

Forward Vision FLIR

Military and public-service pilots have used FLIR (forward-looking infrared) technology to “see” in low-light (night) and low-visibility (fog or smoke) conditions for years. Special cameras viewing infrared waves can translate them into a visual picture for us to view—in aircraft via a screen in the cockpit. The high cost of these systems has limited their use to similarly high-end applications.

Forward Vision has developed a lower-cost FLIR system that is now available for use in Experimental category aircraft and in production aircraft with a field approval. (The company is in negotiations with several production-aircraft manufacturers, according to spokesman Patrick Farrell.) The camera on our test aircraft (infrared sensor) was mounted on the right wing strut inside a fiberglass fairing and has a heated lens to reduce the threat of icing. The camera is sealed inside the pod, which weighs 3.6 pounds with the camera installed and measures roughly 7 inches in diameter and 19 inches long. Inside the cockpit, a thin-film transistor (TFT) liquid-crystal display (LCD) is mounted either on the panel or on the glareshield and wired to the camera to receive the image.

The camera responds to waves in the seven-to-14-micron range; this camera is less sensitive than those used in higher-end applications and less likely to get “washed out” when a bright (hot) light is aimed directly at



the lens. Cameras that read lower micron sizes (three to five microns) are more susceptible to this problem, although they show greater detail.

We were impressed with the detail on the cockpit screen. We could easily make out large objects and terrain features, such as buildings and roads, but also when on approach, the runway numbers and pavement striping were visible from at least one-half mile out. Applications for the system include detecting deer and other objects on a runway or taxiway in night or foggy conditions and taxiing at an unfamiliar or poorly lit airport at night—the taxiway stripe shows on the screen, because of the difference in temperature between the painted surface and the asphalt or cement.

Price: \$19,995

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