Installing an Inexpensive Video Monitor on the Nest Box

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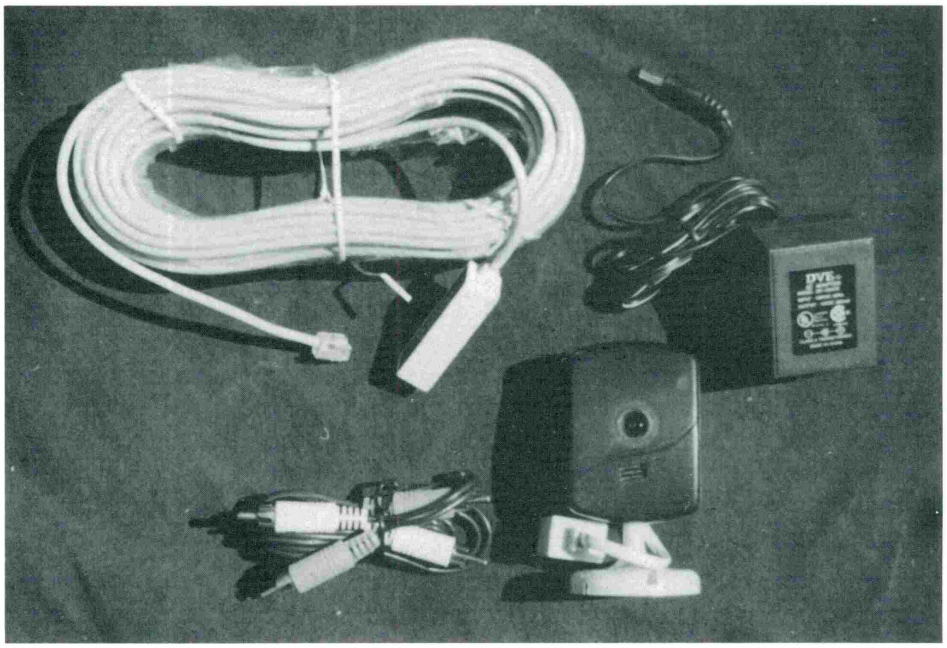
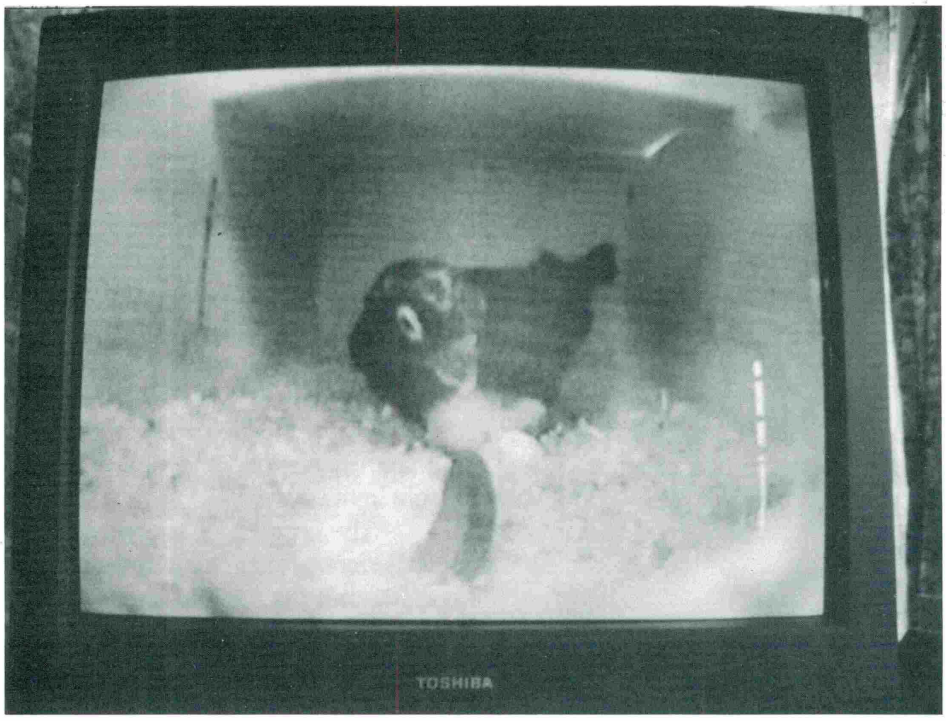


SafeSense camera with transformer and wires.



