FEATURES

Who's in Charge? ............................................................ 2
Unresolved interservice issues threaten to snarl theater missile defense command and control.

5-3 ADA in Operation Joint Endeavor ......................... 9
Bradley Stinger Fighting Vehicles and Avengers roll into strife-torn Bosnia-Herzegovina.

A2C2 Information:
The 25th Infantry Division Technique ....................... 16
Enhanced early warning technique replaces "eyeball technology" to reduce danger of fratricide.

Welcome to Air Defense Artillery ................................. 24
Capt. Michael Maloney explains the promotion process.

Air Defense of Japan .................................................. 26
Japanese air defenders, like their U.S. counterparts, struggle to upgrade systems and maintain training standards despite budget cuts and force reductions.

Scouts: Broadening Their Horizon .............................. 30
1-2 ADA scouts operate as early warning unit for radarless air defense battalion.

DEPARTMENTS

Intercept Point .......................................................... 1
Common Sense Management ....................................... 15
ADA Digest ............................................................. 19
ADA Association ....................................................... 32

ON THE COVER

Photojournalist JoMarie Fecchi took the front cover photo of 5-3 ADA soldiers in Bosnia while on assignment for PhotoReporters, a New York City news photo agency. She has also covered Colombian special forces training, U.S. deployments in Haiti and Cuba, and conflicts in El Salvador, Armenia and Azerbaijan.
We unveiled the ADA Vision, a road map to the future, during the ADA Commanders’ Conference in April. Now it’s up to us to make the ADA Vision a reality. Shaping the future of Air Defense Artillery is a formidable task, but like most formidable tasks, it seems less daunting once you’ve broken it down into a series of smaller tasks. Here at the U.S. Army Air Defense Artillery School (USAADASCH), we have broken the future up into eight, workable chunks we call “vision modules,” or VISMODS. An ADA colonel heads each VISMOD, which is staffed by dedicated, creative and resourceful ADA soldiers and civilians. The VISMODs are explained below.

- **Brigades Moves.** Transform Fort Bliss into a world class power projection platform. Facilitate the relocation of the 108th, 35th and 31st ADA Brigades to Fort Bliss in FY96 and FY97. Ensure the installation is ready to support the “Air Defense Center of Excellence.”

- **Re-engineer USAADASCH.** Re-engineer the school to meet the needs of the current Army and Force XXI. Determine how the school will function under the U.S. Army Training and Doctrine Command’s centers and satellites concept. Restructure the school to make it more efficient.

- **Air and Missile Defense Master Plan.** Publish the Air and Missile Defense Master Plan. Scheduled for publication this September, the Master Plan will address the full threat spectrum and present the branch’s modernization plan.

- **Branch Marketing.** Attract, access, train, motivate and develop bright, physically fit, aggressive, caring men and women officers, warrant officers and noncommissioned officers with the potential to fill important leadership positions. Educate the Army, other services, Congress and allies about Air Defense Artillery’s critical battlefield role. Strengthen ties between Fort Bliss and its host city, El Paso, Texas.

- **Exercise and Experiments.** Establish integrated planning teams (IPTs) for Task Force XXI, Prairie Warrior and Roving Sands, which will determine the composition of Force XXI. Ensure air and missile defense participation is adequate and accurate.

- **Patriot Force Standardization.** Standardize the Patriot force at five fire units per battalion. Activate 3-2 ADA, the tenth Patriot battalion.

- **TMD Transition.** Field Patriot Advanced Capabilities-3, the Theater High-Altitude Area Defense (THAAD) User Operational Evaluation System and the Joint Tactical Ground Station. Re-engineer the ADA brigade maintenance company and signal support.

- **Avenger Transition.** Inactivate three active component (AC) corps Avenger battalions and transfer their equipment to the ARNG. Convert five Chaparral battalions to Avenger/Stinger battalions. Convert three ARNG Hawk battalions to Avenger/Stinger battalions. Standardize six AC heavy division ADA battalions to 36 Avengers per battalion.

The future doesn’t just happen; tomorrow is shaped by actions we take today. We can, in large part, determine our own destiny by . . .

**Leading the Charge to Force XXI**

Maj. Gen. John Costello  
Chief, Air Defense Artillery

In the past, the Army learned how to change from industry. We were derivative. Today, we are leading change. Today, we are writing the theory and creating the practice simultaneously.

— Gen. Gordon R. Sullivan

The character of U.S. military forces is changing, perhaps more rapidly than most appreciate, for, driven by the information revolution, a revolution in military affairs is at hand. This American-led revolution stems from advances in several technologies and, more important, from the ability to tie these developments together and build the doctrines, strategies and tactics that take advantage of their technical potential.

As we adapt joint warfighting capabilities and doctrine to meet post-Cold War challenges, air and missile defense is emerging as a key element necessary for the effective continuation of American military power. The proliferation of ballistic missile systems and the emergence of the cruise missile threat, coupled with the ever-increasing number of countries capable of producing or acquiring weapons of mass destruction, mandates our armed forces be equipped with the means to arrest this threat. The Ballistic Missile Defense Organization, the individual services, the Joint Staff and the Office of the Secretary of Defense are working to acquire the necessary active defense systems and develop supporting joint doctrine.

However, as we move closer to fielding the new family of active theater missile defense (TMD) systems and consider even more candidate systems, interservice issues regarding active defense command and control are emerging. These issues include the following:

- Who is in command of active defense against ballistic and cruise missiles?
- What is the relationship of active TMD to theater air defense?
- How should active defense operations be controlled?

Unfortunately, current joint TMD doctrine described in Joint Chiefs of Staff (JCS) Publication 3.01-5, Doctrine for Joint Theater Missile Defense, has not yet evolved to the point where it can provide sufficient guidance for the unambiguous resolution of these issues. And the follow-on publication, JCS Pub 3-01, Countering Air and Missile Threats (draft), does more to confuse the issues than fix them.

This article suggests it is not useful to think in terms of service proponency when seeking resolution of the aforementioned doctrinal issues. Active defense against air and missile threats is a joint mission area, and we must approach the resolution of these issues from an operational, joint warfighting perspective. No single service has the sole capability to perform all active defense missions or counter all air and missile threats throughout the joint battlespace. Depending on the situation, any or all of the services may contribute active defense forces to a joint task force. These forces can function independently in sector. However,
in most cases, services’ active defense forces will fight together under a single tactical command to leverage synergy and produce an effective defense.

**Background**

A brief overview of air and missile defense is instructive for understanding the underlying doctrinal issues that frame the relationship of active TMD to theater air defense, who should command and control active TMD, and how to achieve overall coordination. The JCS Mission Need Statement (MNS) for TMD laid the basic foundation for the structure of the TMD mission area. The stated mission of TMD is “to protect U.S. forces, U.S. allies and other important countries, including areas of vital interest to the United States, from theater missile attacks.” This mission includes the protection of fixed civilian and military assets, population centers and maneuver units. A theater missile is “a ballistic, cruise or air-to-surface missile whose target is within a theater or that is capable of attacking targets in a theater.” The MNS also provided the framework to build the joint TMD doctrine espoused in JCS Pub 3-01.5.

Doctrinally, TMD is defined in terms of four operational elements or pillars: attack operations, active defense, passive defense and battle management command, control, communications, computers and intelligence (BMC$^4$I). Attack operations (operations directed against the enemy’s capability to launch a theater missile) include destroying launch platforms; support facilities; reconnaissance assets; intelligence, surveillance and target acquisition platforms; command and control nodes; and missile stocks. Active defense operations destroy missiles in flight. Passive defense includes measures taken to reduce the effects of a theater missile attack, including deception, camouflage, concealment, early warning and nuclear, biological and chemical protection and decontamination. BMC$^4$I includes those procedures, personnel and systems that integrate the TMD system into overall combat operations, providing synergy among the other pillars of TMD.

Inherent in this structural definition of the TMD mission area into “pillars” is the basis of the doctrinal dilemma. The inclusion of attack operations with active defense, while logically sound, has contributed to much of the debate over the role and functions of the area air defense commander (AADC), the joint force air component commander (JFACC) and the service commanders in TMD, and the relationship of active TMD to theater air defense.

