

# F-22 Raptor Air Dominance Fighter Receives Latest Integrated Avionics Software Package

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The Lockheed Martin-led F-22 Raptor industry team has delivered the latest integrated avionics software package -- Block 3.1 -- to the program's Combined Test Facility at Edwards Air Force Base, Calif., for flight test aboard the Raptors located there.

The Block 3.1 software has increased radar, electronic warfare and communication, navigation and identification capabilities, as well as added global positioning system capability to the F-22's integrated avionics.

The F-22's advanced integrated avionics suite is composed of hardware and software produced by F-22 team members Lockheed Martin, Boeing and other key suppliers, including Northrop Grumman and Raytheon who under a joint venture build the APG-77 radar.

The F-22's advanced integrated avionics suite allows the pilot to operate in battle conditions without the burden of managing individual sensors, thereby dramatically improving situational awareness and improving the performance of the pilot and aircraft. "Release of the Block 3.1 software is a significant enhancement to the war fighting capabilities already demonstrated by the Raptor," said Bob Rearden, Lockheed Martin F-22 vice president and general manager.

F-22 Raptor prime contractor Lockheed Martin Aeronautics Co. is principally responsible for the successful development and initial testing of the aircraft's advanced integrated avionics suite at both its Marietta, Ga., and Fort Worth, Texas, facilities. F-22 team partner Boeing is responsible for final integration, testing and software delivery for the F-22's advanced avionics.

"Block 3.1 supplies more than 90 percent of the total functionality planned for the F-22, and allows the flight-test program to accomplish its objectives," said Bob Barnes, Boeing vice president and F-22 program manager. "The team is very encouraged by the initial dynamic testing of Block 3.1 in our airborne and ground-based labs."

Prior to delivery, Boeing rigorously tested the software at the company's Avionics Integration Lab and on its 757 Flying Test Bed, both located in Seattle, Wash.

The avionics lab and flying test bed are helping reduce avionics risks and contain development costs by enabling extensive evaluation and troubleshooting before full avionics are installed on the F-22. To date, more than 98 percent of the avionics system anomalies have been found prior to delivery to the F-22 due to the team's extensive experience in large-scale integration, high-fidelity facilities, tools and processes. The team has been testing the Raptor's avionics packages at both the lab, since 1998, and on the flying test bed since March 1999.

Built by Lockheed Martin in partnership with Boeing, powered by Pratt and Whitney engines, and with the help from approximately 1200 subcontractors and suppliers in 46 states, the Raptor will replace the venerable F-15 Eagle starting in 2005. Its balanced design of stealth, supercruise speed, and super-agility, along with its advanced integrated avionics and overall user-friendliness, will allow the F-22 to help the Pentagon shorten future wars and save American and Allied lives.

Lockheed Martin Aeronautics Co., headquartered in Fort Worth, Texas, is a leader in the design, development, systems integration, production and support of advanced military aircraft and related technologies. Its customers include the military services of the United States and allied countries throughout the world. Products include the F-16, F-22, F-35 JSF, F-117, C-5, C-27J, C-130, P-3 and U-2.

Headquartered in Bethesda, Md., Lockheed Martin Corp. is a global enterprise principally engaged in the research, design, development, manufacture and integration of advanced technology systems, products and services. Employing about 125,000 people worldwide, Lockheed Martin had 2001 sales of \$24 billion.

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