Photograph of a TV screen. The actual reception is better than this photo image.

Photos by Jerry M. Johnson

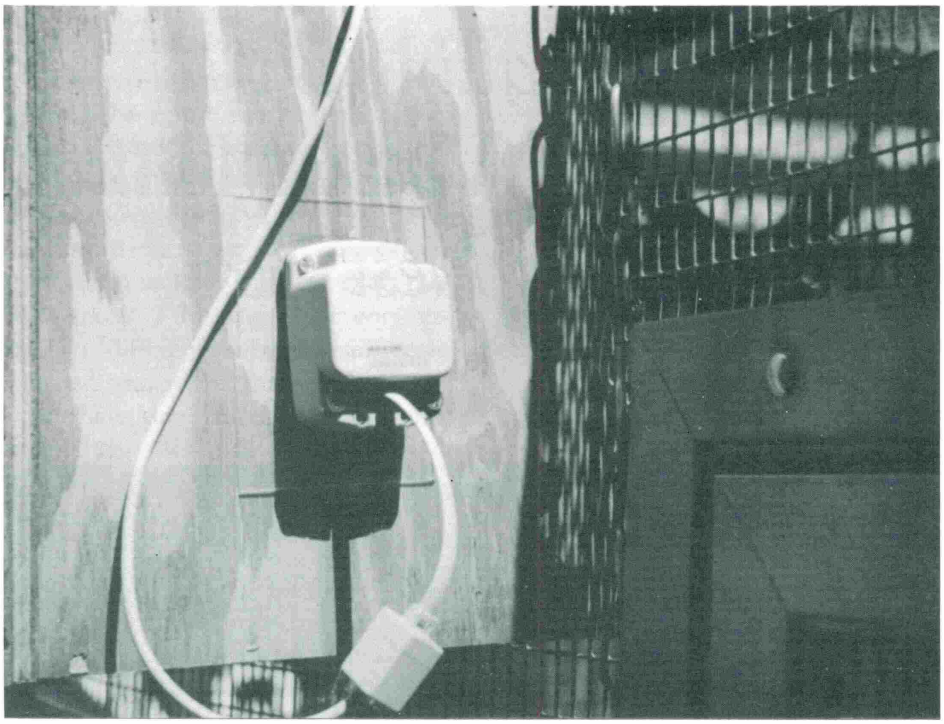
Breeders often relate problems of behavior in the dark hidden nests of their birds, and intrusion by opening the box for visual monitoring often disturbs the hen or cock into inappropriate behavior. The logical way to avoid physical intrusion is to install a video monitor. Rosemary Low in the May issue of *Bird Breeder* online describes the benefits of such monitoring. Having always been curious about what went on in the hidden nests of our birds, we have installed video monitors on the nestboxes of our Goffin's Cockatoos and Maxmilian Pionus.

The budget limitations of a hobby breeder precluded us from investing in expensive cameras like we saw on the nests of the LA Zoo California Condors during the recent AFA convention. Their cost was related to us at about $1500. Our budget could bear an expenditure of around $100 per camera. We have found and installed working cameras well within this price range.

