

IMAGING TECHNOLOGY

By Robert Kramer



The AstroScope night vision module amplifies existing light to a degree that produces sharp, high-resolution photographs in low-light conditions.

Capturing critical images in low light

Nighttime photography can truly be a tricky task. Low-light conditions, traffic, massive crime scenes, weather and movement within the scene are issues to consider when going about the task of recording a scene with a camera after nightfall. One of the most important factors photographers must bear in mind is never knowing when the call to photograph the nighttime crime or accident scene will come. That fact alone should convince each and every photographer to be prepared.

Nighttime surveillance photography demands the same prepared-

ness as accident and crime scene photography, yet the method is altogether different. In nearly all investigations involving surveillance, it is critically important officers avoid detection by the suspect. Even in daylight, law enforcement officers experience difficulty concealing themselves from suspect activity and bystanders, while trying hard to blend into the surrounding environment. Concealment during nighttime surveillance is often easier, but something very important is missing — light (illumination of the scene and suspect).

Focusing in on AstroScope

The nighttime surveillance photographer must rely on existing ambient light to illuminate the scene — not a flash. The AstroScope night vision module from Electrophysics Corp., located in Fairfield, New Jersey, allows the photographer to do just that.

The AstroScope model 9350NIKS-3PRO, made for Nikon camera bodies and lenses, is 5 inches long and weighs less than 1 1/2 pounds. (Electrophysics also offers models that fit Canon EOS and XL cameras as well as Sony and other manufacturer's camcord-

IMAGING TECHNOLOGY

ers and video cameras.) The Image-Intensifier is a Gen III component with 64 line-pair/mm resolution — the same unit used in the U.S. Military AN/PVS-14 night vision pockscope/monocular. The CIU (Central Intensifier Unit) within the AstroScope amplifies existing light (moonlight, street lights, traffic signals, etc.) to a degree that produces sharp, high-resolution photographs.

Taking pictures with the aid of an AstroScope is straightforward. Once attached to the camera, the photographer is free to use any lens in his camera kit, from a 28mm wide-angle lens to a 50mm normal lens or a 300mm Tamron telephoto lens with 2X teleconverter.

As with nearly all night vision

equipment, the AstroScope photographs have a green color to them. Officers may want to convert night-time surveillance photography to black and white because digitally enhancing black-and-white photos can be much easier than color images. Some cameras, like the D1x, specifically have a black-and-white shooting mode.

Officers can capture most photographs with the AstroScope night vision equipment using a relatively fast shutter speed, for example 1/60th second, which is normally the fastest shutter speed recommended for night vision photography. Shutter speeds this fast and faster allow a photographer to take photos while hand-holding

the camera and without the visible shake associated with slower shutter speeds. With the Tamron 300 and 2X teleconverter, an officer would want to utilize a monopod, as the size and weight of the equipment requires a steady support, even at fast shutter speeds.

Picturing a predator

As a member of the Internet Crimes Against Children Task Force of Iowa, I have been involved in investigations involving online exploitation of children. These investigations often find me online in chat rooms, posing as a minor. A recent investigation involved a 34-year-old man soliciting my assumed online identity for sex. He arranged

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a meeting with me in a neighborhood park, where he was going to meet me, drive me to his residence for a sexual encounter and return me to the park several hours later. Following is an outline of the factors considered as I prepared to record the encounter with photography.

I had control of the meeting site from the beginning, so I chose a familiar location — a park that is deserted after dark. Pedestrian traffic at night is nearly non-existent, and vehicular traffic is sporadic. There also is a stand of trees running along the west edge of the park, which offered better cover and concealment. I operated covertly without sacrificing my view of the scene.

Three lights illuminate the immediate area surrounding the park shelter chosen for the meeting site. One of the lights is well into the park and would illuminate the shelter from the rear. Another is at the entrance to the parking lot, and the third is on the street nearly 200 feet away from the parking lot. Very little light was available at the scene; therefore, conventional photography was out of the question, so I chose to use the night vision module.

I used a Nikon D50 digital SLR camera with the AstroScope and a Tamron lens attached. Even with the camera, night vision module and lens mounted on my monopod, I was able to freely and quickly move up and down the stand of trees, photographing the suspect's first approach, his entry into the park and the take-down.

A female officer was assigned to walk into the park just prior to the meeting time. She would take up a position in the shelter and wait for the suspect to approach. This officer was armed and would be able to communicate with others on scene via her portable radio. We

decided ahead of time that if the suspect showed, he would be confronted by officers prior to being allowed to approach and otherwise come into contact with our officer, who he believed would be a 15-year-old girl.

As he said he would, the suspect approached the park area driving the vehicle he had described online. He first drove by the park, turned around two blocks down the street, drove back and then pulled into the park. He was immediately confronted by officers and arrested at the scene. The entire incident took less than 3 minutes — from the time he first came into view to the arrest. During that time, I was able to take many photographs, some of which are shown here.

In the photo below and to the left, taken from a distance of approximately 500 feet, the female officer is walking into the park. This photo is interesting because the officer had noticed a car pulling into a drive, which is just out of the picture to the left, just before I captured the image. Believing this vehicle may be the suspect (entering the park from a direction other than what was anticipated), she drew her weapon and carried it next to her right leg as she continued walking. The weapon is visible on extreme enlargement of the photo.

The photo on the right side of page 136 shows the officer sitting under the shelter in the upper-left corner of the photo. The officer is recognizable in this photo, even though she is under the shelter overhang, albeit illuminated by backlighting of a park light. The suspect vehicle has pulled into the parking lot, and told that the girl would walk to his car, the suspect waits. One officer was not in place, so there was an unplanned delay in taking down



These photos from the online predator sting show the bait officer (left) walking into the park and the suspect (right) waiting to pick up whom he believes is a 15-year-old girl.

the suspect. Again, according to the plan, we would not allow him to exit his vehicle and approach the officer.

The photo in the lower right corner of page 138 shows the suspect sitting in his car waiting for the girl to approach him. Although this image does not show his face, at least two photos show him looking out his driver's side window, and he is easily recognizable.

I was able to move freely along the stand of trees at the edge of the park. Preplanning this possibility should always be considered, as the suspect and activity may not act as anticipated. This particular scene was extremely dark. The light showing in the background actually cast a shadow into the parking lot, and the other nearest street light was more than 200 feet away.

The photo in the upper left corner of page 136 was captured after the suspect was taken into custody. It shows that the car and its plate can be easily identified even though there is no street light within 200 feet of the car. It is easily identified as a 2005 Pontiac Grand Prix four-door. In many cases, a suspect vehicle under surveillance is allowed to leave the area of activity. Had we chosen to do that, and had I not gotten a license number, the photo could have been taken to a dealer and the model identified as a GT, narrowing the search for the vehicle. (The license number is purposely blocked out in this photo.)

The final snapshot

Preparation is the key for nighttime surveillance photography. The AstroScope's ease of operation and adaptability to camera equipment already in use allows officers to concentrate on other challenging aspects of the incident being planned.

Not all photography is done in daylight conditions with high skies and backlighting. The AstroScope allows officers to be just as comfortable in nighttime exercises as in otherwise pristine settings. ■

Bob Kramer has been a member of the Cedar Falls (Iowa) Police Department since 1974. He is a member of the International Association for Identification (I.A.I.) and Iowa Division of the I.A.I. He regularly conducts specialized training on crime scene photography.

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