Clearly, attack operations and active defense are mutually supporting. The more effective attack operations are, the less the requirements are on active defense forces to contend with surviving theater missiles. Conversely, the more effective active defense forces are in denying theater missile penetration, the less the demands are on aircraft and other strike resources devoted to attacking enemy theater missile infrastructure and launchers. Within this operational logic, unfortunately, lies the inherent roles and missions friction. Because air power was the predominant means for the precision strike of targets deep in enemy territory, the JFACC was deeply involved with planning and supervising the execution of attacks on deep operational and strategic targets. In addition, the JFACC was concerned with the optimal allocation of weapons to targets and the preclusion of uncoordinated and wasteful attacks on the same targets. Accordingly, Air Force doctrine has attributed attack operations coordinating responsibility to the JFACC. Because attack operations are a pillar of TMD, the involvement of the JFACC in TMD became pronounced.

The association of the JFACC with TMD is reinforced because we already associate the JFACC with the AADC, and the AADC with conventional air defense operations. Moreover, Air Force doctrine stresses active TMD is a subset of theater air defense operations. The lack of a credible air-breathing threat in our most recent conflicts has lessened the criticality of the AADC function while reinforcing the criticality of the JFACC function. Therefore, the stage is set for the Air Force to claim JFACC supremacy in TMD operations. This in turn has triggered the

**The purpose of this article is to suggest the direction of future joint air and missile defense doctrine that will work for the warfighter.**

---

**JULY-AUGUST 1996 3**
The stage is set for the Air Force claiming JFACC supremacy in TMD operations.

The development of joint TMD doctrine is also constrained by our near-term operational experience. We have fielded only one active TMD system—Patriot Advanced Capabilities-2. This terminal defensive system has a relatively small theater ballistic missile (TBM) engagement volume, especially when compared with the engagement volumes specified for the Theater High-Altitude Defense (THAAD) and Aegis systems. Even with THAAD and Aegis deployed, it is still possible to envision their employment in pure land or maritime operational areas, or in widely separated operating areas without the need for interservice coordination and interaction. Small engagement volumes with minimal overlap and interservice interaction lead to one set of doctrinal conclusions. Large engagement volumes, with significant overlap and cross-service interaction, suggest another.

Our Patriot operational experience, compounded by current joint doctrine, does little to suggest how we should command and coordinate active defense operations in a joint environment.

Practical Experience

Experience gained from joint exercises suggests four major problems with AADC/JFACC duality and with the JFACC's involvement in active TMD. The JFACC is a very busy person. Joint air operations demand extensive planning and coordination. Producing a joint target list and supervising the execution of an air tasking order are significant, repetitive, time-consuming tasks. Control and coordination of defensive counterair operations (including ground-based defenses) is usually delegated to the control and reporting center (CRC) level. Yet, even here, most emphasis is placed on the air-to-air dimension of the defense problem. Given this time and effort allocation, one can reasonably question if the JFACC has the time or the means to focus on active TMD and its support of attack operations and passive defense.

The Air Force views the AADC as a transient planning function rather than a full-time person responsible for both the planning and the near-real-time coordination and execution of active TMD operations. As seen in major joint exercises such as Optic Cobra '95 and Trail Blazer, duality is not the answer. The AADC "exists" only long enough to produce an active defense plan, then disappears and the JFACC duties become pre-eminent. The AADC functions are delegated to the CRC level where (as discussed previously) ground-based surface-to-air missile defenses are secondary to air-to-air operations.

In a joint, and perhaps combined, TMD environment, near-real-time decisions must be made and upheld. In this environment, a CRC-level controller, distant from the JFACC, is responsible for making difficult decisions. For example, during the conduct of an operation, battle damage may create a gap in coverage. To cover this gap, it is deemed necessary to order an Aegis cruiser currently on a station for anti-submarine warfare or Tomahawk operations, to occupy a new station optimized for active defense coverage ashore. This decision, while operationally logical and necessary, may well disrupt current naval operations in the larger context. Who will make the ultimate decision? It is hard to imagine that this decision authority will reside at the CRC level! Furthermore, in a large area of operations, there may be several CRCs, further diluting the passage of JFACC/AADC authority to this level. Given this delegation of AADC authority to the CRC level and the implication to the joint force, it is difficult to imagine the CRC level exercising real-time coordination authority over any but the most routine and non-contentious aspects of a joint defense.

Finally, a significant amount of interservice and multinational active defense overlap may exist. While Optic Cobra '95 contained some positioning artificialities and constraints, numerous U.S., German and Dutch Patriot units...
and a notional Aegis lower-tier system produced significant overlapping coverages that were not effectively deconflicted by delegating the AADC function to the CRC. Furthermore, experience gained from designing active TMD designs for the DoD TMD Cost and Operational Effectiveness Analysis effort shows significant overlapping coverage for scenarios in which Patriot battalions, THAAD battalions and Aegis cruisers are allocated to the defense.

The point is that significant engagement overlap may occur, and the existence of this overlap suggests the need for a full-time AADC to effect the requisite coordination and battle management, both pre-planned and real-time.

We must tailor the original active defense plan to counter the enemy's most probable and most dangerous courses of action. Yet realistically, we must expect changes and deviations to the most perfectly constructed plan. From an operational point of view, a full time, dedicated general/flag officer-level AADC should be present to lend experience and authority to near-real-time modifications and adjustments to previously agreed upon active TMD plans, priorities and missions. Additionally, this AADC should have joint staff officer expertise available from the participating services. The AADC is a functional commander responsible for air and missile defense.

The table on page 6, which outlines the functions of the JFACC and AADC, helps illustrate why it is difficult to envision the JFACC and AADC functions residing within the same individual. The table shows the basic differences in the issues addressed in the JFACC and AADC planning areas. Even if planning takes place under ideal, pristine, non-stressing conditions, these issues are so fundamentally distinct it is difficult to imagine how a single person can expect to exercise judgment and involvement in these disparate planning domains. This situation becomes more tenuous if the individual must plan under stressful conditions and time constraints.

As most operators understand, no plan survives contact with the enemy. The near- and real-time coordination and resolution of operational matters arising from planning imperfections, enemy actions or unforeseen circumstances requires dedicated and exhaustive effort, which a dual-hatted person would be hard pressed to accomplish.

### TMD and Theater Air Defense Relationship

First, the differences. There is no identification problem with incoming ballistic missiles. They travel much faster than aircraft, and they have unique aerodynamic and performance characteristics that distinguish them from aircraft. Ballistic missiles spend the majority of their flight time in the exoatmosphere, where no friendly manned aircraft operate. The identification of a ballistic missile is a priority positive hostile, and once detected they can be engaged. Even if an incoming ballistic missile is, in fact, a “friendly” missile, it is still a threat and must be engaged.

The engagement coordination timelines for ballistic missiles are compressed when compared with aircraft. For instance, enemy aircraft traveling at Mach 1, detected 300 kilometers from a friendly asset, would take about 18 minutes to close the distance. A ballistic missile launched from 300 kilometers away would impact within five minutes. Obviously there is less active defense time available when considering time to detect, system response time and interceptor flyout. We have active TMD systems designed to intercept ballistic missiles in the exoatmosphere. For those engagements within the atmosphere, we can contrive the “what ifs” that could bring a friendly aircraft in danger from a TBM engagement. However, such possibilities and probabilities are remote.

Now for the similarities. Cruise missiles are theater missiles, and are within the active TMD target set. Additionally, some active TMD systems, such as Patriot, U.S. Marine Corps Hawk and Aegis, are capable against ballistic missiles, cruise missiles and manned aircraft, and may be assigned both air defense and TMD missions. This requirement for integration is made even greater by the identification problem. You can imagine how cruise missiles attacking a friendly air base, defended by Patriot, could present identification problems with returning friendly aircraft. To further complicate this identification problem, the Air Force may route friendly cruise missiles over friendly territory. Furthermore, some cruise missiles and or their mother aircraft can be engaged by manned aircraft, so there is a definite need to coordinate cruise missile engagements in a joint environment.

Clearly, the introduction of cruise missiles into the active TMD equation argues for the doctrinal recognition that...
AADC AND JFACC FUNCTIONS

<table>
<thead>
<tr>
<th>PLANNING</th>
<th>AADC</th>
<th>JFACC</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Produce Active Defense Plan</td>
<td>1. Develop Air Campaign Plan</td>
<td></td>
</tr>
<tr>
<td>2. Assign Missions</td>
<td>2. Develop Target List</td>
<td></td>
</tr>
<tr>
<td>3. Develop Control Procedures</td>
<td>3. Assign Missions</td>
<td></td>
</tr>
<tr>
<td>5. Integrate TMD and Theater Air Defense Active Defense Plans</td>
<td>5. Develop Initial Air Tasking Order</td>
<td></td>
</tr>
<tr>
<td>6. Recommend Rules of Engagement</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>COORDINATING and EXECUTING</th>
<th>1. Change Missions/Priorities</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Coordinate Theater Air Defense and TMD Engagements</td>
<td>2. Coordinate Offensive and Defensive Air Operations</td>
</tr>
<tr>
<td>3. See and Understand the Battle</td>
<td>3. Deconflict Airspace</td>
</tr>
<tr>
<td>4. Respond to Requests for Close Air Support</td>
<td>4. See and Understand the Battle (primarily over enemy territory)</td>
</tr>
</tbody>
</table>

functional with regard to active TMD and theater air defense.