Last breeding season we monitored our Goffin's with a very small Surveillance 2000 Pinhole Security Camera. This black and white hard wired camera was mounted on a 5/8 inch hole with a silicone sealant on the top of a T-box. It was mounted about 4 inches from the interior baffle at a slight angle so as to show most of the bottom of the T-box. The two 3-inch holes in the box gave adequate illumination during daylight hours for the low-light level camera, but gave no picture at night. The camera cost a little less than $100 thru a commercial web auction site. It had 100 feet of feed wire, a low voltage plug-in transformer, and connected to the TV or VCR input with RCA video plugs. It had no provision for lighting the nest box or providing an audio feed. It provided good pictures as our Goffin's raised their chicks. It actually was quickly installed while the chicks were in the nestbox at four weeks and the parents were bribed into the cage with some corn on the cob. We monitored until the chicks left the box at 14 weeks.

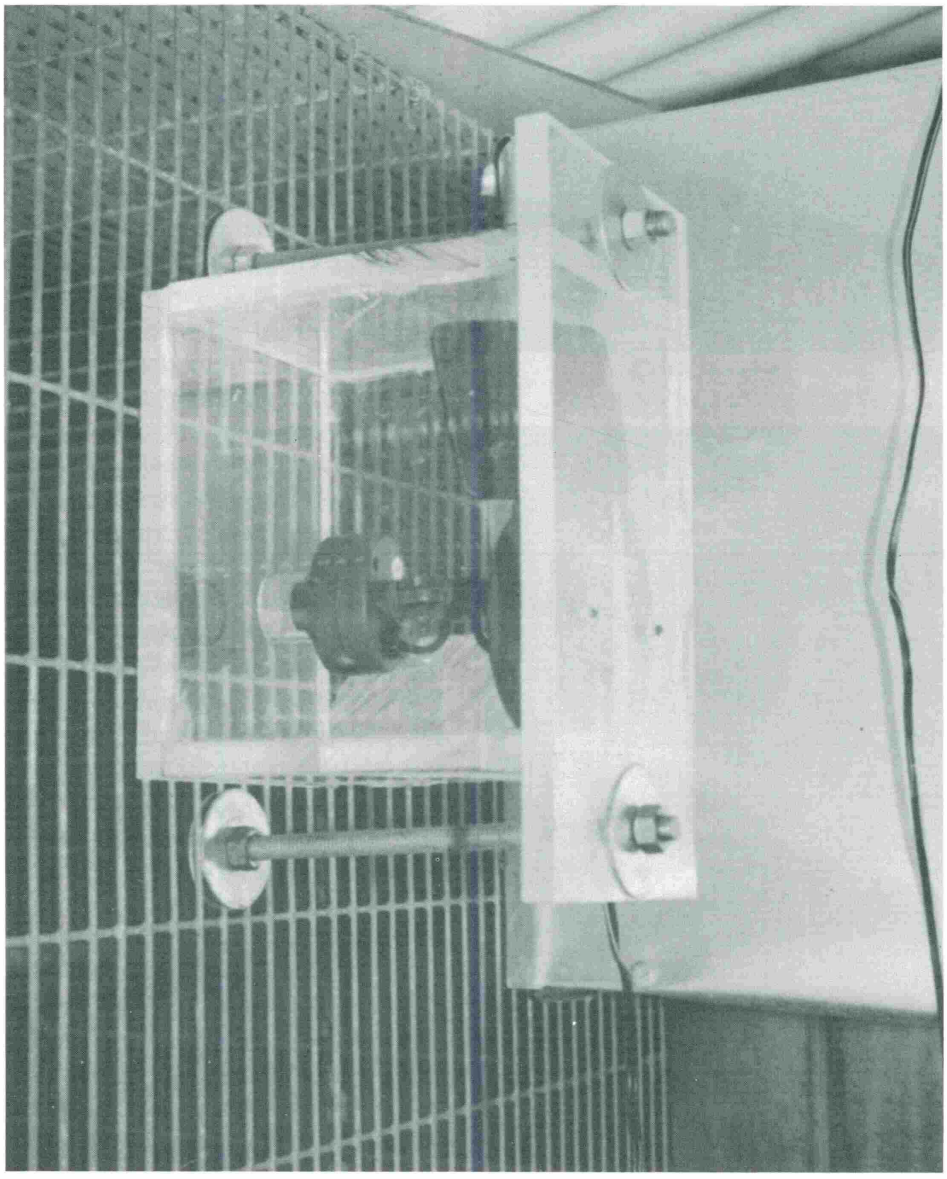
Another type of camera, an X10

indoor outdoor Color camera was installed at one end of the 4 x 4 x 16 feet Goffin's flight. It enables us to monitor the activity of the Goffin's in the flight with no human presence. This transformer-powered camera was mounted in a fabricated Plexiglass box on the side of the flight. The camera shoots its pictures through the Plexiglass, protecting it from both bird beaks and the elements. Its picture is broadcast during daylight hours (no external light source on the camera) without wires via a 2.4GHz transmitter to a supplied receiver for the VCR or TV inside our home. Its pictures are very useful but not as clear as those of a hard wired camera. Hard wired and low light level black and white cameras are now available from the same distributor, but we can report no experience with them.



Camera mounted on the nestbox before installation in the flight.

Photos by Jerry M. Johnson



X-10 mounted in a Plexiglass box on the side of a flight.

The camera that is working the best for us happens to be the least expensive. It is a SafeSense Video Monitoring Camera that is available through the mass-merchandiser TARGET. We originally purchased one on sale for $30. The price has since increased to $60 but is still an excellent value at this price. The camera incorporates six infrared diodes which provide illumination for the nest box after the sun goes down. The box is still visible to the TV camera but is dark to the human or bird eye. During daylight hours the illumination coming in the nest box hole (except when the cock is sitting in the hole) gives a sharper image than when the diodes are the sole light source.

