at Newcastle University is now equipped with a flexible and fully integrated system that serves a wide variety of functions. Presentations in the King's Hall are now delivered with a level of intelligibility and clarity not previously possible and what's more, the content can be broadcast beyond the hall itself into the other venues. Content from the conferencing and presentation systems in each of the other venues can be similarly broken out across the installation. The project is an excellent demonstration of how POLAR's design expertise and product range enables us to meet ever-more demanding AV challenges with complete confidence. We're very proud of our part in working alongside Roche AV and the university's team to help deliver a first class solution."

The last word goes to Newcastle University's Senior AV Technician, Andy Ramsey:

"The scheme was delivered on time and on budget by Roche AV. Although the install was not without its tricky moments - the nature of old, listed buildings will invariably create issues - project manager Craig Pickard's team worked diligently to deliver everything on schedule. The situation in the King's Hall is a massive improvement on what went before and it's now a great asset to the university. The two other areas more than met our expectations and have been extremely well received by end users. Working with POLAR is always a pleasure - they are quick to acknowledge requests and propose ideas or solutions in a non-pressured way. Stuart Leader is keen to arrange demonstrations or supply case studies and the after-sales support from the POLAR technical team has been invaluable."

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