Control of Active Defense Forces

A brief review of operational history may help. The recently inactivated 32nd Army Air Defense Command (AADCOM), consisting of (at various times) guns, Nike, Hawk, Chaparral, Vulcan, Stinger and Patriot fire units, provided theater-level (echelon above corps) air defense for the NATO Central Army Group Region from 1957 to 1995. During this period, the command provided ready forces to the 4th Allied Tactical Air Force, which maintained a 24-hour operational air defense posture. Army forces were integrated into the pre-existing NATO air defense command and control network, which was optimized against a doctrinal Warsaw Pact massive air operation. The allied Air Force exercised tactical control over the Army forces. Although a major general commanded 32nd AADCOM, the Air Force tactical control centers exercised tactical control by communicating with AADCOM tactical commanders starting at the brigade (colonel) level. Tactical control provided the assignment of missions, regulating of readiness postures and coordination of engagements. Army tactical commanders positioned their forces to accomplish the mission and to conduct engagements within the rules of engagement. Brigade commanders positioned their forces to satisfy all allied air force and most U.S. corps commanders' air defense requirements. The air force CRCs had the majority of the pertinent tactical information and intelligence, so they were in the best position to exercise control and coordination functions over the Army air defense forces in a “hierarchical manner.” The Cold War ended before NATO was forced to specifically address command and control doctrine for active TMD forces with increased engagement volumes and the joint tactical information distribution system (JTIDS) technology that will permit multi-user, multi-level access to operational intelligence and information in a “non-hierarchical” manner.

A brief review of Navy TMD doctrine may also be instructive. Navy combat operations are organized around the concept of composite warfare commanders. In a Navy battle group, a warfare commander for anti-air warfare is designated as the force anti-air warfare commander (FAAWC). The FAAWC is assigned ships with anti-air weapons, aircraft to maintain continuous air patrol stations, and other necessary resources tailored to the mission and the tactical situation. The FAAWC has tactical command and control over all assigned resources. Thus, even though the FAAWC may be the captain of an Aegis cruiser (surface warfare officer), he commands and communicates directly with the air assets assigned to him, even though these air assets are from the carrier air wing (naval air) with its own command structure. The actual control procedures are tailored to the tactical situation.

Clearly there are different rules and procedures for engaging ballistic missiles and air-breathing threats in a joint environment. One rule set will not fit all situations. Thus, it is not useful to argue for or against centralized control as an immutable element of doctrine. In some situations centralized control may make sense; in others, it won’t. A review of Army active TMD doctrine, as contained in the U.S. Army Air Defense Artillery School Operational Concept for Theater Missile Defense, supports this point. This operational concept states, “Control of the TBM battle (within an Army task force) will be decentralized to the batteries while air-
breathing engagements will normally be centrally controlled in the TMD task force air defense tactical operations center (ADTOC).” The operational concept also states, “Echelon above corps ADA will be under the operational control of the AADC.” Should this same Army active TMD doctrine be applied at the joint level? Doctrinal guidance should suggest that the AADC exercise tactical control over assigned active defense forces and establish command and control arrangements best suited for the situation.

We can learn several important lessons from this brief review of operational history and doctrine. First, air defense command and control schemes already exist, and are logical points of departure for integrating active TMD forces. Second, there must be unity of command of air defense/active TMD forces, and the commander must exercise tactical control over assigned forces. Third, the form this tactical control will take (e.g., centralized or decentralized) is dependent upon the threat, forces available, mission, defense design and degree of overlapping coverage. We should insert, as a final point, command and control into active TMD operations only if such actions improve the defense performance. Control for the sake of exercising control is not the objective. We must implement control only to improve the behavior of a joint defense over what happens when operating independently. Finally, we must be careful not to confuse efficiency (defined loosely as the optimum allocation of interceptors to targets) with effectiveness. Control measures can almost always improve defense efficiency, but at the expense of target handling rates. However, a defense’s first function is to be effective; that is, to get all the right targets, be it elegantly or otherwise. We should never exercise control in a manner that trades off effectiveness for efficiency.

The emotional issue of a single service exercising hierarchical control over joint active defense forces is defused with technology. If the active defense forces assigned to an AADC have equal access to the information and intelligence available to the AADC, then we can rethink our previous conceptions of “hierarchical control.” In an hierarchical scheme (senior-to-subordinate relationship), the higher headquarters orders a subordinate element to do something based on information available only at the higher element. Conceivably, all elements in a joint active defense will have the same information and can control themselves by acting on this information according to previously agreed upon rules and procedures. Only in those cases where the rule sets do not cover a particular contingency would the AADC exercise direct, hierarchical-type control by maintaining situational awareness with provisions for positive control by exception.

Interoperability is key to achieving this type of control. Interoperability is based on three critical capabilities. First is communications connectivity. Service air and missile defense command and control centers must communicate with each other without the need for an elaborate buffer or translation equipment. We must build communications connectivity into the basic elements we expect in a nominal theater air and missile defense architecture. These elements must communicate with each other immediately, as they arrive in theater, and not be dependent on elaborate communications translation support facilities. Second, air and missile defense architecture elements must share common message formats, symbology, reference points and standards. From a digital data perspective, an Aegis ship should be able to exchange data with another Aegis ship or a Patriot battalion and not care about the difference. Third, the service command and control centers must have a minimum common joint air and missile defense command and control functionality, such as the capability to do automated active defense planning and use common intelligence data bases.

Interoperability must exist at three levels. The first level consists of those service command and control centers required in a joint air and missile defense architecture. This command center interoperability not only permits a non-hierarchical control scheme, it also facilitates the joint force commander’s flexibility in selecting an AADC from any of the services. Interoperable command and control centers will contribute to and exchange a common tactical air picture, maintain overall situational awareness, and control its own service weapon systems in response to pre-positioned rules, procedures and real-time orders from the AADC. The AADC will operate from one of these command and control centers, assigning missions and generally exercising control by negation, except in those cases where real-time changes to pre-arranged plans and procedures are required.

The second level consists of the individual weapon systems. If the weapon systems can maintain common, real-time situational awareness, then they can effect real-time engagement coordination by making the proper choices and decisions based on the available information. For example, the over-engage of hostile targets in a joint defense with overlapping coverage can be minimized if each “shooter” in the network provides...
information on which targets it has under track and engagement, so that the other “shooters” see this and choose to engage other targets. Under these circumstances, there should be little requirement on the part of the AADC to do anything extraordinary to control target over engagement.

The third level is early warning information, which supports three TMD functions, the most obvious being passive defense operations. The rapid and near-simultaneous receipt of early warning information is essential to ensure the maximum response and reaction times are available to take protective measures. Therefore, all air and missile defense command and control centers should have near-simultaneous access to space-based and other warning information. This information shouldn’t be relayed in a hierarchical manner.

However, interoperability with regard to the receipt of early warning information introduces a new challenge — the need to deconflict multiple reports of the same event. The following is offered as a point of departure for the doctrinal resolution of this issue.

For warning originating outside the theater, the supporting commander should be responsible for the timely deconfliction of multiple reports of the same event by systems reporting to his processors. For warning information originating within the theater, the joint force commander should be responsible for deconflicting multiple reports of the same event and for correlating out-of-theater and in-theater reports of the same event.

Early warning can also support active defense operations by alerting weapon sensors to focus search operations in certain sectors from which launches have been detected. Again, the stringent timelines demand this warning information be available to all weapon systems in a non-relay, non-hierarchical manner.

Finally, warning information can assist attack operations by developing targeting data on launch positions. The stringent timelines associated with targeting a mobile tactical erector launcher (TEL) demand that space-based warning be provided to attack operations centers without hierarchical delay.

Service programs to acquire JTIDS radios for TMD elements and the adoption of standardized tactical data information link (TADIL-J) TMD message formats will help make interoperability a reality. JTIDS communications networks’ multi-user time domain access characteristics will allow the simultaneous receipt of battle information and intelligence by all network participants, and facilitate the concept of control by maintenance of situational awareness.