The camera has an excellent audio feed also, picking up sound both inside and outside the nest box. It is supplied with an 80 foot wire lead with audio and video RCA plug output for the TV and a wall-plug-mounted low voltage transformer that is plugged in at

the TV end of the line, not the camera end. It is very easy to hook up.

To install the SafeSense camera on the nest box, a hole needs to be cut in the nest box top or end opposite where the hen will sit. Dimensions for the hole are shown on the attached picture. The hole is square, not round, in order to allow the six infrared diodes to illuminate the interior of the nest box. A small piece of 1/8 to 3/16 inch thick Plexiglass is placed between the hole and the camera itself. Two small 1/16 inch holes were drilled in the Plexiglass at the bottom of the small notch. These may or may not be necessary for audio pick up by the unit's microphone. The Plexiglass protects the camera lens from beaks, as the birds may work at enlarging the hole (If one has big-time chewers working on the hole it may be necessary to put a piece of cage wire inside the box over the hole). Place the hole several inches above the anticipated bedding material. Occasionally dust or bedding will be kicked up reducing the clarity of the picture, but one of the parent birds will usually brush it off with their feathers on entry or exit from the nestbox.

Although a picture is shown of the camera disassembled, only the pivot base is removed for installation to the box, the face-plate is left in place. Holes are drilled in the four corners of the camera in the areas free of electronics. The camera can then be placed over the Plexiglass and hole in the nest box, attached to power and the TV, and positioned for the best picture over the hole, using the picture on the TV as a guide.

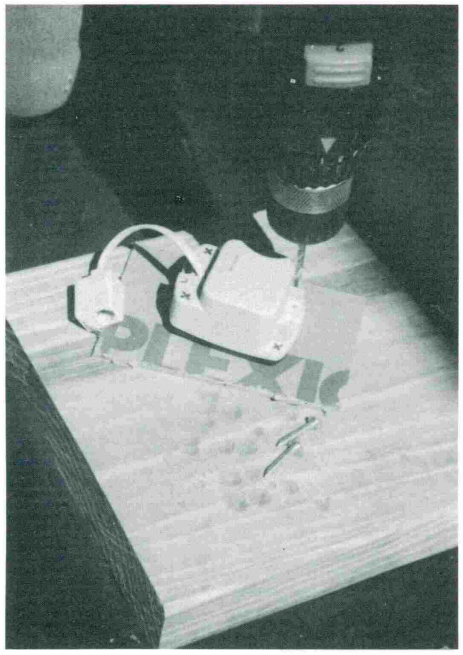
Holes are drilled for attachment of the camera to the nest box. As our camera is under cover, protected from the elements, we have no provision for weather proofing. If exposed, a flap of heavy vinyl or some other material may be used to protect the camera.

