



Superior Video At A Commuter Parking Garage – And It's Analog.
The Case For Panasonic Analog Technology Is Convincing
At A Nine-Level Subway Parking Deck In Owings Mills, Maryland.



Pan-tilt-zoom dome cameras enable coverage of larger areas, providing a bird's-eye view and the ability to zoom in with precise detail.

Every day thousands of commuters crowd into the station in Owings Mills, Maryland, to catch the Metro subway into downtown Baltimore. As the outermost stop on the northwest subway line, Owings Mills is the starting point for commuters from Baltimore, Howard and Carroll Counties in Maryland and York County in Pennsylvania, who park in the new nine-level Metro Centre garage before stepping onto a subway train.

All day long while these commuters are miles away at work, a system of over 100 video cameras from Panasonic keeps watch over their vehicles in the Metro Centre garage, owned by Owings Mills Transit, LLC. While the

parking decks are relatively quiet through the middle of the day, during the morning and evening rush hours there is a large influx of people from the adjacent subway station. During this time the Panasonic cameras help contribute to

the developer's plan for the safety of the crowd and later, if needed, provide video evidence at 30 frames-per-second of anything that happened in the garage while they were at work.

Beginning Of A Large Planned Development

Providing more than 3,000 parking spaces free for commuters who use the Baltimore subway operated by the Maryland Transit Administration (MTA), the current Metro Centre garage is the first of several structured parking garages that will serve an

adjacent planned development of office, retail, residential and public buildings. The transit-oriented development (TOD) will include another 30 or so buildings on the now mostly undeveloped site. The existing garage already fills up to seven of its levels every weekday. Additional traffic expected

from the planned commercial development will undoubtedly keep it fully utilized.

"When you have a system of this size, you want a supplier like Panasonic."

– Nick Sachs

A second garage planned nearby will one day accommodate another 2,500 cars, and the two sites will be linked



Panasonic's WV-CW964 pan-tilt-zoom dome cameras are strategically located to cover the largest possible area inside the Metro Centre parking garage in Owings Mills, MD.



Each Panasonic all-in-one dome camera integrates a weatherproof housing, a 360-degree high-speed pan and tilt base, and a 30x optical zoom lens.



The top level of the parking garage is surveilled by Panasonic cameras which provide various views of incoming and exiting vehicles and their drivers.



A Panasonic camera is watching as vehicles enter the Metro Centre garage. A total of 102 cameras keep watch throughout the facility.

by fiber-optic cable that will enable the existing control room to manage both security systems. Panasonic's corporate resources, capabilities and reputation contributed to the decision to go with Panasonic video equipment for the garage, said Nick Sachs, asset manager for David S. Brown Enterprises, Ltd., the property firm that manages the existing



The control room features four 42-inch Panasonic plasma display monitors and eight Panasonic 20-inch LCD monitors.

garage and is involved in the planned development. "Anytime you stack 3,000 cars together, you have security concerns, in addition to the fact that the subway system can bring crime," Sachs said. "There will be another garage here and an entire community in the future, and we knew that Panasonic could handle that. It makes a difference. I also like the fact that Panasonic has a local presence with their manufacturer representative LCA Sales Company, and

a technical support and training facility nearby. When we needed the support, they were here." David S. Brown Enterprises, established in 1933, is also familiar with the Panasonic

products because they already use them in more than 15 buildings around the Baltimore area. In addition to installing the system at the new Owings Mills Metro garage, Signals Communication Systems, Inc. has worked with David S. Brown Enterprises on previous video and access control projects. The garage installation took place over a 24-month period, according to Sachs, and the project involved close coordination with local governments

and a lot of meetings spurred by heightened interest in the project due to plans for a nearby college and library. It happened that the security systems installation began in the middle of winter, and the January chill – even colder inside the parking structure – presented a challenge for those tasked with pulling the cable. The garage was already completed and in use at the time, and each floor was closed in turn to install the cable and then reopened as the job moved to the next floor. After all the cable was installed, each floor was closed again as the cameras were installed. Braving the cold were

Signals' lead technicians on the job, David Persing and Matthew Houser, and their crew.

It was the fatal shooting of a teacher in a Baltimore-area mall parking garage in 2005 that had raised local awareness of related security issues and led to a mandate that, with certain exceptions, all retail parking be 75 percent covered by video surveillance. The Metro Centre garage has video coverage approaching 100 percent, including the exterior, elevators, public walkways and stairwells, so it will be fully compliant even after the nearby retail establishments open. "Baltimore County is looking over our shoulders because they know retail is coming," said Sachs.

Security guards keep watch at the garage 24/7; their duties include monitoring the cameras in the control room and patrolling the premises in a vehicle. They work closely with the MTA police, who frequently patrol the area and are always on call for specific incidents. The video system can provide video to the MTA of any events in and around the garage.



The Panasonic WV-CU650 system controller provides a jog dial and shuttle ring for smoother system control, and a detached joystick allows operators to pan, tilt and zoom easily.

PC workstations in the control room allow operators to burn film from the system, either onto a CD or a USB drive. The PC accesses video through the software of the matrix switch.

Analog In The Age of IP

Notably, in a time when more and more new video installations are designed using network technology, the system at Metro Centre garage is built around robust analog technology. "We looked at all the possibilities," said Robert W. Harry Jr.,

sand layout would have made it necessary to install a fiber optic backbone and additional equipment in order to keep cable lengths below the Ethernet maximum. With no network closets in the concrete parking structure to accommodate the additional routers and switches, it would have been necessary to install them outdoors, and "hardened" equipment that can withstand the heat, cold and humidity is more expensive.

