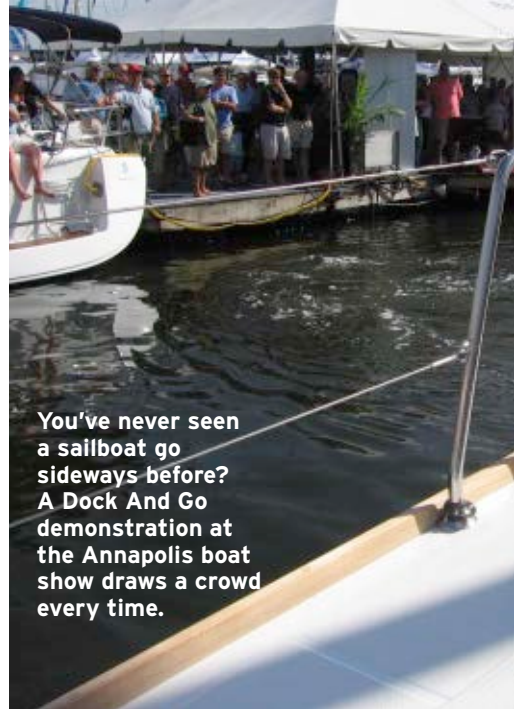


SEE AT NIGHT – THERMAL VISION

What was once the stuff of spy movies now has a price tag under \$3,500 (even less for handheld models). Infrared-sensing thermal cameras can see in the dark, using the tiny differences in temperature and heat output to create video images on your chartplotter screen. Unlike radar, which takes some interpretation and getting used to, images from a thermal camera such as those made by FLIR just appear as black-and-white video.

Thermal vision can also spot objects floating just at the surface, like a log or an MOB — something radar cannot do. People in the water, in particular, jump out on a thermal-vision screen as body temperature is much higher than that of the surrounding water. It doesn't even have to be dark for thermal

vision to be useful. Returning to port with the sun low in the sky can leave you fighting to see through glare. Thermal cameras don't pick up visible light, only infrared, and are unaffected by glare. With the price tag now down near that of high-end radars, and FLIR cameras controllable directly through just about every chartplotter brand out there, thermal cameras are showing up as an option on more and more midsize boats.



You've never seen a sailboat go sideways before? A Dock And Go demonstration at the Annapolis boat show draws a crowd every time.

JOYSTICKS FOR ALL – EVEN SAILORS

We covered the march of fly-by-wire and joystick control in powerboats from pod-driven boats, to sterndrives, and finally outboard-powered boats last year, but you may not be aware that sailors can get the benefits of joystick control as well. Beneteau introduced Dock And Go a few years back on a 50-foot model, and has steadily expanded this offering to other boats in their lineup. Dock And Go is now available on all Beneteau models

GYRO STABILIZATION

Stabilizers are usually associated with larger-displacement speed trawlers and yachts, but Seakeeper recently unveiled a model aimed at 36- to 43-foot boats and kicked things off by installing one on a 39-foot Intrepid 390, a boat that's anything but slow. The 50-knot Intrepid was designed as a custom tender and is the first boat of its size to have a gyro installed.

Gyroscopic stabilization works by spinning a flywheel to create angular momentum. If you've ever stood a bike on end and spun the front wheel, angular momentum is the force you feel resisting efforts to turn the handlebars back and forth. To create angular momentum, you can either spin a really big flywheel with a lot of mass slowly, or a smaller one very fast. Seakeeper has taken the latter approach; their M5500 model spins at 7,500 rpm generating 5,500 newton-meters per second of angular momentum, which translates to a righting force of around 9,600 newton-meters (7,000 pound-feet of torque). That energy is transmitted to the boat by mounting the gyro unit down low in the stringer grid along the centerline. When the boat starts to roll, the gyro rotates fore or aft on gimbals, creating a counterbalancing force. The rate of roll is controlled by a pair of hydraulic arms and a digital processor. The result is up to an 80-percent reduction in roll.

The Seakeeper is effective even at anchor, because it doesn't rely on the forward motion of the boat to generate righting forces. The system does require power from a genset; a 20-amp circuit is necessary to spin up the flywheel. But there are no external protrusions to slow down a fast boat like the Intrepid and possibly hang up a fishing line or be damaged. Expect more high-end fishing boats, in particular, to sport these in the near future.



The Seakeeper gyro unit tucks away under a forward hatch in this Intrepid 390. Expect to see more installations of these units on fishing boats at the fall boat shows.