We presently have four cameras functional, the two nestbox cameras, the flight camera, and an additional surveillance camera. These feed into an RCA video switch box ($80) that can direct any of the six feeds to my TV monitors in my bedroom or kitchen by remote control. The cameras themselves all run continuously, but having one switch box is less expensive and less clutter than having multiple TV monitors.

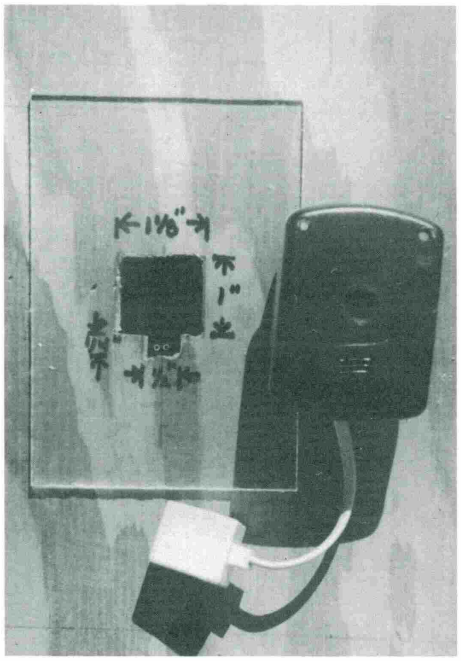
The availability of inexpensive cameras enables nestboxes and bird flight to be monitored without human disturbance. There is little excuse not to use them to monitor pairs that have exhibited problematic behavior with eggs or chicks. The low cost enables us to view behavior in pairs that have always parent raised successfully. It is great entertainment and a joy to be able to watch what is going on both day and night.

The only caution we might add is that the ability to watch what is going on can lead one to unnecessary worry. After the third egg of our Pionus pair, we saw a swollen area on our hen's bottom that we thought was an egg trying unsuccessfully to get out. After four days of no egg we feared she was eggbound and called the Vet to help us examine. Turned out only to be the brood patch, we just never had a bird's bottom magnified three inches away from our view before.

TV viewing has changed in our home. Step aside, ABC, NBC, CBS, ESPN, TNT, and all the rest; our BIRD Channel is the most popular now.



Drilling holes in corners of the camera for attachment. Note Plexiglass protector over the hole in the nest box.



Hole dimensions for cutout in nestbox: 1 1/8 inch wide x 1 inch high with 1/2 inch by 1/4 inch notch at the bottom.

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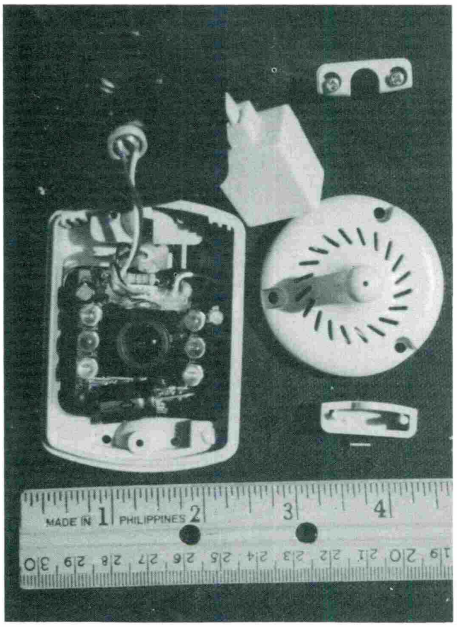

Camera with face plate off. Note the six infrared diodes beside the lens, and the microphone in the faceplate (at the top with red and white leads).