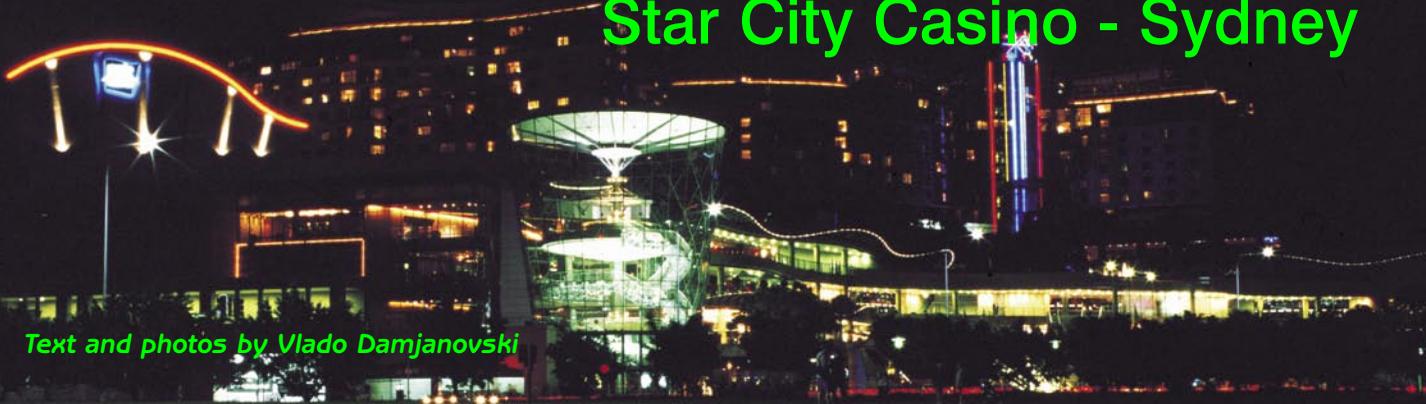


# The CCTV System at the Star City Casino - Sydney



Text and photos by Vlado Damjanovski

Star City casino in Sydney opened in November 1997. This is a new casino with a very special CCTV system, both in regards to size and smartness. It comprises of approximately 1,000 cameras and around 800 VCRs, all recording in real time (50 fields per second) 24 hrs a day. The heart and the brain of this system is the Australian designed and made Max-1000 matrix switcher. The system was designed by Ultrak Asia Pacific and installed by Honeywell.

For this article we visited Willy Allison, the Surveillance Director at the Star City casino, and he explained the system and gave us the opportunity to sneak inside the control room and see it in action.

"The surveillance system took about 18 months to install. The main challenges were the camera locations that had to cover a complex which is about 7 hectares," says Willy Allison. The casino interior is built around some main Australian themes, the desert, the sky, the barrier reef and the ocean. "Working with the builders during the installation was a demanding task," says Willy, "requiring high level of synchronisation between various teams: suppliers, builders, contractors, engineers, programmers, gaming machine suppli-

ers, etc. The architects and the people who themed the place had the task of putting cameras in locations which were discreet, but still went with the decor of the place. That was one of the main challenges."

Even in its short period of three years existence the CCTV system has evolved and changed. "In the beginning, we had two control rooms, located at either end of the casino," remembers Willy. "Each one had their own matrix switcher. My area, which is primarily responsible for monitoring the casino operation, had approximately 650 cameras connected back to the matrix switcher. The control room monitoring, primarily the outside areas, had approximately 350 cameras connected to their matrix."

The ratio between fixed and the fast PTZ dome cameras is almost 50/50, across the whole system. Of those, about 80% are recorded.



The recording is real-time, which means 50 fields per second. The method that Star City casino uses is the VCR management system by the Max-1000. The recording is done on long-play video recorders, using 4-hour tapes, which record 8-hours in long play mode. Thanks to the Max-1000 smart VCR management there is not even a single second in the 24 hrs that is not recorded. This is achieved by using 3 racks of VCR stand-by system, which means there is no down-time even when changing tapes.

Tapes are changed 3 times a day and it takes about 1 hour and 45 minutes to change them all.

"Basically it's an automated tape change," Willy says. "It alerts our operators when the tape change is about to happen and, to ensure there is no down-time, we change three racks at a time. But the design is such that we don't lose anything, because there's an overlap period, so there's not one second lost. From a casino's point of view, that is very important," says Willy, "because that one second is the time it takes for a cheating move to take place, or anything like that. One of the regulations we have is to ensure that there is continuous recording and the Maxpro system provides that."