Proposed Doctrine
What direction should joint doctrine take? We must streamline doctrine to de-emphasize the JFACC’s role in air and missile defense. The joint force commander must “plug and play” the theater air and missile defense forces (active defense) required to satisfy his military objectives, intent and level of acceptable risk. For the commander in chief or joint force commander to have this option, selected service air and missile defense command and control centers must be able to perform AADC command and control functions. The joint force commander will select an AADC from one of the services based on the situation. The AADC must be supported with a staff of service experts and exercise tactical control over assigned active defense forces. The guiding principle for command doctrine, whenever possible, should be centralized planning and decentralized execution. The guiding principal for control must be to exert control only to sustain or increase defense effectiveness. Control should usually be exercised by the joint defense participants acting on the available information according to joint tactics, techniques and procedures and pre-planned actions in the event of anticipated contingencies.

The joint force commander selects the AADC based on the situation. The AADC is a commander with forces defending theater assets. He bases his decisions on the expertise of the staff and service tactical commanders. This is a major leap from the traditional air defense paradigm.

Summary
As we become more joint in mission areas to improve effectiveness and reduce costs, ideas and concepts become extremely important in fighting tomorrow’s war. We need to glance at what took place in past wars and conflicts, however, we need to keep pace with and project technology and, at times, break away from traditional paradigms (e.g. Army-CRC interface, dual-hat JFACC/AADC). The cruise missile threat will revive the importance of surface-to-air missiles. No longer should senior Army and Air Force officers regard surface-to-air missiles as second-class to the air superiority fighter.

Air and missile defense is in the middle of an exploding technology base that can feed numerous mission areas, affect the way we see the battlefield, and change the way we fight. Air and missile defense is not a pickup game. It requires a separate commander, trained staff, usable joint doctrine and a common core of active defense command and control capabilities in service air and missile defense command centers. The AADC must have the force structure, doctrine and systems to adequately provide active defense throughout the course of a campaign. The ability to protect U.S. interests abroad, coupled with the ever-increasing proliferation of weapons of mass destruction, demands nothing less than this approach.

Col. (Ret.) Richard G. Kurtz is a member of the ARES Corporation, providing contractor support to the Ballistic Missile Defense Organization. In 30 years of active duty he served as an air defense battalion and brigade commander and as G-3, 32nd Army Air Defense Command. Lt. Col. Charles A. Anderson co-wrote this article while assigned as an action officer in the Joint Missile and Air Defense Branch, Defense and Space Operations Division of the Joint Staff. He currently commands 4-5 ADA, 1st Cavalry Division, Fort Hood, Texas.
In early October 1995, the 1st Armored Division received a warning order to prepare for deployment to Bosnia-Herzegovina in support of a U.S.-brokered peace accord. For soldiers in 5-3 ADA, the division's air defense battalion, it was like getting your reservation confirmed for a trip to one of the lower regions of hell. An Army that prided itself on its racial, religious and ethnic diversity was about to plunge into a world of religious and ethnic strife, a world that had seemingly turned the clock backward to medieval times.

The division formed Task Force (TF) Eagle to carry out the deployment and conducted intensive training, including situational training exercise lanes, combined arms live-fire exercises, and extensive command and control exercises, in preparation for the deployment. During the training period, the international news media, which had been focused on the carnage in the Balkans, turned their cameras on us. In early November, as 5-3 ADA commanders and staff officers began working to finalize a plan based on both an air defense mission and military operations other than war, a 5-3 ADA Avenger crew demonstrated for a CNN camera crew how the system's forward-looking infrared system could be used to detect snipers as well as aircraft.

Strict limitations on both the number of soldiers and weapons systems that would be allowed in theater made configuring the TF Eagle air defense contingent a difficult task. Force structure requirements caused the 5-3 ADA staff to prioritize type and mix of weapon systems to create an air...
defense force that could, should the situation in the TF Eagle area of operations demand it, effectively transition from military operations other than war to conventional warfare and back. Under the personnel cap, the battalion discovered it would be able to deploy four platoons and the necessary command and control elements to accomplish the mission. On Dec. 12, 1995, the leaders from the three former warring factions signed the Dayton Peace Accord, and “Old Ironsides” received the order to deploy immediately.

Alpha and Bravo Battery each deployed one Bradley Stinger Fighting Vehicle (BSFV) platoon while Delta Battery deployed two reinforced Avenger platoons, consisting of five Avengers and two wheeled Stinger teams each. Each battery also deployed a battery headquarters and minimal maintenance support elements. BSFV platoons were the first choice to deploy, due to their maneuverability and increased survivability in an environment we expected to feature potential snipers, anti-personnel and antitank mines, and terrain that would prove to be impassable at many points throughout the Balkan winter and early spring. However, deploying Avenger to this theater gave us the potential to move quickly to provide air defense to outlying regions, using airlift capabilities organic to the task force, should the need arise. The Avenger’s forward-looking infrared would also prove to be extremely effective in the ground defense and surveillance mode when the system was positioned at one of the many base camps or checkpoints in theater.

Upon its arrival in sector in early February, 5-3 ADA received the mission to assume security operations in the vicinity of TF Eagle Main (Eagle Base). The air defense battalion replaced the initial 700-soldier security force, the 3-325 Airborne Combat Team out of Vicenza, Italy. The 3-325 Airborne Combat Team had arrived at Eagle Base during the first days of Operation Joint Endeavor to secure and patrol the air base as well as the surrounding area. The new task organization, TF Striker, consisted of HHB/5-3(-), D/5-3(-), 212th Military Police (MP) Company, 5-25 Chemical...
The 5-3 ADA (-) tactical operations center (TOC) became the command and control element for TF Striker. The initial challenge was to develop a plan that would maintain the level of operations established by the 3-325 Airborne Combat Team with 400 fewer soldiers. The technology of the Avenger, M-2A2 and M-1A1 compensated in many ways for the decrease in available soldiers. In addition to thermal sights and the forward-looking infrared, soldiers from GSR/D/501 Military Intelligence Battalion emplaced numerous seismic and/or acoustic sensors along the Eagle Base perimeter. They monitored the sensors from one station inside the TF Striker TOC.

Daily missions on Eagle Base consist of manning three gates and numerous observation posts (OPs), and conducting extensive dismounted patrolling. The 212th MP Company occupies the three gates with approximately one platoon assigned, on a rotating basis, to each gate. The MPs are responsible for all access to the base. D/5-3 ADA occupies the northwest sector, operates numerous OPs, patrols three internal routes and conducts external patrols in the Tuzla Valley area. HHB/5-3 ADA occupies OPs and patrols two routes in the northeast sector. The rotating infantry company team mans multiple OPs and patrols interior routes in the southern sector. It also conducts mounted and dismounted exterior patrols in the vicinity of Tuzla Valley.

The challenge of establishing effective command and control and welding a composite force into a close-knit unit were quickly overcome. Internal fire support, illumination and quick reaction force exercises involving the division artillery, MPs, Air Force Security Police, the infantry company and our organic units greatly improved readiness and response time throughout the TF. The time spent with infantry and armor brigades at combat training centers and Grafenwoehr, in preparation for deployment, paid huge dividends. We understand one another’s operating procedures and support requirements. Further, 5-3 ADA was
chosen for the security mission because of the command and control capabilities organic to the unit. The battalion possesses AM radios; single channel ground and airborne radio systems; FM radios; tactical faxes; mobile subscriber equipment; maneuver control systems in the S-1, S-2, S-3 and S-4 shops; tactical satellites; and the Warlord intelligence system. 5-3 ADA achieves additional connectivity using secure and unsecured E-Mail. Also, the battalion staff is experienced in working with all the brigades and separate commands as well as with the division staff. Although the entire battalion did not deploy, 5-3 ADA command, control and communications assets are in the area of operations and readily available.

While Headquarters and Headquarters Battery and Delta Battery contributed to TF Striker operations, Alpha and Bravo batteries made significant contributions to the maneuver brigades they support. Alpha Battery (the “Apaches”) deployed in late December with 1st Brigade, 1st Armored Division, as part of the initial force package charged with securing the near and far sides of the Sava River while engineers prepped the bridgehead site and emplaced the bridge. Bridging the Sava River was the Army’s largest river crossing operation since World War II. The heavy section (three BSFVs) provided both air defense and ground security on the north bank of the river. The light section, transported to the south side of the Sava on rafts, helped 1-1 Cavalry push the southern bridgehead farther south to give the engineers a secure working environment. Due to the low air threat, BSFVs maintained ground security of static assets, freeing 1-1 Cavalry M-3s to push farther south and secure the task force’s main supply route.

