

# Supporting the Ground Commander

by

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Al-Qaida and its associated networks remain the greatest terrorist threat to the United States and its partners around the world. Their networks are thriving in North Africa; the Taliban is resurgent in both Afghanistan and the Pakistani tribal areas; and American casualties in Iraq reached a seven-month high in April. To combat the resiliency of our enemies and to succeed in the Global War on Terror, it is vital that our intelligence community and our military have the most accurate and current information on threats posed by our adversaries.

To win wars – both traditional force-on-force conflicts and the asymmetric battles of today – our military relies on collecting exact and timely intelligence, surveillance and reconnaissance (ISR) information and relaying that information quickly to forces operating in the field. In today's combat theaters, numerous platforms – from satellites to manned and unmanned aircraft – provide critical ISR data to combatant commanders. But since 1991, one system, with its unparalleled view of the battlefield, has held the top spot on the ISR pyramid – the E-8C Joint Surveillance Target Attack Radar System, or Joint STARS.

First deployed in its early development phase during Operation Desert Storm, Joint STARS aircraft employ wide-area surveillance radar with ground moving target indicator (GMTI) capability, paired with an on-board battle management suite and robust communications systems. Together, they detect, locate, classify, track and target hostile ground movements day or night and through all weather conditions. The Joint STARS radar tracks movement over a very large area encompassing thousands of square miles while highly skilled Air Force and Army operators and battle managers flying on-board the aircraft quickly process and interpret that data and pass targeting information and instructions to combat aircraft and ground forces.

Our 17 Joint STARS aircraft have successfully evolved from their Desert Storm roots to fight new and emerging threats. Indeed, they have logged more than 40,000 hours of combat flying time in support of the Global War on Terror. During Operation Enduring Freedom in Afghanistan, Joint STARS was instrumental to successful Army and Marine operations.

Marines guarding the airfield at Kandahar credited Joint STARS with “*saving lives*” by its ability to monitor potential enemy avenues of approach at night and provide timely warning to the Marines when Taliban movements were detected.

The Marines again lauded Joint STARS in Operation Iraqi Freedom. In their after action report, the 1st Marine Division commander wrote; “*No other collection asset provided the wide area all weather coverage of the battle space that the JSTARS did with the MTI radar.*” “*The soldiers who operated the system proved equally as critical as the equipment in processing,*

*interpreting and translating operational requirements to the collection platform.” “Because they were close to the point of decision, these JSTARS operators shared the sense of urgency and ‘can-do’ attitude.” “When other platforms failed or were unavailable the Common Ground Station-JSTARS combination ensured that we were not blind on the battlefield.”*

U.S. Army warriors were equally enthusiastic. In 2003, USA Today reported *“In the early morning hours on March 27 under the cover of a sandstorm, a large Iraqi column tried to attack the 3rd Infantry Division 80 miles south of Baghdad. However, the Iraqi’s did not count on the presence of Joint STARS. The Joint STARS aircraft detected the Iraqi movement and called in air strikes that decimated the Iraqi column just miles from the lead elements of the 3rd Infantry Division.”*

In late 2007, the 25th Combat Aviation Brigade commander commented *“Our Division Commander reinforced the fact that we were battle space owners, so we used J-STARS a lot, especially in the noncontiguous areas as a part of our ‘Lightning Strike’ package.”* The 1st Air Cavalry Brigade commander also summarized his opinions by saying; *“All 200 air assault missions my brigade conducted had Joint STARS support-- it was a phenomenal capability.”*

Since the beginning of 2008, Joint STARS has contributed to operations which located and seized over 350 insurgent weapons caches, detected and captured more than 100 enemy high value individuals and identified and eliminated greater than 400 improvised explosive devices (IEDs) and four of the “factories” suspected of manufacturing those IEDs.

This spring, Joint STARS supported the 101st Cavalry’s Apache Longbows on their largest air assault since Vietnam.

Although successful in operations today, Joint STARS must be modernized to stay viable for the future. The arguments in favor are compelling when you look at the value to the warfighter measured against the investments that have been made and cost of a future replacement. The initial upgrade must be for engines. After a long delay, that is about ready to begin. The new fuel efficient engines will pay for themselves in a few short years just with the savings from not having to maintain the old, less efficient and capable engines that were on the aircraft when they were originally procured. With these new engines Joint STARS will fly higher, require fewer in-flight refuelings and be able to stay on station longer, enabling even greater support to the soldiers and Marines on the ground.

Incorporating a new sensor is next and is critical to achieving Joint STARS’ continued, high impact on the military operations. The current radar is 1980s technology and will soon begin to suffer from obsolescence and diminishing sources for spare parts. The new sensor is the large version of the Multiple-Platform Radar Technology Insertion Program (MP-RTIP) radar with a wide-area surveillance (WAS) capability.

To put the Joint STARS radar into perspective, an aircraft orbiting over Richmond, Virginia, with the current sensor could see anything moving in the Washington/Baltimore metro and larger surrounding areas, but can only focus on and accurately track a limited number of individual targets. With the WAS MP-RTIP sensor’s improved capabilities, Joint STARS operators could see all the cars, delivery trucks, semis, bulldozers, motorcycles, bicycles in that space, and track the routes of many of them simultaneously. When vehicles stop, MP-RTIP will

allow the operator to snap a high resolution radar image of the target without interrupting the moving target search.

Translated to the modern battlefield where peacekeeping, humanitarian assistance and combat operations are happening at the same time, the system will allow ground troops operating in urban or rural environments to simultaneously identify and track the movements of both enemy and friendly forces. Additionally, MP-RTIP provides Joint STARS with a new capability to locate and track air targets like unmanned aerial vehicles, cruise missiles and small aircraft – contingencies our forces are likely to face in the coming years.

Upgrading Joint STARS will prove a good value for the taxpayer and our nation's security as it will capitalize on previous investments. Under the cancelled E-10 program, \$1.2 billion was spent to develop the MP-RTIP sensor and Battle Management systems for a planned Joint STARS follow-on aircraft. Although that follow-on aircraft program was cancelled, the investment made on radar development translates directly to Joint STARS. Additionally, the current Joint STARS E-8 airframes have been thoroughly evaluated and judged airworthy to a point well beyond 2060.

Since its first combat flight, Joint STARS has proven to be nearly unequalled in its contribution to our military successes. MP-RTIP and new engines for Joint STARS would ensure that our troops continue to have the crucial tools necessary to allow them to adapt to and defeat the myriad threats they will encounter in the coming years.

The Department of Defense needs to show its support for this critical joint warfighter capability by making the Joint STARS Radar Modernization program a priority in its budget requests.

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