Further in the conversation for CCTV focus, Willy Allison tells us

that shortly after the opening in '97, within about 6-9 months, Star City decided to amalgamate these two systems. "In other words we centralised all our camera system and reporting capabilities to the one area. That was again another challenge because we had to physically remove everything from the security control room location and bring it up and house it in the one area. We expanded our function and we expanded our room so that we could centralise the entire operation. Then, we went about multi-skilling all of our people. The security and surveillance are both very important roles. The other thing that happened was that all our alarm systems, fire alarms, duress alarms, access controls, all were moved up to the same area as well. We now train our operators for six months before they start as an operator, and it's full time training. So that gives you an idea of the type of skills and knowledge that they must possess."

When asked how many people are working in the Surveillance department, Willy said "We have a team of about 40 people. At any one time anything from 6 to 12



people are scheduled for monitoring the entire complex, depending on the business need of course. We continue to develop."

Another important part of the CCTV system is the access control and its interface to the matrix switcher. This is done via the Honeywell XSM. Where cameras are activated if there was an illegal door entry or if a duress button was hit anywhere in the complex, the camera would go to it.

"One of the things for continued development of our CCTV sys-

tem is our strategy of interfacing," says Willy Allison. "What we are developing at the moment is an interface with our camera system, with our gaming systems on the floor and our access control system, the Honeywell system. Right now I believe we are the first in the world to do this. In an operation this large there are a lot of events happening at any one time because we are an operation that runs 24 hours a day. We get around 20,000 people in a 24-hour period, and on the weekends we can get upwards of 50,000, so there's a lot to watch. We believe that the strategy of interfacing will help our people prioritise their monitoring events so that we're looking at the right events at the right time. Once we developed our gaming and financial systems, we realised that such information would be useful for us, and that's when we sat down and said - well, let's interface the camera system with that. And there is, I believe, unlimited potential there with interfacing. Obviously, as we move ahead we are looking at interfacing with other systems, whether it be point-of-sale system specifically, and really any type of significant events that can happen

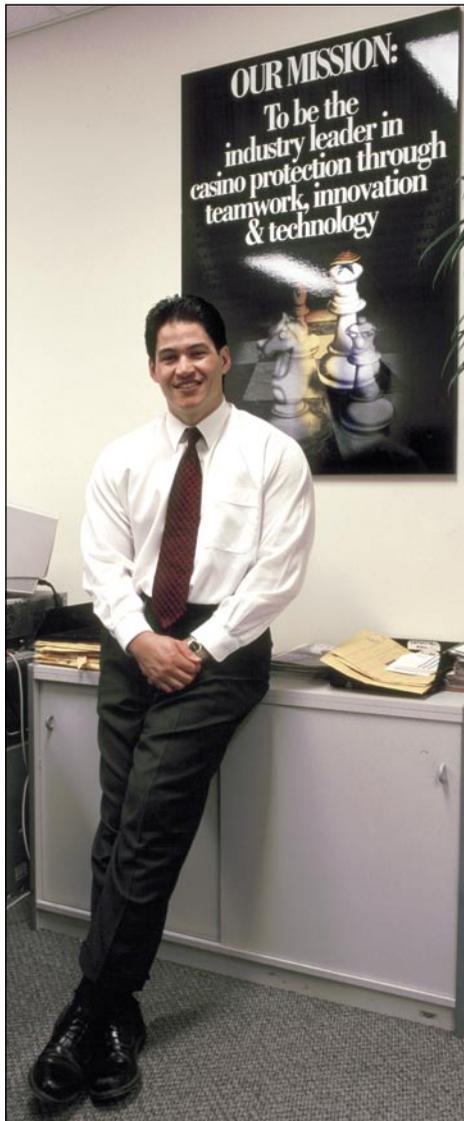


## Installation in focus

in there. I've got to give a plug to Ultrak and Honeywell. Ultrak supports us and the things we're doing. They have always been good in terms of getting themselves to work and deal with the other systems. That's not always that easy, as you'd know. So getting them down over a cup of coffee and explaining to them what our needs are is something that Ultrak are very good at. Listening to what we would like to do, suggesting ways of doing it and then developing the interface. It's cutting edge stuff, and in reality, with casino surveillance, although we have so many cameras, it's hard to look at everything, and there are hands in the cookie jar everywhere. This is really helping us to be effective. We've already got payback in terms of the benefits from the interface and uncovering activity that could have cost us money. So there certainly is a business case to continue to develop, and I would suggest to any business application that has a camera system to look at and have a good look at the things they want to record."