The TF had built up sufficient combat power in the vicinity of the bridge site, so in early January, the Apaches moved farther south with 1st Brigade to secure additional routes and 1st Brigade TF sectors. During this time, 1/A/5-3 ADA was faced with a myriad of tasks, including route security, air and ground defense of Joint Military Commission sites, air and ground defense of Kime Base (1st Brigade Main), and assisting...
3-5 Cavalry with manning checkpoints and establishing and patrolling the zone of separation. In mid-February, the heavy section of 1/A/5-3 ADA was tasked to establish and man a checkpoint northwest of the Odzak Pocket along the Inter-Entity Boundary Line, which separates the HVO (Bosnian Croats) and the VRS (Bosnian Serbs) factions. The mission was to monitor compliance with the peace accord and the VRS departure in sector from the area of transfer. The unit executed this mission using three BSFVs, one M-88 and approximately 21 soldiers for three weeks. Following a brief security mission at Colt Base (TF 4-67 Armor Main), the heavy section provided direct support to TF 3-5 Cavalry, performing a security mission of the bridge site located in Breko, a Bosnian Serb-held town located north of the zone of separation on the Sava River. The light section of 1/A/5-3 ADA and battery headquarters continues to assist in air and ground defense of Kime Base. The battery TOC is responsible for coordinating and executing all Army airspace command and control (A2C2) throughout 1st Brigade’s sector.

Bravo Battery (the “Bulldogs”) deployed in direct support of 2nd Brigade in January. 2/B/5-3 ADA (BSFV) and associated support elements provide air and ground defense to the brigade support area (LA Angela) located south of Eagle Base (Tuzla). In addition to providing air defense, 2/B/5-3 ADA currently occupies OPs during daylight hours to observe movement in and around the forward support battalion. At night, the platoon deploys mounted patrols to maximize the effectiveness of the BSFV thermal sights and weapon systems. The battery TOC coordinates and executes all A2C2 in 2nd Brigade’s sector.

Delta Battery (the “Dragons”) initially deployed 3/D/5-3 ADA in mid-January to provide air defense of the 4th Brigade in the vicinity of the Tuzla West Airfield (Comanche Base). D/5-3(-) ADA followed soon after (the end of January) with the mission to provide air defense of Eagle Base, the TF Eagle Main. With the change of mission, Delta Battery became part of TF Striker, and while performing the security mission at Eagle Base, also maintained the air and ground defense of Comanche Base. The Avenger has proven to be extremely effective in monitoring civilian movement on and around the base camps. At many OPs the Avenger is remoted into bunkers, ensuring both force protection and effective monitoring of the team’s sector.

The A2C2 element has also played a large role in all aspects of the deployment. A team of one captain and one sergeant first class arrived in Tuzla with the division assault command post in mid-December to facilitate U.S. forces’ movement into Bosnia. In coordina-
tion with G-3 Air, fire support and the Air Force liaison officer, they deconflicted airspace and managed all airspace users throughout the U.S sector. In early March the A2C2 element was tasked to develop a data base of all former warring faction ADA systems, provide inspection teams to monitor compliance by the former warring factions, and consolidate and store all air defense weapons at declared storage sites. The soldiers recorded types of weapon systems by serial number to develop an accurate, complete inventory of all former warring faction weapons. Accurate tracking and accounting of the factions' air defense weapons is essential to restoration of civilian air traffic throughout Bosnia.

In March, as Operation Joint Endeavor entered its fourth month, the military tasks required by the peace accord had, for the most part, been accomplished. The non-governmental agencies and humanitarian relief agencies must now begin the long-term task of rebuilding an infrastructure all but destroyed by nearly four years of civil war. Complete towns throughout the area of operations have been destroyed, civilian jobs are few and far between, and nearly all families have lost a relative or loved one to the fighting. The U.S. military has made a great contribution to the mission and to the country of Bosnia-Herzegovina, and in doing so have given the people a chance to live in peace.

In 1914, a Serbian terrorist assassinated Archduke Franz Ferdinand, the nephew of Austrian Emperor Franz Josef, as he rode in a motorcar through the streets of Sarajevo. The assassination, which triggered World War I, set the stage for a century of warfare that introduced civilization to previously unimagined horrors. Operation Joint Endeavor, a united effort to restore peace to the Balkans, signifies that we have learned from history and are, therefore, not doomed to repeat it. The major factors in Operation Joint Endeavor, as in past conflicts, are not Avengers, BSFVs, battle tanks or attack helicopters but American and allied soldiers. Officers, NCOs and enlisted soldiers, no matter what branch insignia they wear, are out patrolling the zone of separation, protecting base camps and supporting all operations day in and day out. Their professionalism, determination and dedication define the success of Operation Joint Endeavor and give us hope that the 21st century might be better than the last.

1st Lt. (P) James Gorman just completed his assignment with 5-3 ADA, serving as platoon leader, battery executive officer and assistant S-3 (battle captain) for the battalion. Gorman is currently at Fort Knox, Ky., attending the Armor Officer Advanced Course.
The "First to Fire" branch has put the common sense approach to work to offset a potential understrength situation in our Patriot MOSs.

Both MOS 16T (Patriot Missile Crewmember) and MOS 24T (Patriot Operator/System Mechanic) suffer declining soldier retention rates, due largely to the increasing number of Patriot missions and frequent rotational assignments. Just 58 percent of the Patriot force (versus 80 percent of Army forces) is stationed within the continental United States. A U.S. Army Personnel Command review last March put the retention rate for both MOSs at 42 percent—an unacceptable retention rate, particularly for MOSs faced with the challenges of fielding new Patriot and Theater High-Altitude Area Defense (THAAD) battalions.

A tenth Patriot battalion, 3-2 ADA, will activate at Fort Bliss, Texas, in October. Standardizing Patriot battalions at five firing batteries each should free up soldiers to man 3-2 ADA, but our existing Patriot battalions did not all have six firing batteries; in fact, 1-7 ADA had just three firing batteries. Patriot soldiers will also be called upon to man another THAAD battalion, scheduled to stand up early in the next century. The THAAD system organization holds a future total of 680 new positions.

Common sense tells us that we cannot expect Patriot soldiers to willingly sign up for more frequent deployments while their fellow soldiers enjoy the bulk of stateside assignments. Common sense also tells us that if we ask Patriot soldiers to carry the bigger burden, we should compensate them for their extra effort.

Air Defense Artillery has instituted a number of incentives for soldiers willing to shoulder the Patriot load— incentives that pass the common sense test. First-termers in MOSs 16T and 24T, for example, qualify for a 2A selective reenlistment bonus (SRB) (two times basic pay multiplied by the number of years of reenlistment). MOS 24T mid-careerists may also receive a 2B bonus. New enlistees choosing MOS 16T can garner an Army College Fund of $20 thousand (two-year obligation), $25 thousand (three-year obligation) or $30 thousand (four-year obligation), or can opt instead for a $2,000 enlistment bonus (four-, five- or six-year obligation).

Common sense solutions, such as these enlistment incentives, will permanently improve ADA soldiers' quality of life.

Soldiers, America's Heartbeat!

Jeffery G. Jordan
Command Sergeant Major
During a recent exercise, the 25th Infantry Division (Light) developed an invaluable technique for obtaining and disseminating Army airspace command and control (A²C²) information throughout the division. This technique provides invaluable information to air defenders and other battlefield operating system (BOS) elements. Soldiers use the information to reduce the likelihood of fratricide and to increase the focus toward freedom of maneuver. The technique involves disseminating information on friendly airspace usage by the various elements (Air Force, Attack Aviation and Military Intelligence) that routinely use airspace over the division. The technique enhances early warning passed over the division early warning net. Now an air defender, as well as an infantryman in a foxhole, can know in advance when friendly aircraft will pass over their position. This greatly assists in the identification of aircraft, which in turn reduces the likelihood of fratricide and eliminates unnecessary reaction drills to unknown aircraft.

