PRODUCTS

BENCH TEST ## Panasonic 360° Camera Stands Up to Third Degree

By T. Riley Pierce   trpierce@tech-answers.com

Panasonic
WV-SFV481 360°

YOU KNOW THE OLD ADAGE, "When it rains it pours"? There seems to be a plethora of 360^0 cameras in the CCTV market today, but that's a good thing. Competition and innovation drive the market and result in better cameras for everyone. The WV-SFV481 is one of Panasonic's offerings in the panoramic view camera market. The company has several models in its 360^0 series offerings with the WV-SFV480 and the WV-SFV481 being the newest entries in the i-PRO ULTRA 360 class.

Building on previous models, the WV-SFV 480 (indoor) and WV-SFV 481 (outdoor) cameras both have a 12-megapixel (MP) imager that, when incorporated with the integral fisheye lens, produces a 9MP maximum usable image. Both models are designed to provide maximum coverage of a location/area from a single lens assembly via their wide angle lens. Both cameras are designed to provide 180^0 viewing across the vertical and horizontal planes from the camera's single lens. This multiviewing angle capability provides the user with several viewing options, which can reduce the number of cameras required to cover a wide area. I have previously noted the advantage of this technology versus the older wide-angle cameras that only provide a 180^0 panoramic view via three-four camera assemblies in a single housing. Those camera views often don't match up well due to alignment issues with the different imagers in the assembly and can't provide varied multiviews like the Panasonic cameras can.

Construction

When unpacking my WV-SFV481 camera review unit I noticed something that tends to make someone like me a bit leery. On the face of the camera body was a sticker with the word "sample" emblazoned in red letters. Needless to say this is something that every evaluator hates to see — in the back of your mind you're thinking, "Is this what the public will be using or a 'special' camera?" Hoping I had the shipping version I proceeded to examine the camera and its accessories.

The WV-SFV481 resembles the various mini-domes common in today's CCTV market and is of average size when compared to other manufacturers. The product is designed as a vandal-resistant camera and carries an IK10 vandal rating,

highest on the EN 62262 standard. The assembly consists of an upper dome (camera) assembly, an integral mounting plate and a base mounting plate. The base mounting plate is designed to allow the camera to be mounted where wire penetrations are not practical and the use of conduit is called for. The integral mounting plate is used in locations where the wiring can be accessed and secured directly under the camera assembly. All of the case components felt solid and their design and construction appeared to be well thought out. There is a lock/unlock indicator on the side of the camera assembly that is utilized when the base mounting plate is used and is there to show when the camera assembly is aligned with the internal securing screw. This can be a bit tricky to lock in place if you are doing an evaluation and the base mounting plate wasn't secured to anything. Once the assembly was locked into place I knew (and felt) the mating had occurred properly and the securing screw was easy to fasten down.

The camera is designed to be powered via two sources. As with the majority of IP cameras today, it can be powered via the assembly's RJ45 connector via PoE, or via a 12VDC power jack allowing external power to be supplied locally if necessary. This model has an operating temperature range of -4^0 to 122^0 F, is water-resistant and carries an IP66 rating for the WV-SFV481 model. The camera assembly has a built-in SD card slot that accepts cards up to 64GB. This feature allows the camera to store video locally (both alarmed and regular recordings) and can provide the user's video management system (VMS) with any lost video images should there be an interruption in the data stream. This slot is located under a trapdoor on the side of the camera assembly, which also houses the network connection lights and reset switches. At first I thought the use of an SD card was going to be a breeze for my testing; unfortunately that thought didn't last long and will be noted later in this evaluation.

The camera has hardwired connectors for alarm contacts, external microphone and audio out connectors. The WV-SFV481 has a novel "dual purpose" use with the audio out connector; this can be changed to a video out connector in the dome's software menu.

Although the evaluation camera was labeled "sample," the hope is it is identical to production versions. The WV-SFV481 has a built-in SD card slot under a trap door on the side of the camera that accepts cards up to 64GB.

to get the screen to complete the load process. I don't have an issue with this since the add-in will be gone when I'm done testing/programming the camera. I was then able to go into the dome's menu and review all the options. I always like to check the ease of selection of the multiple views available in panoramic cameras. Of particular interest when testing a camera like the WV-SFV481 is how the quad screens operate for multiple camera views from the same assembly.

I like the ability to use a handheld monitor for initial positioning when installing IP cameras; granted this option has to be implemented before leaving the shop but it's still a nice feature. Other manufacturers require a special adapter for their 360^0 cameras.

Features

The Panasonic WV-SFV481 camera is designed to provide wide area coverage from a single mounting location through multiple camera views. The WV-SFV481 has a 9MP and 4MP fisheye setting that allows the user to be both image and bandwidth conscious when deploying the camera. The 9MP setting can transmit a maximum of 15 images per second (IPS) while the 4MP setting can transmit 30IPS.