In addition to the high level interface between the matrix and the access control system, Star City casino people are looking at interfacing even with the gaming computers.

"Our cameras are linked to computers on the tables, which are used for entering gaming information," continues Willy, "we have looked at that information and said we would like to know when that happens and that automatically triggers a camera to go to that location and start recording. That does two things, first, it appears on a large screen that we've installed in the monitor room, it comes up as an alarm screen. The other thing is, it records it automati-



cally. So it obviously helps us to prioritise our time and it increases our awareness of events on the floor. We continue to develop the same thing with our duress systems. If our front line staff feel they are in danger for example, they can trigger an alert which will automatically bring to our attention the event. So it has not only a financial implication, it has safety benefits as well, and it works well with the Maxpro system because we have preset cameras that can be preset to 99 views. And a lot of our cameras are programmed so that in response to that alarm interface they can go to a preset view. From a business point of view, what we're doing is providing video documents of events

that happen in this big complex. As you know, in our business we have gaming, we have a hotel, shows, entertainment, food and beverage and we have a various number of different businesses. Ever-increasingly now there is a need to be able to provide video evidence, we have an increasing need for risk management type incidents where we could be subject to litigation or so forth, and we need to be able to show that we did the right thing."

In addition to this large CCTV system, Star City has one other, special digital recording system, coincidentally designed by the editor of this magazine. This system is used to resolve gaming disputes on the spot. It is called Pit Camera System, and was designed in 1997 with plettac/Dallmeier digital video recorders, supplied by C.R.Kennedy. This was the time when digital recorders were not yet popular in the CCTV industry. The Pit-Cam system was designed with a special joystick-type keyboard, with which an operator can instantly play-back the disputed game and resolve it on the gaming floor. This system frees up considerable resources and man-hours of the surveillance team, nearly 50% as was confirmed by Willy Allison, so that they can concentrate on the more important priorities.

"The Pit-cam is used in our casino as a customer service tool," says Willy. "We often get a lot of disputes at the tables, or inquiries where people may question whether they were paid correctly or whether the game was dealt properly. This allows the staff on the floor to quickly review the digital recorder located in the pits and make a decision based on what they see. Before Pit-cam they would call Surveillance and ask for

our assistance. But over the years, with an increasing amount of disputes this became a time and resource consuming activity. It is now the expectation of our customers that there are cameras monitoring the games and they use that to their benefit. So it works well because nobody can question the integrity of our games, because our customers now have an opportunity to question something and to have it resolved fairly. But over the years just like the third umpire in football, there is now an increased number of people who want it checked. Again over the years we found in surveillance that our role had become a complaints department and that was taking away our time and didn't allow us to perform our function which was asset protection, revenue protection and ensuring the safety of patrons. So we can now concentrate on the real jobs because of that system, and because the system is more or less self-sufficient, it can work on its own, it frees us from those engagements."

It is interesting to note that this was one of the first digital recording systems installed in a casino, and it is still operating without any major problems or defects.

"It's been fantastic," says Willy. "I believe there are only three casinos in Australia which use the Pit-Cam system, and I also believe that it's not used anywhere else in the world. So I'd say that Australia is leading the way in that type of technology. It's a different way of looking at things, it's certainly an innovative approach."

With such a high-tech and integrated systems, the Star City casino in Sydney represents a show-piece of CCTV and computer technology. The whole casino complex, from the lifts, fire protection, access control to the gaming, surveillance and security represents a giant master-piece of system design, integration and efficient use of the current technology.

Every piece of information is recorded, stored and flagged for further analysis, if and when required. And all this with the ultimate goal of improving the casino security and of course, profits. But make no mistake, the patrons can still gamble and win as in any other casino. As a matter of fact they can be even more relaxed because the system is on their side. The casino regulations are pretty strict and the Casino Control Authority people, representing the government, have access to the system. They control watchfully over all of the casino activities and all of the systems described above are designed with their approval.



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Würzburger Straße 5 • D-93059 Regensburg

Tel +49/9 41 - 89 31 58 • Fax +49/9 41 - 89 31 59

eMail: info@dallmeier-electronic.com • INTERNET: www.dallmeier-electronic.com