This technique originated because the 25th ID(L) has no early warning radar capability. Soldiers operating in the division's early warning section must use Civil War technology — binoculars — to obtain early warning information. Eyeball technology forces the division to assume an unacceptable risk. Results from the National Training Center, Fort
### A²C² INFORMATION ON
DIVISION DEEP ATTACK OPERATIONS

#### UAV (30 minute transit from times listed for ingress/egress)

<table>
<thead>
<tr>
<th>Msn#</th>
<th>Ingress/Egress</th>
<th>Time</th>
<th>Ingress Route</th>
<th>Egress Route</th>
<th>Altitude</th>
<th>Launch Site</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>001000 / 001000</td>
<td>Vulture</td>
<td>Vulture</td>
<td>x - x,000 ft AGL</td>
<td>XX645175</td>
<td>EA Axe</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>001000 / 001000</td>
<td>Vulture</td>
<td>Vulture</td>
<td>x - x,000 ft AGL</td>
<td>XX645175</td>
<td>EA Wedge</td>
<td></td>
</tr>
</tbody>
</table>

#### Attack Aviation (ingress 30 minutes prior to time listed for time on target. Egress 20 to 30 minutes after time on target.)

<table>
<thead>
<tr>
<th>Turn</th>
<th># &amp; A/C</th>
<th>Target</th>
<th>Time</th>
<th>Ingress Route</th>
<th>Egress Route</th>
<th>Altitude</th>
<th>Site</th>
<th>Launch Site</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>(13) AH-64</td>
<td>001000 hrs</td>
<td>Buzzard</td>
<td>Buzzard</td>
<td>Below x00 ft</td>
<td>AA Wings</td>
<td>LAU Axe</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>(13) AH-64</td>
<td>001000 hrs</td>
<td>Buzzard</td>
<td>Buzzard</td>
<td>Below x00 ft</td>
<td>AA Wings</td>
<td>EA Axe</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Close Air Support (Does not include immediate CAS. Only A/C currently on station for Push CAS in the corps area are A-10s and F-16s.)

<table>
<thead>
<tr>
<th>Turn</th>
<th>A/C</th>
<th>Time</th>
<th>Ingress MRR</th>
<th>Egress MRR</th>
<th>Altitude to IP Point</th>
<th>IP Point</th>
<th>Altitude Fwd of IP Point</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A-10</td>
<td>1000 - 1000</td>
<td>MRR 1</td>
<td>MRR 1</td>
<td>x,000 ft +</td>
<td>Alpha</td>
<td>x,000 ft +</td>
<td>EA Axe</td>
</tr>
<tr>
<td>2</td>
<td>F-16</td>
<td>Continuously</td>
<td>MRR 1</td>
<td>MRR 1</td>
<td>x,000 ft +</td>
<td>Alpha</td>
<td>x,000 ft +</td>
<td>EA Axe</td>
</tr>
</tbody>
</table>

#### Air Interdiction

<table>
<thead>
<tr>
<th>Turn</th>
<th># &amp; A/C</th>
<th>Time</th>
<th>Ingress MRR</th>
<th>Egress MRR</th>
<th>Altitude MRR</th>
<th>IP Point</th>
<th>Altitude Fwd of IP Point</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>(4) F-111</td>
<td>001000 hrs</td>
<td>MRR 1</td>
<td>MRR 1</td>
<td>x,000 / x,000</td>
<td>Alpha</td>
<td>x,000 ft +</td>
<td>EA Wedge</td>
</tr>
<tr>
<td>2</td>
<td>(4) B-52</td>
<td>001000 hrs</td>
<td>MRR 1</td>
<td>MRR 1</td>
<td>x,000 / x,000</td>
<td>Alpha</td>
<td>x,000 ft +</td>
<td>EA Wedge</td>
</tr>
</tbody>
</table>

#### G-2 Intel (Other)

<table>
<thead>
<tr>
<th>Turn</th>
<th>AC/Mission</th>
<th>Time</th>
<th>ROZ Orbit</th>
<th>Location - Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>EH-60 Jamming</td>
<td>001000 - 001000</td>
<td>Delta</td>
<td>EA Axe - SEAD</td>
</tr>
<tr>
<td>2</td>
<td>EH-60 Jamming</td>
<td>001000 - 001000</td>
<td>Delta</td>
<td>EA Axe - SEAD</td>
</tr>
</tbody>
</table>

#### Engagement Areas

<table>
<thead>
<tr>
<th>New EA's</th>
<th>Grid Point 1</th>
<th>Grid Point 2</th>
<th>Grid Point 3</th>
<th>Grid Point 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Axe</td>
<td>XX 230618</td>
<td>XX 280540</td>
<td>XX 220505</td>
<td>XX 172582</td>
</tr>
<tr>
<td>Wedge</td>
<td>XX 230618</td>
<td>XX 172582</td>
<td>XX 195693</td>
<td>XX 140558</td>
</tr>
<tr>
<td>Rivet</td>
<td>XX 310650</td>
<td>XX 364685</td>
<td>XX 400600</td>
<td>XX 340550</td>
</tr>
</tbody>
</table>

#### G-2 Quickfix ROZ Areas

<table>
<thead>
<tr>
<th>ROZ</th>
<th>Grid Point 1</th>
<th>Grid Point 2</th>
<th>Grid Point 3</th>
<th>Grid Point 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alpha</td>
<td>XX 940190</td>
<td>XX 740290</td>
<td>XX 750330</td>
<td>XX 140558</td>
</tr>
</tbody>
</table>
Irwin, Calif., and the Joint Readiness Training Center, Fort Polk, La., repeatedly show that accurate and timely early warning information significantly increases task force performance. Unfortunately, many erroneously believe early warning information only comes from a radar reporting hostile aircraft. Since no radar exists within the division to identify hostile aircraft, obtaining and disseminating information on known friendly aircraft operating over the division is a critical enhancement to an early warning capability with obvious technological shortcomings. If soldiers can identify friendly aircraft in advance, they can focus their attention on aircraft that were not scheduled in advance. The following A^2C^2 information technique emerged from the assistant division air defense officer's (ADADO's) participation in the division's deep operations planning meetings.

Several useful pieces of information to the division are available from the various representatives who attend the deep operations planning meeting. One often-overlooked, yet critical piece of information, is airspace usage planned over the division. This information has remained largely untapped, perhaps because the information on airspace usage by BOS or service (Air Force, Attack Aviation and Military Intelligence) was not collectively available. Another reason for the delay was the lack of a common format by BOS or service to display the information on airspace usage. Some formats for providing airspace usage are not very user friendly. For example, anyone who has attempted to read an Air Force air tasking order, which is published every 24 hours, knows that the document is intimidatingly lengthy and difficult to decipher. Although the air tasking order contains significant useful information, attempting to pass this data in raw form to battalion and lower units would be time-consuming and would quickly overload available communications systems. To avoid this effort to provide A^2C^2 information to the division, we experimented with several versions of information before selecting a short and simple table format in MS Word (see facing page).

The ADADO gathers the A^2C^2 information during the deep operations planning meetings with the various representatives who use airspace over the division. Each of these elements has a representative on the division G-3 staff who attends the daily deep operations planning meetings.

We used a computer notebook to disseminate this information, sending an E-mail message (with the MS Word document attached) via the tactical wide area network (TACWAN). If TACWAN was unavailable, we used TACFAX to distribute the message. At first we disseminated the A^2C^2 information only to the ADA battalion tactical operations center (TOC) and the ADA liaison officers in each of the brigade TOCs, but we soon received requests to distribute this information to many other types of units in the division.

The information provides a valuable threefold link to subordinate units. First, it increases the soldiers' faith in the early warning information. Second, it reduces soldiers' apprehension and anxiety when they sight friendly aircraft, especially fixed-wing aircraft, during daily deep operations. (For many units, this eliminates unnecessary immediate reaction drills to friendly air and reduces the risk of fratricide.) Third, if any loss of communications occurs between the ADA section transmitting early warning or a task force element receiving early warning, this technique provides a useful backup method for anticipating and identifying friendly deep operations aircraft.

Maj. Mike McAlister is assigned to 1-62 ADA at Schofield Barracks, Hawaii. He is currently serving as the assistant division air defense officer.
First Production Rollout

Less than one year after the contract award, an Army/Boeing team celebrated the March 1996 first production Bradley Linebacker at the Boeing Huntsville manufacturing facility. The Linebacker is one of the first contracts under the Army's Rapid Acquisition Program. The contract award to Boeing occurred within 60 days of issuing the request for proposal.

The Linebacker, the enhanced version of the Bradley Stinger Fighting Vehicle, sports a standard vehicle mounted launcher with four fire-and-forget Stinger missiles, a 25mm gun, and communications equipment with the capabilities to acquire targets and shoot on the move.

