

HONEYWELL RDR-7000 WEATHER RADAR A 'NO BRAINER' FOR GLOBAL XRS PILOT

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Case Study

STEPHEN HARTLEY, PILOT

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A 'NO BRAINER' FOR GLOBAL XRS PILOT

Passenger safety and comfort always comes first for Global XRS pilot Stephen Hartley. That's why he thinks choosing Honeywell's breakthrough IntuVue RDR-7000 weather radar system "seems like a no brainer."

BACKGROUND

There's no such thing as a "typical" flight for Stephen Hartley, aircraft and flight crew manager for a Bombardier Global XRS business jet that is operated and managed by ACI Jet out of San Luis Obispo Regional Airport. ACI Jet is a leader in private aviation services, including aircraft management, charter and ground support services. In an average year, Hartley makes about 50 flights carrying the aircraft's owners or charter customers.

"The Global XRS is a terrific airplane that can comfortably fly up to 14 passengers on domestic or international flights," Hartley said. "We regularly fly to San Francisco or Los Angeles, but we're just as likely to take off on a 10-12-hour flight to Paris, London, Asia or South America – anywhere in the world really, given the airplane's exceptional range."

Hartley has more than 12 years of flying experience in business jets including the Global XRS and Cessna Citation, and he's experienced his share of severe weather during his flying career. "Thunderstorms are pretty rare here on the California coastline," he said. "But we often encounter storms on flights over the Sierras, Canada, Texas, the Midwest and overseas."



From left to right: Stephen Hartley ACI Jet, Joshua Balmer Aerotec, Vino Chandrakumar Aerotec, Owen Swearngen ACI Jet, Brandon DeWyer ACI Jet, Charlie Roberts FAA test pilot, FAA flight engineer (unknown)

"Of course, we want to steer clear of any weather that would threaten the safety or comfort of our passengers or damage the aircraft. So we need the most up-to-date weather information possible."

"The RDR-7000 is hands-down better than conventional weather radar systems I've flown. It does everything it's supposed to do, so I think pilots are going to really want this radar. It's sort of a 'no-brainer.'"

– STEPHEN HARTLEY, PILOT

But "accurate and reliable" aren't words Hartley usually associates with conventional weather radar systems. "In my experience 'old school' weather radar isn't particularly helpful because it has trouble distinguishing weather returns from ground clutter. Once, I was flying in Florida at night and the radar was painting almost nothing. Suddenly I found myself entering an active storm cell, getting rained on and beat up by turbulence. Fortunately, everything came out okay, but it obviously would have been better to have a weather radar system that provided real-time warning that I was approaching a storm front."

QUICK FACTS

Customer

- Name: Stephen Hartley
- Aircraft: Bombardier Global XRS
- Location: San Luis, California
- Industry: Transportation

Benefits

- Provides pilots clear and timely information to make faster, safer, more-informed decisions
- RDR-7000 scans ground to 60,000 feet and as far as 320 nautical miles ahead
- 3D volumetric scanning analyzes any storm clouds, lightning, hail, turbulence or windshear
- Improves safety, comfort and confidence for passengers – even those who are fearful of flying

Why Choose Honeywell

- Sixty-plus years of severe weather detection and avoidance expertise
- Evolved from proven technology, RDR-7000 represents a game-changing technology breakthrough
- Developed with input from business jet pilots with experience flying in all types of weather
- Lightweight, single-unit design available to fit more business aircraft platforms



SOLUTION

In May 2020 ACI Jet installed the Honeywell IntuVue RDR-7000 weather radar system on its Global XRS business jet for a series of flight tests. Working with certification partner AeroTEC, Honeywell is seeking Supplemental Type Certificates (STCs) on the radar system for 15 aircraft types, including the Global XRS. Honeywell received an FAA Technical Standard Order (TSO) on the radar in July 2020.

Hartley was impressed with the RDR-7000 from the very first test flight. "We really put the radar through its paces throughout the two-week flight-test regimen," he said. "We actually went hunting for storm systems so we could see how well the radar paints thunderstorms, lightning, hail and turbulence at long distances and various altitudes."

"The RDR-7000 is hands-down better than the older weather radar systems I've flown in the past," Hartley continued. "It does an excellent job of detecting severe weather and making it visible to pilots so they can quickly process the information, make the right decision and take the appropriate action to avoid the storm system."

The new radar also reduces pilot workload, Hartley said. "It has fewer controls, is easy to operate and does most of the work for you, so pilots don't have to do a lot of mental calculations and manual operations that can distract them from managing the aircraft. It does everything it's supposed to do, so I think pilots are going to really want this radar. It's sort of a 'no-brainer.'"

BENEFITS

The RDR-7000 weather radar system provides business aircraft and helicopter pilots with unprecedented levels of situational awareness while also reducing pilot workload. Conventional radars scan only a portion of the sky, but the RDR-7000 automatically scans from the ground to 60,000 feet and as far as 320 nautical miles ahead. It's the first radar to provide a complete vertical view of weather.

Using 3-D volumetric scanning techniques, the system analyzes storm clouds and looks for conditions that could potentially produce lightning, hail, turbulence or windshear and display them for the flight crew. The RDR-7000 also can determine if a second storm front is lurking behind the initial system.

"The Honeywell radar is a valuable addition to the bag of tools," Hartley said. "Flying in a business aircraft is safer and more comfortable than ever before, which is good because passenger expectations have grown, especially for long-range intercontinental aircraft like the Global XRS. I'm looking forward to flying the RDR-7000 on my next flight from California to Europe or Asia – I can't imagine flying a long haul over water without it."



Radar image of mounted RDR-7000 in place of former radar system



WX image of storm cell with lightning 45nm south of Reno, NV.

For more information

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