# EPIC NEW FEATURES COMING FROM HONEYWELL

**News / Events / Festivals, Manufacturer**

Aircraft with modern **Honeywell** flight decks will soon be eligible for some interesting upgrades that should make flying safer, including a new DynaCharts **feature** that aims to remove charts from cockpit displays. The company is also developing enhanced hazard detection for its IntuVue weather radar and TCAS coupled to the autopilot for automated avoidance of potential collision courses.

The DynaCharts and TCAS enhancements will be available later next year or in 2017 as software upgrades to business jets equipped with Honeywell Primus Epic avionics, including Gulfstream 450 and later models, Falcon jets with EASy cockpits and other aircraft fitted with Apex suites. Availability of the new radar enhancements is for aircraft fitted with Honeywell's RDR-4000 3-D weather radar system. The upgrades' availability depends on when they are made available to customers by the airframe manufacturer, according to Tom Lawler, Honeywell product line director for Primus Epic.

DynaCharts takes information from charts and uses that to populate cockpit displays, instead of just placing the chart itself onto the display. "Lateral information from the chart goes on the lateral display," he said, "and [vertical] information goes on the vertical situation display of the MFD. You'll

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see the charted altitude limits on the vertical situation display." Instead of the pilot having to look at a chart then mentally cross-reference that information with what is showing on the displays, he added, "It gives the most relevant information onto one display, and the pilot is no longer cross-referencing." The information also responds precisely as range is zoomed in or out. "Everything is consistently laid out in a readable manner," he said.

Coupling TCAS to the autopilot is new for business aviation. "The intent is simple," Lawler said. "Just do what the pilot would be trained to do, only allow the automation to assist, to help the pilot with the flying task, not add more work."

The autopilot can react much faster than the pilot in cases where there is a TCAS conflict. And sometimes pilots hesitate when TCAS sends a message to the flight director instructing the pilot to climb, descend, etc. "What we've seen in studies," he explained, "is that any hesitation from the pilot to do the maneuver manually often leads to a more aggressive command. So sometimes they hesitate and wonder, 'is this a false alarm?' and then hit it hard. Sometimes they go in the wrong direction for some reason. There's data that says that's the case more frequently than we'd like to think."

Honeywell has been flight testing this feature recently, Lawler said, "and it's available to be certified when theOEMs can work it into their certification programs." Some OEMs have committed to adding TCAS coupling in upcoming new aircraft programs, he said. "We think we'll have similar customer interest as we've seen with automatic/emergency descent mode."

The IntuVue enhancements include new symbology for hail and lightning detection and extended sensing of severe turbulence a further 20 nm, to 60 from the existing 40 nm for RDR-4000 radars. The hail is shown by a symbol that looks like a push pin or a dot connected to a line, Lawler said, "with some colorization around it [to show] airspace that might have hail." The color palettes can depend on OEMs' choices, so could vary, but in air transport RDR systems, the hail area is shown in a lavender color.

NBAA show visitors can learn more about these new features at Honeywell's booth (C7807), and also see the new GoFuel app, JetWave Ka-band satcom, Bendix King Aerovue King Air retrofit flight deck and AeroWave satcom, new Ovation cabin management system features and Honeywell solutions for upcoming mandates.

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