Instead, the new system at Metro garage uses analog video cameras along with baluns and passive hubs by Vigitron, all compatible with the Panasonic equipment, to enable the video and control signals to run along the Cat-5e

cables. The configuration allows video cable runs up to 1,000 feet, thus easily accommodating the garage's dimensions. With future expansion of additional parking lots adding IP video would be a consideration, according to Harry.

The system uses passive UTP (unshielded twisted pair) transceivers (baluns) to transmit the analog (coax) signal from each camera. The converted signal travels along the CAT-5e cable to eight 16-channel video passive hubs in the control room



Ken Voland (L), property manager, and Nick Sachs (R), asset manager, both of David S. Brown Enterprises Ltd., worked with Robert W. Harry Jr. (C) of Signals Communication Systems Inc. to ensure the Panasonic installation went smoothly.

president of Signals Communication Systems Inc., the engineer and installer of the system. "We did several scenarios before finally deciding on this design." Given the physical configuration of the existing Metro Centre facility, analog proved to be the most cost-effective platform for this specific application. Installing an IP-based system would have been complicated by the maximum allowable cable length of 100 meters (328 feet) between routers using Cat-5e Ethernet cables. The garage's 200x600-foot dimension-



Dome cameras from Panasonic keep watch over commuters' vehicles at a nine-level mass transit parking garage in Owings Mills, Md.

that convert it back to coax for connection to the DVRs. The CAT-5e wires – two thin wires carrying the video and the control information – are much more manageable than a bundle of 100 thick coaxial cables coming into the control room. Also, the existing UTP infrastructure would be adaptable to digital (Ethernet) technology if necessary in the future.

The system uses seven Panasonic WJ-RT416 Series DVRs, each with 2 Terabytes of memory, which allow two or three weeks of video archiving although the garage currently only needs a couple of days. The real-time digital recorders capture 30 frames-per-second for each camera, which is 480 frames-per-second on each 16-channel DVR. The WJ-SX650 Matrix System from Panasonic ties together the DVRs, and WV-ASM100 i-Pro Operation and Management Software supplies the user interface.

Cameras Provide Superior Images

A total of 102 Panasonic cameras cover the garage, including 63 WV-CW484 Series vandal-resistant

domes and 38 all-in-one WV-CW964 dome cameras that provide pan-tilt-zoom functionality. Equipped with Super Dynamic technology yielding high image quality including 128x dynamic range, the cameras provide crystal clear surveillance around the clock. The cameras are vandal-resistant, water-proof and dustproof to meet IP66 standards.

The WV-CW964 pan-tilt-zoom dome cameras are strategically located to cover the largest possible area, thus reducing the total number of cameras needed. Cameras located mid-way on the sides of



Two racks in the control room hold the Panasonic DVRs and matrix switcher, a Talk-a-Phone PBX system, the Vigitron passive hubs, an uninterruptible power supply and extended battery backup.



Panasonic cameras provide nearly 100 percent video coverage of the Metro Centre garage, thus exceeding a local requirement that retail parking garages be 75 percent covered by video.

the building provide views in either direction, facilitated by the cameras' ability to zoom in to a precisely detailed image from several hundred feet away. The all-in-one PTZ domes integrate a weatherproof housing, a 360-degree high-speed pan and tilt base and a 30x optical zoom lens. The camera's intelligent functions include auto image stabilizer, scene change detection and auto tracking. A power distribution system on each floor carries power to the cameras, and each PTZ camera has a local power source.

The control room, located in the garage, includes four Panasonic 42-inch plasma display monitors mounted on the wall and eight Panasonic 20-inch LCD monitors on the desks, along with two Panasonic WV-CU650 system controllers. Each controller

provides a jog dial and shuttle ring, positioned in the center of the unit for quicker, smoother control of every search operation and system setting. A detached joystick allows operators to pan, tilt and zoom to follow the subject they are viewing. Two racks in the control room hold the DVRs, the matrix switch, a Talk-a-Phone PBX system, the Vigitron passive hubs, and an uninterruptible power supply (UPS) and extended battery backup. Access to the control room is limited by various means.

Always On Alert

The video system at the Metro Centre garage is well equipped to respond in case of emergency. There are 35 Talk-A-Phone hands-free emergency phone stations, each with one call button, located throughout the garage and integrated into the video

system using an alarm output from the intercom system connected by two wires to an alarm input on the matrix switcher. If someone activates the emergency phone, a blank screen in the control room comes alive with an accompanying image from a Panasonic camera.

The video system has been useful on multiple occasions since it was installed. Ken Volland, property manager for David S. Brown Enterprises, Ltd., remembers one example when someone reported the theft of a truck from the garage on a Friday night. Video of the "theft" clearly showed that the person who took the truck used a keyfob to unlock the doors and also entered from the passenger's side as they apparently were aware that the driver's side door was broken.

There was also a timely

display of the power of the video technology on the day the MTA showed up to sign off on the new system. Cameras had captured video of an illegal drag race that had taken place on the empty upper level of the parking decks. The video even showed the MTA how their officer had handled the incident, which enabled management to provide feedback to the officer.

"When you have a system of this size, you want a supplier like Panasonic," Sachs said. "We had worked with them on several other jobs, and we knew their technology could handle this project because of what they have made possible in other locations. We needed superior-quality images delivered in real-time, and that's exactly what this system provides."



The ability to zoom in and capture clear images makes the Panasonic WV-CW964 all-in-one P-T-Z domes a valuable tool for surveillance at the Owings Mills parking garage.

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For more information on Panasonic, call toll free 1-866-PAN-CCTV (1-866-726-2288), or visit our website at panasonic.com/security.