



TV on a 25-Footer?



SELF-INSTALLING THE KVH M3 REVEALS SEVERAL SORTS OF EXCELLENCE.

The M3 TV system antenna dome looks okay and works fine, even on a boat as small and lively as the author's.

Frankly, the only disappointment I experienced installing a KVH M3 TracVision TV system aboard my 25-foot test boat *Ralph* was that the dome didn't look silly enough! You see, I designed and built and am strangely proud of that oddball pilothouse makeover of a 1970's Wellcraft runabout, and I thought the dome would seal my rep as a harbor eccentric. But the M3's 14½-inch dish antenna, with a casing slightly less than 18 inches high and 16 inches in diameter, is about 40 percent smaller than a "normal" 18-inch stabilized antenna, and darned if it doesn't look rather dashing on *Ralph*, don't you think?

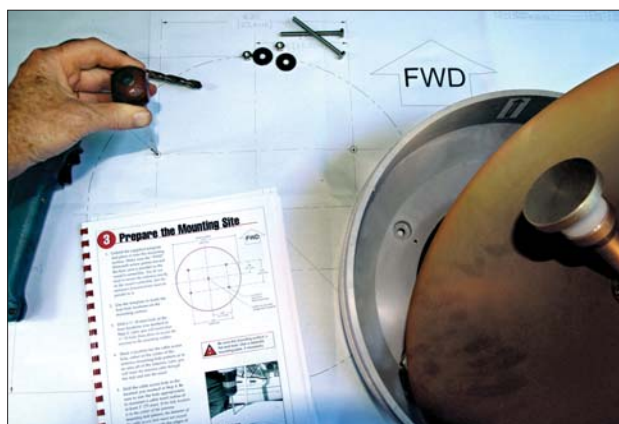
Of course KVH was thinking of more than aesthetics, or my warped sense of humor, when it encouraged me to try the M3 on a boat only 25 feet long. After all, a smaller boat has a quicker motion, making it harder for an antenna to stay locked on a satellite. Yet KVH claims the little M3 can get the reception range and picture quality of an 18-inch dish even on a boat as "quick" as *Ralph*. I could not prove them wrong.

Despite hard-over donuts at 22 knots (25.3 mph)—even accidentally getting sideways (while taking pictures) in a big wake that snap rolled *Ralph* so badly I almost fell down—the M3 stayed locked on to DirecTV's main satellite no matter what, with video images that remained smooth running and crystal clear.

How did KVH pull off this impressive performance when its competitors haven't even offered stabilized antennas this small yet? Many of the answers are spelled out in an M3 "white paper" available at the company Web site. Therein you'll learn that the unit contains dual micro gyros for measuring vessel motion (it's mesmerizing, by the way, to watch the antenna in action with its casing off), super-fast Zarlinc RF chips for decoding the TV signal, and

many redesigned-from-scratch components such as a dish that is able to "reflect more than 70 percent of the incoming signal compared to the 50 percent that is typical of 18-inch antennas."

The less-technologically inclined—especially the owners of some 120,000 powerboats from *Ralph* size to 40 feet that have TVs but don't yet have satellite antennas (KVH's motivation for all that R&D)—might simply wonder what else they need to know about the M3. For the most part, they are going to be



Installing an M3 is foolproof, thanks to KVH's all-in-one-box design and outstanding manuals; even extra small screws, so easily lost, are included.



pleased with the details. On top of its relatively svelte antenna size, the M3 is an all-in-one-box system that can even be self-installed.

In fact, I would describe installing the M3 as nearly foolproof. For one thing, the installation instructions (see photo on page 1) are among the best I've ever seen, clearly written and illustrated, warning of potential pitfalls—like forgetting to remove a bolt which secures the antenna rotor during shipping—highlighted and repeated so that even a multitasking fool like me didn't miss them. Then there's the nicety that KVH supplies several extra of the various little machine screws that an occasional installer, again such as me, is apt to flick overboard at some point.

