

Sandel HeliTAWs:

Helicopter Safety from the Ground Up

STORY BY BILL JOHNSTON

While many avionics dealers are familiar with TAWs (terrain awareness warning systems) for fixed-wing aircraft, Sandel Avionics has introduced a new system that extends this vital safety protection to helicopters.

With more than 50 percent of all fatal EMS helicopter accidents caused by CFIT (controlled flight into terrain), the all-new Sandel ST3400H HeliTAWs is the right solution for this problem, according to Gerry Block, president of Sandel.

“We took the technically challenging route of making a product specifically for helicopters, with helicopter performance, functions and reliability,” Block said. “When we looked at the competitive landscape, we saw there wasn’t a system designed from the ground up to meet the needs of helicopter operators.”

Because helicopters typically operate in a different mission

profile than fixed-wing aircraft, Sandel decided to increase the internal resolutions of its new system. Compared to its transport-category, fixed-wing TAWs, Sandel’s HeliTAWs solution improves lateral resolution by 25 times and vertical resolution by an astonishing 100 times.

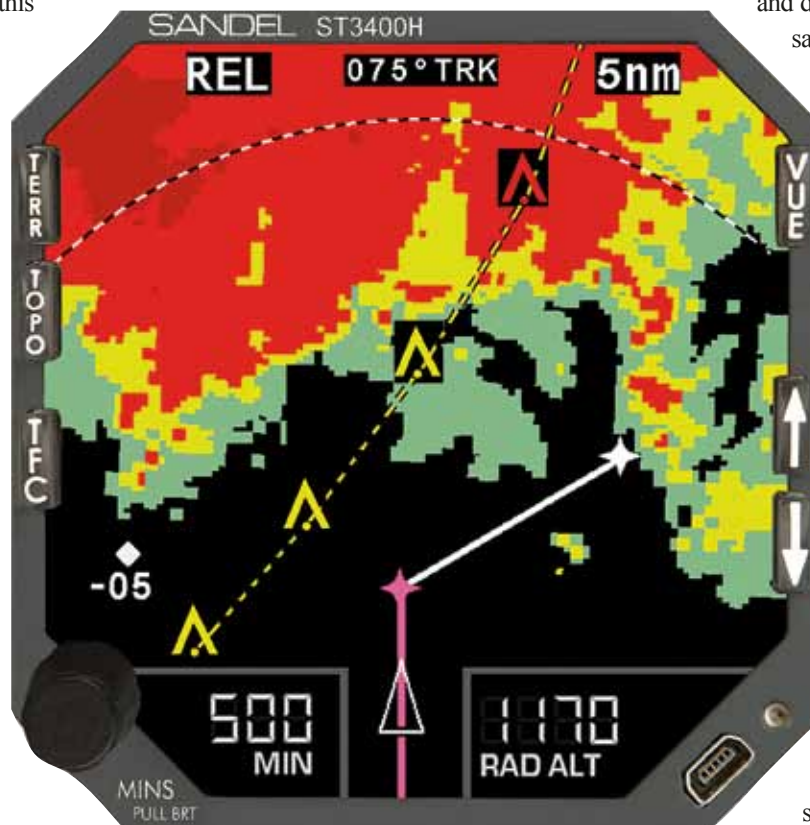
“Of course, this extra resolution required increasing the system’s memory, processing speed and download capacities,” Block

said. “So, by the time we were done with addressing the specific needs of helicopter operators, we had redesigned it.”

During the product definition, Block saw other features that could be incorporated into the HeliTAWs.

“The HTAWs TSO C-194 is very loosely defined in terms of performance,” he said. “If we’d met only the minimum operational performance requirements, we might not have a system that helicopter pilots would like.”

Improvements included adding a pilot-selectable sensitivity switch



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to support different mission profiles; improved “on-ground” logic; a pilot-controlled, smart-mute function; and full Class A alerting capability (GPWS Modes 1-6).

Because nuisance alerts would reduce operator confidence, Sandel’s HeliTAWS also incorporates Sandel’s traditional proprietary technology to increase alert accuracy and suppress spurious alerting.

In addition, Sandel’s system has the capability for future upgrades.

The HeliTAWS is built around Sandel’s proven packaging concept of an integrated processor, database and display in one compact, panel-mounted box. And Sandel’s experience in advanced displays offers another benefit to helicopter operators.

“The TSO requires a display. But the purpose of the display isn’t to pop up a message after an alert occurs, but rather to give the pilot an awareness of the situation beforehand to avoid getting an alert,” Block said. “That’s impossible to do if the display is time-shared or out of view. So, we designed our HeliTAWS to replace an existing radar altitude display, putting a full-time display in the pilot’s primary field of view.

“Our display is not only bright and very wide-angle, it is NVIS-compliant for night operations, making it unique,” he said.

Designed for both retrofit and forward-fit applications, the Sandel HeliTAWS should take less time to install than a fixed-wing system, Block said, and it carries a price comparable to that of Sandel’s popular fixed-wing TAWS.

Flight-testing was conducted at Corporate Helicopters in San Diego, Calif., in a Eurocopter AS350B2, and certification is expected by the end of March.

Sandel’s new HeliTAWS underwent FAA certification flight testing in December and January in a Eurocopter AS350 AStar owned by Corporate Helicopters of San Diego, CA.



While everyone agrees the helicopter CFIT accident rate is too high, now you can offer your customers an affordable, easy-to-install system that can help solve this problem.

For more information, contact Sandel at 760-727-4900 or visit www.sandel.com. □