

Celebrating 20 years from my first Digital CCTV project

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Exactly 20 years ago, in 1997, as a consultant, I did my first large scale digital CCTV project for Star Casino in Sydney, which at that time was called Sydney Harbour Casino.

This was probably one of the earliest digital CCTV systems in the world of this size, consisting of 50 DVRs and over 200 cameras. The only one that I am aware of, done just one year earlier, was the Crown Casino in Melbourne.

So, in a way, this is an anniversary for the whole industry.



The project was so-called Pit-Camera System (also known as “Pit-Cam”) for the Star Casino in Sydney. The idea of this project was to have gaming tables disputes resolved on the spot, quickly, without waiting for the analogue matrix switcher to search for the VHS recorders and find the recorded footage to clear a gaming incident.



Using digital recording in 1997 was pioneering.

Many CCTV experts, I recall, did not believe that digital recording quality can be equal or better than VHS, let alone S-VHS resolution (offering 400TVL).

I should also point out that the main surveillance system was handled by the legendary MAX-1000 analogue matrix switcher, controlling over 1,000 VCRs with their patented VCR Management via the wired LED remote control. But this was still analogue VHS recording. Casino operators would usually spend 8 hours per day in just replacing video tapes.



The digital recorders however, even in their infancy, were offering immediate and quick access to the recorded footage, without loss of recording during the playback. This was, at the time, not possible with analogue VCRs.

My choice, as a consultant to the Star casino at the time, were the Dallmeier DVRs, which were then offered by C.R.Kennedy, whom I didn't even know then, under the name of Grundig.

They proved to offer everything my client wanted and more.

One of the most impressive things with the Dallmeier choice was not only the image quality (offering >400 TVL) but also their engineering ability to modify the control and navigation of the playback to the satisfaction of the end user.

Although mouse and touch-screen controls were known even at that time, and the Crown Casino system was using the touch-screen, my client wasn't happy with such a control. Using a mouse was not as natural to them, mouse pointer being too small, and touch-screen control was not as fluent as today, touch sensitive areas on the screen being quite large and not as precise.

So upon my suggestion to use a joystick control for playback - they agreed. I designed a simple panel with buttons representing eight gaming tables, a joystick for playback, reverse playback, fast rewind and fast forward, and a quad screen button to toggle between quad view of four gaming tables.

The problem was - would the DVR manufacturer be able to provide such hardware control to their DVRs?

To my surprise, Dallmeier engineers not only agreed, but supplied a prototype within two weeks, with a floppy diskette software update which worked immediately. This was exactly the solution my client wanted.

With only two clicks - one for camera selection and one for playback in reverse (from the latest moment in time, immediately after the incident) - the casino operators were able to see the quickest possible playbacks of any dispute. In just one second, for any camera.



Such a speed of selecting a camera and playing back an incident instantly was unheard of when using VCRs.

Another novelty that I introduced in this project was that the cameras used at the gaming tables were tilted by 90° so that as they were installed in the “lollypops” on the corner of the gaming tables, they were seeing the gaming tables vertically. When shown on the analogue monitors, they appeared to the dealer’s manager as if they are standing at the dealer’s position, making it much easier to see what was happening in case of a dispute. This gave a better clarity to the cards and money placed on the table and also satisfied the privacy requirement to not see the faces of the patrons, but only their hands and the table.

The system was installed and worked as predicted.

The client was very happy with the results, as it cleared many disputes on the spot, and potential scammers were discouraged, thus reducing casino losses.

The Pit-Cam system was in service for quite a few years. In fact only came to be replaced when the digital technology progressed so much that replacement hard drives were no longer available on the market.

Even Burswood casino, many year later, simulated the simplicity of Pit-Cam system control by developing software control keyboard simulating the originally designed physical keyboard for Star Casino.

Today, in 2017, it is almost impossible to see a new, or even an old upgrade, CCTV system being designed and considered without digital IP technology.

Something that only 20 years ago was unheard of, today is just standard.

How things have changed.

I am very proud of this anniversary milestone, not only because it is a part of my career, but I believe it is a part of the CCTV industry in general.

As a courtesy to our CCTV industry history, I would like to hear from my older and respected colleagues if they are aware of, or have been involved in, any digital CCTV project earlier than 1996/7 of similar or larger size.

This will be interesting for the industry in general.

With a glass of an Australian red I celebrate this anniversary and salute you all my colleagues reading this article.

Lets not forget the history.

Cheers.