"We have a system that moves, shoots and survives in the hostile forward area," said Col. Allen M. McDavid Jr., U.S. Army Training and Doctrine Command System Manager for Forward Area Air Defense. "The Linebacker brings to the battlefield the capability to defeat the threats of today, and to grow to counter the threats of tomorrow."

BOEING

The first trained four-man crew of the first production Linebacker, all with B/2-6 ADA, Fort Bliss, Texas (left to right): SSgt. Marvin Stallworth, commander; Pvt. Larry Shelton, gunner; Pvt. Bruce Butler, assistant gunner; and Pvt. Lane Meredith, driver.
Florida to Launch Ballistic Missiles

The Ballistic Missile Defense Organization (BMDO) is eyeing the vast expanse of the Gulf of Mexico as a possible area to test theater missile defense (TMD) systems, according to government officials and documents.

The Department of Defense has several missile test sites in the continental United States and offshore. But as missile defense systems are developed to blanket larger areas, these sites have proven inadequate.

For example, a safety mechanism had to be used to destroy a target missile in a recent test of the Army's Theater High-Altitude Area Defense (THAAD) system because the rocket came dangerously close to the edge of the White Sands Missile Range in New Mexico. THAAD program officials now use a different target with a trajectory that simulates the re-entry characteristics of a ballistic missile fired from a much longer range than White Sands can accommodate using conventional methods.

BMDO officials believe that by using the Gulf of Mexico, from the Florida Panhandle to the Florida Keys, they could solve their space problems. According to a briefing on such a proposal, the Gulf would offer a test site with a range of up to 800 kilometers. White Sands has a 300-kilometer range.

The BMDO proposal identifies Eglin Air Force Base, Fla., as the logical place to launch defense missiles from, while the targets would be launched from the Florida Keys.

According to the briefing, the first launch over the Gulf would come in 1999 and would continue into the next century. The maximum number of launches per year would be 24.

The Naval Radio Transmission Facility on Saddlebunch Key and the Aerostate Balloon Site on Cudjoe Key have been identified as possible target launch sites.

Aerostat Lives!

After years of study, the U.S. military is moving forward with its plan to field helium-filled balloons to support cruise missile defense (see "Army Mountain Top Experiment," ADA magazine, May-June 1996). A U.S. Army-led joint program office that will supervise Aerostat applications to the future battlefield opened in March.

Funding for the new Joint Aerostat Project Management Office for Cruise Missile Defense is planned to begin in 1997 with $15 million. The massive, floating balloons, stocked with radars, advanced sensors and fire control systems, will be part of a complex air defense system to combat low-flying enemy missiles.

Pentagon officials hope to use Aerostats to support future theater ballistic missile defense efforts, tying into programs such as Patriot Advanced Capabilities-3. Aerostats may also support U.S. military systems aimed at destroying tactical ballistic missiles in their boost phase.
Joint UAV Structure Underway

With high-level support cemented, the Pentagon is working to tie together the military services' unmanned aerial vehicle (UAV) systems so the information they collect reaches a wider audience, according to UAV officials.

The hope is to introduce, in about two years, common control stations that will enable the services to download each other's tactical imagery and control each other's aircraft when required, the officials said.

The effort to integrate the ground control modules of DoD's current and future fleet of unmanned reconnaissance platforms is being pursued by the UAV Joint Program Office, the Defense Airborne Reconnaissance Office and the services, under the direction of Pentagon leaders.

The associated organizations have begun to define concepts of operation and the protocols required to introduce an interconnected UAV fleet and hope to quickly determine the cost of the software integration effort.

"The notion is to provide users the integrated capability to have control over all tactical UAVs," explained Navy Capt. Alan Rutherford, the program manager for the medium-range Predator UAV. The common control station effort will enable a UAV controlled at sea by the Navy to be "handed off" to a soldier on the ground, who would then control it for his own tactical needs.

Demonstrations of the integrated UAV fleet should begin in about six months.

MAJ. TODD MORROW

NTC Trends

The weather's heating up here at the National Training Center, and so are our ADA units: they are ready to fight and win! Observer-controllers have noted continued improvement in the quality of home-station training. We have seen tremendous growth in the abilities of our brigade liaison officers to integrate into the brigade combat team's planning process and develop effective, lethal air defense plans. Improving the development of plans that tie the battery's assets together ensures there are no gaps in the coverage for the brigade combat team as a whole. Platoon leaders further develop these plans into the fight at the task force level. Our squad leaders and section and team chiefs, who aggressively execute the plans, are destroying record numbers of enemy aircraft! As with any organization, however, there's always room for improvement.

One problem observer-controllers continue to observe is the inability of ADA squad leaders and team chiefs to select effective fire unit positions, positions that allow them to fulfill the commander's intent. The breakdown occurs because neither the platoon order nor the rehearsals include an explanation of how each member fits into the overall battery plan. Therefore, leaders are not sure what is expected of them. Also, squad leaders and team chiefs do not analyze the effects terrain has on the ability of a particular weapon system to accomplish its piece of the fight.

For example, a squad is often tasked to secure the line of departure and nullify the effects of enemy air upon units that are crossing that line. This is a common mission that, because of our site selection process, really never gets accomplished. Squad leaders will choose a position that does not allow them to effectively see the air avenue of approach into the line of departure far enough forward to kill the aircraft prior to ordnance release. In most cases, a 50- to 100-meter move in any direction would allow the squad to accomplish this critical mission. Units can easily correct this problem by ensuring that squad leaders and team chiefs understand their purpose, their mission, and how they fit into the overall fight.

MAJ. TODD MORROW
I-203 Patriot on Guard

Huntsville, Ala., is home to the National Guard's first Patriot missile battalion, the 1st Battalion, 203rd Air Defense Artillery, activated Sept. 3, 1995. This battalion draws its lineage and honors from the 203rd Artillery, which consisted of antiaircraft artillery and howitzer battalions during the 1940s and 1950s. In October 1992, 1-203 ADA organized under a carrier unit identification code (UIC), enabling the unit to begin recruiting soldiers. Today, the battalion consists of headquarters and headquarters battery and four firing batteries. The 2117th Direct Support Maintenance Company and the 1117th Direct Support Ordnance Team support the unit.

Since October 1992, the battalion's strength (including the support units) has grown from three soldiers to 487 soldiers. The active component drawdown has helped the National Guard recruit and retain many highly qualified, experienced soldiers. Their experience is one of the battalion's key assets as it strives to achieve its training readiness objectives. The battalion has also recruited a number of highly skilled soldiers from U.S. Army Reserve and National Guard units.

The Alabama State Military Department and Redstone Arsenal coor-
ordinated the development of a Patriot training site similar to those in Germany. The Alabama National Guard contracted the construction of three buildings (a battery-ready building, a battalion-ready building and a multipurpose training building), and future plans will add three battery-ready buildings and a maintenance facility.

1-203 ADA received its equipment under the Army’s total package fielding concept, executed through the combined efforts of the Patriot Project Office and the Alabama Army National Guard. These two organizations conquered the challenge of planning and coordinating for the equipment shipments to arrive in battery configurations; meanwhile, 1-203 ADA soldiers planned for each battery’s annual training period to coincide with the arrival of battery equipment sets. This allowed each battery to conduct technical inspections and complete inventories of their equipment during their annual training.

The battalion uses all available means to train and qualify soldiers: active and reserve component schools and exportable training packages. For example, the ADA Training Activity, located at Fort Bliss, Texas, has conducted four MOS 16T exportable training courses at 1-203 ADA’s armory. The activity consists of New Mexico guardsmen who travel to the battalion once a month to conduct the course, which requires eight inactive duty training weekends and a two-week annual training period. These exportable training packages have proven to be a very successful means of enabling soldiers to attain MOS qualification.

1-203 ADA is focusing on crew training for Patriot Gunnery Tables I-IV. In 1998, the battalion plans to undergo an operational readiness certification. Upon certification, 1-203 will be a viable mobilization asset to the Army and the total force team!

LT. COL. JOE L. HARKEY

Left to right: B/1-203 at battalion activation ceremony. 1-203 ADA soldiers undergo MOS 16T exportable training course. 1-203 ADA soldiers offload a Patriot launching station.
Welcome to Air Defense Artillery, one of the newest of the Army's combat arms! The purpose of this article is to familiarize you, the new ADA lieutenant, with the branch and what to expect as a company grade officer.

A Summary of Our Proud Heritage
There are a number of excellent books that go into detail about the history of Air Defense Artillery; however, this historical summary gives you an idea of our proud heritage.

