

# LONG LIVE THE QUEEN

Sydney's beautiful Queen Victoria Building is one of Sydney's best known shopping malls and it combines the grandeur of Romanesque Byzantine design with the latest and best that modern retailing can offer. But like all big sites the QVB is a challenge for security teams and it demands capable electronic systems and a highly proactive and well organized manpower team. By John Adams.

# QVB

**O**PENED in 1898 after 5 years of construction, Sydney's Queen Victoria Building was one of the world's first shopping malls and it is unquestionably the city's iconic retail precinct. When first opened, the QVB housed nearly 60 stores, along with warehouses, a ballroom and a coffee palace incorporating 57 bedrooms. Today, redevelopment and restoration sees the site accommodating 180 specialty stores.

Given the open nature of the QVB, which is essentially public space, there's no way to physically secure the site and no way to establish a defensible detection perimeter. Instead this huge building relies on video surveillance support of manpower patrols to protect retailers and customers.

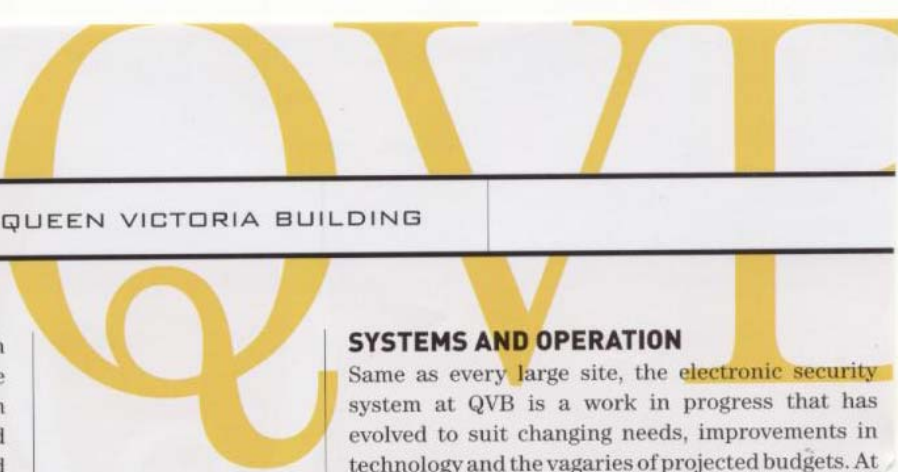
Adding to the complexity of the security function are busy bus stations on either side of the building and a direct pedestrian connection to Town Hall's underground railway station. All these elements make the QVB a thoroughfare as well as a destination with up to 80,000 customers and visitors pouring through the site each day.

Responsibility for security falls to Fred Hijazi, the senior operations supervisor and not only does Fred look after the QVB - he's also in charge of security for the nearby Galeries Victoria and the Strand Arcade retail sites. These are not just nominal roles involving hands-off management of independent sites with independent systems. Both these locations are monitored using CCTV by the QVB security team, with images from remote cameras carried into a central control location using dedicated networks and staff on the ground linked to the QVB by radio.

Getting remote images from the Strand and Galeries Victoria is one of the key operational challenges as far as electronic security is concerned. It's not always possible to simply run a cable between buildings separated by city blocks and more creative solutions need to be employed. Happily for QVB a multimode fibre link exists between the Galeries Victoria site and the QVB control room but the Strand Arcade system streams video over a WAN - an operational necessity that has challenges of its own.

Just to put things into proper perspective, these remote sites aren't small. There are 80 stores in Galeries Victoria and the Strand Arcade has another 100. Clearly then, this is an application that demands a solution offering plenty of flexibility in terms of control, and strong recording and search capabilities.

“Getting remote images from the Strand and Galeries Victoria is one of the key operational challenges as far as electronic security is concerned. It's not always possible to simply run a cable between buildings separated by city blocks and more creative solutions need to be employed.”



Historically, the building was equipped with a Pacom 2030 switcher way back in 1998. The switcher was managed with the usual Pacom keyboard supporting an assortment of around 60 Ike cameras, most of which were internal and almost all of which were fixed. Recording was originally handled by analogue VCRs but QVB was one of the first retail sites in Sydney to start thinking digital.

The driving force behind QVB's switch to digital was the attraction of fast searches. Up till then, using VCRs to search for incident footage was a time consuming affair. Retail sites don't just record video and forget about it - they need access to video recordings on a daily basis. But easy search wasn't the only driver of digital security. Both the VCRs and their tape storage libraries took up an enormous amount of space - space that is at a premium in QVB's cosy security control room.

The first digital solution at QVB was a Zone Digital solution which was replaced by Pacom DVRs in 2001 in order to take advantage of fast moving developments in hardware and software. The Pacom DVRs provided reliable support for 5 years before a decision was made last year to upgrade them.

### SYSTEMS AND OPERATION

Same as every large site, the electronic security system at QVB is a work in progress that has evolved to suit changing needs, improvements in technology and the vagaries of projected budgets. At QVB, Fred Hijazi had worked closely with boutique integrator Techniche for some years to improve and enhance the existing surveillance system through repositioning and upgrading cameras.

There was a real need for these minor upgrades. While Ikegami makes a fine camera, the age of the original installation coupled with some poor installation decisions made things hard for control room operators and security officers alike. With no auto irises and widespread use of puny 4-9mm lenses most the original camera setups were completely inadequate for the enormous depths of field at QVB.