Most of all, though, the M3 system is just plain simple. Four bolts secure the dome, the rubber gasketing/sound-proofing already built in, and one 50-foot coax cable carries data and power between the dome and the included 12-volt combination antenna controller and DirecTV receiver. Yup, KVH developed its own box specifically tailored to the M3 (though no doubt easily adaptable to the company's various RV TV products). That means there's only one power connection that you have to make, which, along with the coax and the normal outputs to TV and the audio system, is it. There are even three LEDs along the top left of the receiver/controller that tell you most everything you need to know about voltage status, antenna activity, and overall system happiness.

Watching those LEDs progress from red to yellow to green as the M3 starts up, checks itself out, and automatically finds and locks onto the DirecTV satellite, picture on, is quite a satisfying DIY experience, even if any fool could pull it off. Still, I wonder how many boaters will trust themselves with hardware that costs \$5,000, especially when they realize that a professional install will



The M3 system, seen here outputting TV to a Navman 8120, includes a RF remote, and thus the purpose-built 12-volt receiver/controller, already unobtrusive, could be tucked away in a cabinet.

add an onboard service component to the one-year labor warranty (a nuance that, along with two years on parts, seems to be becoming a marine standard). Of course those superb instructions and the everything-included design will speed up even a professional install, and besides, they say a lot about KVH's style.

I picked up hints of that style in several places. One was KVH's Activation Department, where a live operator is available 24/7 to help you take the last step of the install: signing up for some level of DirecTV service. Another was learning from Chris Watson, KVH's communications manager, that the company has two full-time technical writers on staff, which wasn't a complete surprise given the quality of all the print materials. Watson also pointed out, in the back of the white paper, the extensive list of tests, many of them military spec, that the M3 design endured before production, noting that the return-for-repair rate is nearly zero.

So what's wrong with the M3? Well, if you want some of DirecTV's more advanced services, such as high-definition broadcasts or local station support, or if you want another satellite TV provider altogether, you should consider a more flexible 18-inch system.

And if you generally figure that gear for lesser boats should be less expensive, that \$5,000 number, even though it includes everything, might be disappointing. Then again, you might consider the M3 like one of those nifty three-pound laptops many of us covet: You pay more for less because it's actually harder to build "less."

Though I'm generally leery about the aphorism "you get what you pay for," it did seem to apply to several aspects of this testing. I tried the M3 first at home on a good-quality Sony television, where the picture quality made that from my cable service look sick, and then with three different multifunction displays onboard *Ralph*: a Raymarine E-120, a Garmin 3210, and the Navman 8120 shown above. The picture quality was acceptable on each but did vary noticeably, best to worst in that order, which also happens to be their most-to-least-expensive price order. During the testing I took a 300-mile cruise on a new fast trawler equipped with a satellite TV system I'd never heard of and was looking forward to checking it out. But it had failed to start up on installation and was awaiting replacement.

All this added up to an appreciation for KVH's do-it-right/charge-what-it-costs style and made me wonder just



how many thousands saved on an economy satellite TV system end up being an actual savings once repairs, hassle, and resale are all figured in. Not that we've decided that there will even be satellite TV on the real cruising boat my wife and I are getting more serious about (which is why

Ralph is looking for a new oddball owner). Maybe TV on the Web, via the onboard coastal broadband we'd have to have, will get good enough? Which makes me particularly curious about KVH's new TracNet 100 Mobile Internet high-speed cellular/WiFi system for boats, profiled here last

June (see "Welcome Back the Marine Operator") and now shipping. After my M3 experience, I'd expect to find KVH excellence on several levels. If it only had a really weird-looking antenna, it might be perfect. ☼

KVH Industries ☎ (888) 584-4163.
www.kvh.com.



To learn more about the TracVision® M3 and KVH's other marine satellite TV systems, visit www.tracvision.com.

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