# High Court
## Network verdict is positive

CASE STUDY

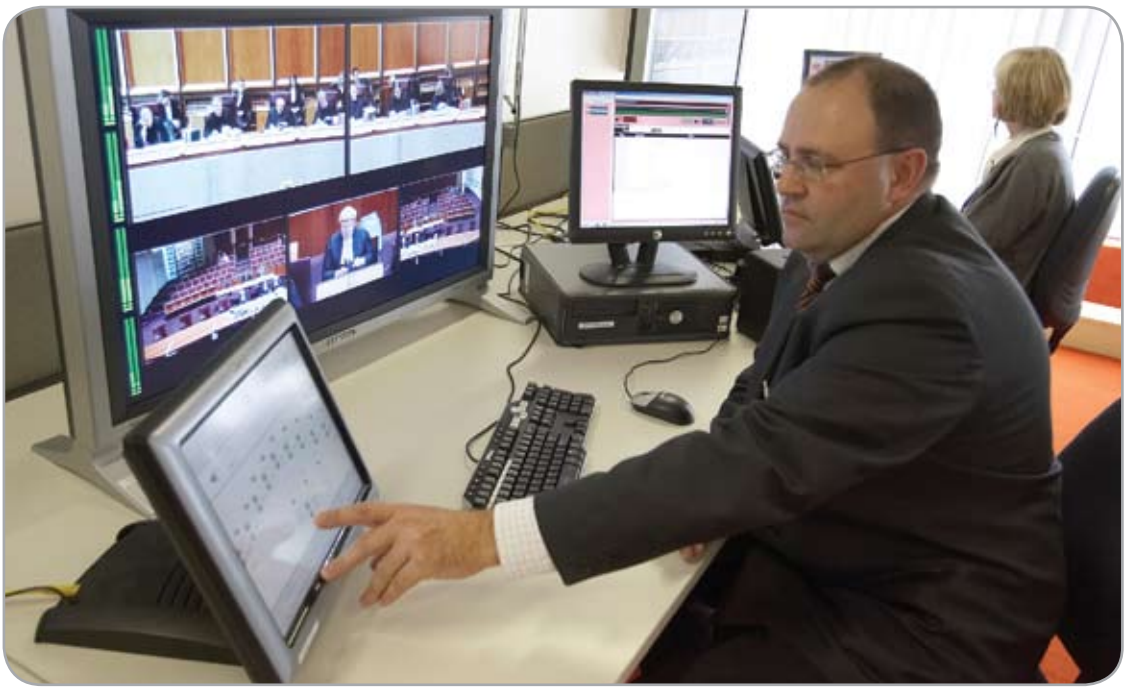
Australia's High Court installs ADC KRONE fibre and copper cabling to enable most advanced courtrooms in Australia.

The High Court of Australia is the highest court in the Australian judicial system. It was established in 1901 to interpret and apply the law of Australia, to decide cases of special federal significance and to hear appeals, by special leave, from Federal, State and Territory courts.

The seat of the High Court is in Canberra, where it is located in its own building within the Parliamentary Triangle. The 40-metre tall High Court building is one of Australia's National Buildings and also one of Canberra's major tourist attractions. The building houses three courtrooms, Justices' chambers, and the Court's main registry, library, and corporate services facilities.

The High Court frequently hears applications for special leave to appeal by video link with Brisbane, Adelaide and Perth. This method of hearing, introduced in 1989 to save litigants the cost of flying their counsel to Canberra, is becoming more and more popular.

ADC KRONE



Video Switching Room.

## Challenge

In early 2004, the High Court decided to replace its 1980s analogue video and audio systems with a new, state-of-the-art digital video, audio and data network. Dubbed the "Black Box Project", the new fibre optic network would involve more than 3,000 fibre terminations and result in the most advanced courtrooms in Australia.

The High Court building had not been designed with network cabling in mind. Courtrooms are located on one side of the building with computer and court monitoring rooms 50 metres away on the other side. There was no allowance within the building for cabling reticulation apart from telephone cabling that was embedded in concrete. Therefore, to install the cabling, pathways would have to be designed and created, courtroom carpets would need to be removed and judges' benches would have to be modified. It was essential to the High Court that the cabling they installed would provide support for current and future video, data and audio applications to avoid such upheaval in the future.

For this unique project, the High Court relied upon a team of IT specialists including Intravision, a communications company specialising in data, voice, fibre, MATV, CCTV and broadband technologies.

## Goals

The Black Box Project was incredibly complex. The key goals were:

1. To successfully install the necessary hardware and systems to create a digital video, audio and data network;

2. To achieve effective recording of court sittings;

3. To implement effective video and video-conferencing services;

4. To ensure the technology remains invisible within the courtrooms;

5. To minimise the impact on clients during the project.

It was important to the High Court that the infrastructure be future-proof to avoid having to upgrade again too soon. It was also essential to protect the investment so that cables and other equipment could not be damaged accidentally.

CASE STUDY

Heath Mackey, High Court and Grant Bawden, Intravision examine the under-floor cabling.

Control and Video Link Cupboard.

For Intravision, achieving the High Court's goals meant they would need to:

1. Completely refurbish the court reporting monitoring and transcription rooms;

2. Install a structured cabling system connecting the courts and court reporting areas;

3. Install all equipment in court reporting, computer room, courtrooms and court rack areas while keeping all technology invisible;

4. Implement control and management systems.

"We had our work cut out for us on this project, as we would be working in a heritage-listed building," explains Grant Bawden, technical services manager, Intravision. "This required innovative design and meant that we needed to be flexible in how we physically planned the network. We also needed to use the latest video, audio and data products."

## Solution

One year prior to the Black Box project, the High Court had reviewed its existing cabling system. The previous system used a variety of different cabling products. A combination of the components and the installation practices used meant the network experienced a number of performance issues. To solve those issues, the High Court installed ADC KRONE's Category 6 copper cabling. The benefits were immediate and all issues were resolved once the network had migrated to the ADC KRONE cabling.

So, when it came time to choose a cabling system for the Black Box project, the High Court's decision was clear. They chose ADC KRONE's new 50µm multimode fibre because it offers three times the bandwidth of standard 62.5µm fibre and supports the maximum bandwidth for the entire 50 metres separating the courtrooms and computer rooms. It would also allow the High Court to extend the existing ADC KRONE 20-year system warranty to cover the new system. This would guarantee the system's performance well into the future when higher demands are placed upon it.

"Having one complete system from one vendor, supported by Intravision, provides the High Court with confidence that the complete court monitoring system will perform when the biggest decisions in the country are made," says Grant.

## Installation

Due to the size and scope of the project, Intravision experienced a number of challenges during the installation process. Chiefly, the building's design allowed limited access for cabling, the building documentation was not exhaustive, and there were extensive areas of solid concrete.

"We based our outputs on a logical rather than firm technical design," explains Grant. "We needed to give significant thought to developing cable routes to overcome the building's physical limitations."

## Results

As expected, the Black Box Project has delivered the most advanced infrastructure for court reporting and video conferencing in the world.

"Replacing 1980s audio and video analogue technology with current digital audio, video and data technologies – in a heritage listed building – while hiding the installation, was a very difficult task," says Grant. "We achieved the ideal outcome thanks to the skills of the team involved and to the superior quality of the solutions chosen. The ADC KRONE products delivered the functionality and performance we were looking for and we managed to meet and exceed the original project goals."

The project subsequently was submitted for and won a National Electrical and Communications (NECA) 2005 Excellence Award.

CASE STUDY

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