Fortunately Hajazi's hands-on security background and solid understanding of security technology coupled with the engineering expertise of Techniche's forthright MD, Lee Evans, allowed QVB to husband its resources to best effect. Their vibrant team-up meant the QVB upgrade was always going to employ the best possible system the pair could find. Supporting Evans and

Top: Senior Operations Supervisor Fred Hijazi. Below: Honeywell's Karl Spiller with Lee Evans of Techniche.



“The driving force behind QVB's switch to digital was the attraction of fast searches. Up till then, using VCRs to search for incident footage was a time consuming affair. Retail sites...need access to video recordings on a daily basis.”



Fusion DVR and VideoBlox (below).

“In terms of operation and control, VideoBlox offers 1024 sequences of up to 25 steps that give the system extremely flexible and highly customizable event/action programs in response to commands, events or alarm triggers.”

Hajazi with the upgrade was Honeywell Security Australia's Carl Spiller, with Honeywell providing most key systems, as well as offering its expertise and support.

The planned upgrade was designed to give greater expandability than that offered by the original switcher, as well as allowing superior recording and search performance, along with the ability to support remote sites.

The core of the new system at QVB is Honeywell's VideoBlox video and audio matrix switcher - a tidy and compact solution that's designed to slot into a standard 19-inch rack. Important for QVB there's plenty of expansion, with 4080 possible video inputs and 256 outputs. That's big stuff when you consider the system's tiny rack footprint.

Expansion is also provided for the integration of access control, alarm inputs and programmable logic controls. This is important for QVB where future planning will see both alarms and access control used to drive camera inputs in order to leverage cameras to the best possible effect. And it's not just QVB alarms that are handled by the VideoBlox - intruder and duress alarms from the 2 remote sites also come into the system through the new switcher.

In terms of operation and control, VideoBlox offers 1024 sequences of up to 25 steps that give the system extremely flexible and highly customizable event/action programs in response to commands, events or alarm triggers. There are also quick keys that allow operators to call up groups of cameras or run through scenes in a modular fashion. This is very important in retail environments where operators will often follow suspects on screen using a series of fixed and preset dome cameras.

Another important aspect of QVB's upgrade was the choice of DVR and the decision here was built around a need for high performance and strong storage capacity as well as compact size. After a careful search, Evans and Hijazi chose Honeywell's Fusion DVR, a 400ips solution with 16-inputs and the ability to handle 1TB of storage while saving





images at resolutions up to 720 x 480 pixels (4CIF).

As Evans explains, the site's 176 cameras are supported by 12-13 Honeywell Fusion DVRs in 2 racks. He also points out that Fusion's ability to support 5 simultaneous remote connections gives strong support for the remote camera installations at the Strand Arcade and Galleries Victoria.

Fusion also gives access to recorded video through advanced search and remote connection capabilities. The advanced search and motion-based object searches also give operators strong support and there's the ability to view images using wireless LANs/Internet or compatible PDAs.

Another important part of the electronic security solution at QVB is a ProWatch access control solution that handles access control, alarm monitoring and video badging, as well as being able to support a CCTV interface. While the access system is not integrated with CCTV at present, Evans says this development is on the agenda as the system grows.

Evans also speaks highly of Honeywell Security Australia's involvement. He says Techniche chose Honeywell for its quality product range but it's clear there is an effective working relationship between Hijazi, Evans and Spiller that has had a positive impact on QVB's security solution.

### OPERATIONAL IMPROVEMENTS

Upgrades are worthless unless they deliver results and there have been noticeable improvements at QVB. According to Hijazi, the new system has greatly enhanced the effectiveness of the security operation at QVB, assisting security staff and allowing them to offer better support for investigating police officers.

"This upgrade has helped a lot," Hijazi explains. "This site is open 24/7 - it has no doors and we're up against car thieves, shop lifters, pickpockets, false compensation claims - all the usual threats you get in retail.

"What's important is that the new system has helped us make arrests by giving us clear images of people's faces," he enthuses. "Getting this level of detail means we're able to actually identify people, as well as being able to trace suspects through the entire length of the building."



Internal and external Regency domes installed at QVB.



In terms of operational challenges, Hijazi says a particular issue for all CBD sites is periodic power outs caused by a combination of the huge loads drawn by large buildings in the area and the vagaries of remote supply. These short but persistent power failures can challenge an electronic security solution and Techniche and the QVB are working on a powerful UPS solution that will give backup support to the surveillance and the radio systems in the event of mains failure.

### INSTALLATION ISSUES

Not surprisingly there were some installation issues relating to the work at QVB. First up there is the tight space of the control room but there was more to it than just control room challenges.

Evans explains that QVB's status as a heritage building had a major impact on the way the new system was installed, with particular issues relating to cabling and the installation of cameras. There are electrical risers inside the QVB but being centrally located means it can still be a challenge to get cabling to distant cameras. Evans also says the site made demands on equipment choices.

"A site like this is a varied environment and we were careful to select only those cameras that would suit our application," Evans explains. "We took our time making decisions and worked with some existing PTZ cameras, moving domes around to see if their capabilities would be used by operators before we started spending money.

"In the end we looked at the environment carefully and chose cameras to suit that environment rather than picking a particular brand," he says. ▀▀▀