

installation in focus

visiting some interesting CCTV sites



The CCTV System at Darling Harbour - Sydney

Text and photos by Vlado Damjanovski

If you ask anybody that has visited Sydney in the last 5~6 years, they will, without any doubt, tell you that the prime tourist spot is the Darling Harbour Area (DHA).

Having said that - the Opera House hasn't lost any of its glory.

Darling Harbour is the area to spend the day around, rather than just visit it for picture taking.

The whole family can enjoy shopping at the Harbourside; or, perhaps, visit the IMAX super

cinema; maybe dive under the ocean in the Sydney Aquariums' glass tunnels; circle around the city with the monorail; visit the latest computer or car show; enjoy the night watching the water laser shows; visit the Chinese Gardens; hear your favourite music in one of the many open venues; or perhaps enjoy a wonderful lunch or dinner in one of the many top class restaurants around.

This is an area of around 52 hectares, close to the heart

of the city of Sydney. Tens of thousands of people with their families walk safely around every day and night.

During special events, such as New Year's Eve, or Australia Day (26th January), over 100,000 people can gather in Darling Harbour.

For their safety and piece of mind the DHA CCTV system and the Rangers take care.

This CCTV system is one of the larger around Sydney, at least based on the area covered

with their cameras.

For this issue of CCTV focus, we were invited to visit David James - DHA Operations Manager, and Gavin Rowley - Assistant Security Manager. The

early 1990-ies, there were old, big B/W cameras, on large pan/tilt heads, equipped with wipers and washers, and pairs of infrared illuminators on each P/T head.

DHA site is one of the first sites in the world to have used the first generation of MAX-100 matrix switcher, as well as the first site in the world to use the Sony B/W CCD cameras SSM-



Security Manager Matt Scanlon was off duty at the time of our visit. They kindly showed us the operation at their Control Centre. For security reasons we cannot disclose the location of this centre.

Since Darling Harbour area is almost 12 years old (before this, it was - surprisingly - nothing else but an old rail yard) there has always been some kind of CCTV protecting this new area. In the beginning, late 1980-es,

Because of the distances involved between the cameras and the Control Centre, from the very beginning it was decided OSD fibre optics to be used for video, and twisted pair for PTZ control. In those early days of CCTV fibre optics it was hard to find equipment with both video and PTZ data via fibre.

The main matrix switcher controller, initially, was American Dynamics, which was later on replaced with the MAX-1000.

370 (when Sony got involved in CCTV, back in 1990).

"They have served well over the years," said David James, "but as the technology changed we always wanted to follow the modern and more efficient trends."

As of last year, preparing for the Olympics, DHA has expanded their system with the latest Pacom matrix switcher, while keeping part of the old MAX-1000 matrix in order to

Installation in focus

control some of the old PTZ cameras. At the same time, all lighting levels around the Darling Harbour area were lifted to 10 luxes so that over 60% of the

old and huge B/W cameras were replaced with the latest model of Pelco's Spectradome II colour cameras, and the cumbersome infra red lights were removed.

The on-site electrical subcontractor Brett Electrical, who have a wealth of experience with electrical and CCTV installations, conducted all the work around DHA.

The control room was completely re-designed by the consultant Vlado Damjanovski and was made more functional and modern. From the earlier wall of B/W monitors, the new design approach was very ergonomic with three large rear-projection monitors, two for each of the two operators at eye level. One additional large monitor was used for displaying alarm images or when monitoring major events. Special consoles with

ergonomic design were made to Vlado's drawings where operators can easily reach all equipment associated with their work and use only one keyboard for

the cameras are now recorded, for over two weeks, on Dallmeier DVRs supplied by C.R.Kennedy. For this purpose a bank of SCSI hard drives with a total capacity of over 2TB is used.

"We tested the duration of the recording and we are happy with 14 days of hard disk recording," said Gavin Rowley. "This is a sufficient duration before re-cycling the recording. We usually find out about a suspicious incident much earlier and have the possibility of extracting such images

and putting them on a CD-ROM. Since extracted images are wavelet compressed, we can put months and months of suspicious events on one single CD-ROM. This, later on can be passed onto the Police and they can read it on any PC using the JPG converter that comes with the Dallmeier DVRs. They don't have to have a DVR of the same type in order to see the images, as was the case before, with the time lapse VCRs and multiplexers."

Earlier, all of the cameras were recorded on S-VHS VCRs via a bank of multiplexers, but with this year's expansion and re-design the new digital recording technology was employed. All of

all operations.



Gavin Rowley - Assistant Security Manager and
David James - Darling Harbour Authority Operations Manager

mention that all CCTV equipment, the fibre optics transmission, the matrix and digital recorders, are in a separate air conditioned equipment room. All control is done via Pacom keyboards, and even a high level interface was written by Pacom engineers specifically for this project, where full control over the DVRs can be exercised from the CCTV keyboards. Operators have full control over the entire system from their comfortable seats, and always in touch with their ranger colleagues on the ground at a touch of a button.

"The main role of our system is to ensure public safety, resolve possible incidents seen through the cameras or our rangers on the ground," said David James. "Our system also plays a significant role in traffic regulation around Darling Harbour, with both, pedestrians and vehicles. During all major events, we have a senior representative from the local Police always present in our control room. Illegally parked vehicles are booked using video print-out from cameras, without a need to have a parking officer at the location. Since we have introduced the digital recording, local Police that we work closely with, have successfully proceeded with legal actions against infringers seen and captured via the CCTV system," said David.

"DHA is a government Dept, and our security operations is contracted and run by Chubb," said David. "We work closely with the Police and have a good synergy in our operation."

"When you see so many faces in a day, and all of them happy and smiling, enjoying a wonderful day, makes you feel proud. I am happy that we provide at least a small part of that happiness," said David James. :-)