The WV-SFV481 has the ability for two-way communication with an external microphone and speaker, which can be handy in areas where contact with the public is necessary like parking lots and train stations. This feature can eliminate the need for a separate callbox at certain locations. We always stress that it is the responsibility of anyone using one- or two-way audio to make sure such installations comply with all applicable laws and regulations regarding audio recording — cover yourself!

The WV-SFV481 can be set to broadcast multiple video streams, which allows the VMS to record one stream at one image rate and display another video stream at a lower image rate to the surveillance operator. This can help keep network traffic down and reduce the operational load on the VMS, if the system can be programmed in this manner.

Setup

Upon unpacking the contents of the WV-SFV481's box, I found all of the paperwork and CD for the camera. Once again I thought, "more software to load," but Panasonic appears to relate to my disdain for having to load specialized software on my computers. I plugged the WV-SFV481 into my PoE switch, allowed the unit to cycle and boot up then ran the camera IP search program from the disk. The WV-SFV481 popped up and I was able to assign a static IP to the camera for use with my test server in the office. I was done with the static IP address assignment in about a minute — a wonderful thing.

I opened my browser, plugged the IP address into the toolbar and awaited the camera to come online. As with most every IP camera I test, I did have to allow an ActiveX program to run in order

Testing

I opened up my test VMS and attempted to program the WV-SFV481 in to my system to test the functionality of the camera and to see how the onscreen GUI of my VMS worked compared to the Web-based GUI of the Panasonic software. Unfortunately, the WV-SFV481 is too new for my software to recognize so I programmed the camera with the Panasonic WV-SW458 parameters. My VMS wasn't able to control the WV-SFV481 so I relied on the onscreen GUI of the Web browser for camera manipulation. I was able to record the video from the WV-SFV481 so I could check on playback and image manipulation that way.

The WV-SFV481 provides a very clear image, especially with the 9MP setting. Since I don't have the ability to mount the camera in a ceiling-style test environment I will usually concentrate on a wall-mount scenario. As can be seen from the photos, the WV-SFV481 provides a wide-ranging image from the camera. Even with a cloudy day the camera provides very good detail on both aspects of the camera view. When the camera is set to a panoramic view, the software will dewarp the image and deliver a true 180^0 view of the camera's field of view.

Using the camera's quad views and controlling them proved a bit tricky at first. When I would move the camera in what I thought was a circular motion to attempt to square the view up with what I was trying to focus on, I would spin right past where I was trying to go. I am sure if I used the enclosed Panasonic viewing software instead of the Web browser the manipulation would have been a bit easier; however, I always like to test as the "average Joe" would.

During my testing I decided to try out the SD card and see how the camera would store alarmed video onboard for retrieval. I opened up the trapdoor on the side of the camera, inserted my 4GB SD card and then went to the camera's menu to perform whatever actions I needed to. Much to my dismay the card wasn't recognized, so I got out the handy Panasonic quick start guide to see what I was doing wrong (c'mon you don't really think I looked at it before do you?). I followed the procedure for inserting the card and found I had done everything I needed to do but still no luck. I decided to call Panasonic's tech support for assistance and reached a friendly employee.

I filled him in on what I had and what I had done and we ran through a couple of things (rebooting the camera, reinserting the

SD card), however, no luck was had. I remembered I had another SD card in another camera, which I retrieved and swapped out the 4GB card for a 2GB. The lights came on like they were supposed to and the card was recognized by the camera. Chalking the issue up to my first SD card I thanked the tech support guy for his help. Upon returning to the camera menu I began to set up the SD card for use with motion detection and sure enough, as soon as I made some menu changes and saved them my second SD card disappeared from the camera menu. I went back and did everything as before but this time Mr. SD card wasn't coming back to life — my onboard recording experiment didn't happen. This was about the time the red word "sample" comes back to me and I wonder if that has anything to do with my configuration issues with the SD card.

Even when cloudy, the WV-SFV481 offers very good detail on both aspects of the camera view. Software dewarps the image in Panoramic view.

The rest of the menu options including the multiple screens and dual views were programmed and set just fine. I performed playback with my VMS and was able to do digital zoom on the recorded images during playback.

Conclusions

The WV-SFV481 is a high-quality network camera that provides clear images for the user. The camera was easy to set up and maneuver through the onscreen GUI of the Web browser. The quad view control was a bit tricky but performed as designed once I got the knack of it. The panoramic view provides a great view for, say, a building's entrance or warehouse area. I am sure a ceiling-mount installation with this camera would provide just as great of a view. I have previously noted that this style of camera, to me, is more of a specialty camera. While I still feel it is in that category the deployment of such a camera is becoming more commonplace, especially considering the camera can be tailored for different views in an environment. The WV-SFV481, and others like it, will find their use in the CCTV market expanding, I have no doubt. SSI

VERDICT

FEATURES ① ② ③ ④ **⑤**
CONSTRUCTION ① ② ③ ④ **⑤**
SETUP ① ② ③ **④** ⑤
PERFORMANCE ① ② ③ **④** ⑤
OVERALL ① ② ③ **④** ⑤

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