The origins of the Air Defense Artillery branch come mainly from the Coast Artillery Corps of World War I. However, our heritage can be traced as far back as 1776 when Col. Henry Knox recommended to Congress the creation of an artillery school recognizing the importance of field and coastal artillery. In 1901, the Coast Artillery Corps was created to defend the nation's coastal forts. Six years later, the War Department separated the Coast Artillery and Field Artillery.

With World War I the world saw, for the first time in history, the emergence of a new threat — zeppelins and aircraft. The Coast Artillery Corps assumed the antiaircraft artillery (AAA) mission because it was the only artillery branch with experience in hitting moving targets. The Coast Artillery School sent a few select officers to France to form the AAA service, where they quickly gained a reputation as excellent marksmen and tacticians.

Throughout both world wars, AAA units served with distinction. Near the end of World War II, AAA separated from the Coast Artillery Corps, establishing the AAA School at Camp Davis, N.C. In 1944, the AAA School moved to Fort Bliss, Texas. On Nov. 1, 1946, the AAA School was redesignated as the Antiaircraft and Guided Missile Branch. Finally, in June 1968, Air Defense Artillery became a separate combat arms branch. Today, equipped with the most advanced air and missile defense systems in the world, Air Defense Artillery performs its mission of first-line defense of the nation both at home and abroad.

Career Pattern and Professional Development
As an ADA lieutenant, your first duty station is at Fort Bliss, Texas, to attend the ADA Officer Basic Course (OBC). Officers in the OBC are separated into two weapons tracks: short-range air defense (SHORAD) and high- to medium-altitude air defense (HIMAD). SHORAD systems protect maneuver forces against low-altitude hostile aircraft while HIMAD systems protect maneuver forces against low- to high-altitude hostile aircraft, cruise missiles and tactical ballistic missiles. The 19-1/2-week course provides you with a basic knowledge of Army skills and doctrine and a familiarization with ADA weapon systems.

After OBC you serve for 36 to 40 months with troops in an ADA unit. Serving as a platoon leader is the most important branch with experience in hitting moving targets. As a platoon leader, you gain valuable experience in the challenges of leadership, unit tactics and organization. After 12 months or more as a platoon leader, you may move to executive officer or a staff position to further develop your organizational and management skills. Promotion to first lieutenant occurs at the two-year mark of
active commissioned service. This is a field promotion based upon the recommendation of your chain of command. As a combat arms lieutenant, your focus should be on learning platoon- and battery-level operations, troop-leading skills, ADA tactics, logistics and administration.

Promotion to Captain
At three-and-a-half years of active commissioned service, you will be considered for captain. This is your first promotion board. Manner of performance is the most important element in selection; however, you should always ensure your promotion file is in order and complete. The promotion file consists of your microfiche, DA photo and Officer Record Brief (ORB). The microfiche has all your Academic Evaluation Reports (AERs), Officer Evaluation Reports (OERs) and commendatory data such as awards and skill badges and/or disciplinary data. Ensure your OERs are administratively correct; i.e., height and weight data, begin and end dates, etc. Also ensure all awards and skill badges are on the fiche. You will receive a copy of your microfiche before the board along with a letter from branch assisting you in preparation for the board. You also can order a copy of your fiche at any time by writing Commander, PERSCOM; ATTN: TAPC-PDI-S; 200 Stovall Street; Alexandria, VA 22332-0479. Be sure to include your SSN and sign and date the letter.

The second item is your DA photo. Take the time to get a good DA photo — it is the board members’ first impression of you when they open your file. Have an experienced officer or NCO look at your uniform while you’re wearing it to ensure proper fit and placement of awards, medals and insignia.

The last item is your ORB. This is a detailed, one-page summary sheet with professional data such as assignment history, awards and military and civilian schooling. Make sure it is accurate and up to date. You can update this at your personnel service company (PSC), personnel service battalion (PSB) or installation officer management. Remember, you are responsible for managing your file! If you have any questions, ask your chain of command or contact branch.

The Officer Advanced Course
After you are selected for captain, you will receive orders for the ADA Officer Advanced Course (OAC) at Fort Bliss, Texas. Officers should be promoted while attending OAC and return to the field as command-eligible captains. Usually you pin-on at the four-year point of active commissioned service. The OAC is conducted quarterly and is 20 weeks in length. This course is designed to further prepare you as a staff officer and commander of an ADA unit. A few officers are selected to attend other branch OACs such as Armor, Infantry, Aviation, Field Artillery and Engineer. Selection is based upon manner of performance and assignment history. If interested in this program, contact branch.

Captain
Your next assignment is to the unit in which you will command a battery. ADA captains need to complete OAC, successfully command a battery (approximately 18 months plus or minus six), and complete the Combined Arms and Services Staff School (CAS). The key to success is performance. Performance is the most critical factor in selection for assignment, promotion and advanced civil and military schooling. Of all positions held as a captain, command is the most important. Your command OERs carry the most weight on the selection board to major.

Once you are branch qualified as a captain (completion of OAC and successful command), expect to work for at least two years in a functional area, staff, or in a branch immaterial assignment. Functional areas are assigned in your fifth year of active commissioned service. You will receive a packet explaining all the functional areas and a preference sheet. Functional areas are assigned based on the needs of the Army, personal preferences, manner of performance and scholastic background. There is a brief description of all the functional areas and requirements in DA Pamphlet 600-3, Commissioned Officer Development and Career Management. You will be in the primary zone to major about the tenth year of commissioned service.

The best career advice is to do your best in every job and seek the tough assignments. If you have any questions, seek advice from your chain of command or contact the ADA Branch at (703) 325-0025/0026 (DSN 221).

Now that you are part of Air Defense Artillery, the branch of the future, I want to again welcome you! It is an honor to serve as your assignment officer. I will do my best to match your professional and personal needs with Army requirements.

Capt. Michael S. Maloney has served as the lieutenants and non-branch-qualified captains assignments officer for just over a year. He served as a platoon leader and executive officer in Germany as a lieutenant, and later served as a battery commander and battalion S-3 at Fort Bliss. He also served in Operations Desert Shield and Desert Storm.
Japan, like the United States, did not possess an air force independent of other services until after World War II. When the Japan Self-Defense Force was created following the war, it had become apparent that an air force was absolutely necessary to prevent armed aggression from foreign countries. Therefore, the Japan Air Self-Defense Force (JASDF) was established in 1954, at the same time the Japan Ground Self-Defense Force and the Japan Maritime Self-Defense Force were established.

The Basic Policy for National Defense determines defense policies formulation and implementation. The National Defense Outline, which springs from the Basic Policy for National Defense, sets the following mission requirements for the JASDF:

- The JASDF must possess aircraft control and warning units that can provide continuous vigilance and surveillance throughout Japanese airspace.
- The JASDF must possess fighter units and high-altitude surface-to-air missile (SAM) units on continuous alert to take immediate and appropriate steps against violations of Japan's territorial airspace and air incursions.
- The JASDF must possess units that can interdict and engage airborne or amphibious invasions, and provide air support for land forces as necessary.
- The JASDF must possess units that can effectively perform operation support missions, such as air reconnaissance and air transportation, and other operations as necessary.

Since Japan is surrounded by the sea, those intending to invade our country must come by air or by sea. The JASDF, therefore, is poised to repel seaborne and airborne invasions. The JASDF consists of an Air Staff Office, five major commands and other units. These units are deployed throughout the Japanese islands, which stretch 3,000 miles from the northernmost to the southernmost tip.

Should a hostile country initiate a sudden air and missile attack against our country, the JASDF would try to intercept enemy aircraft as far from our coast as possible to prevent damage to our nation and inflict great damage on the aggressor. This mission requires close cooperation among warning and control aircraft, interceptor aircraft and SAM units. Our SAM units cannot match the mobility and range of our interceptor aircraft, but since they do not have to return to base for rearming and refuel-
BASIC POLICY FOR NATIONAL DEFENSE
(Decided by the National Defense Council and by the Cabinet on May 26, 1957)

The objective of national defense is to prevent direct and indirect aggression, but once invaded, to repel such aggression, thereby preserving the independence and peace of Japan founded upon democratic principles.

To achieve this objective, the government of Japan hereby establishes the following principles:

1. To support the activities of the United Nations and promote international cooperation, thereby contributing to the realization of world peace.

2. To promote public welfare and enhance the people’s love for the country, thereby establishing the sound basis essential to Japan’s security.

3. To develop incrementally the effective defense capabilities necessary for self-defense, with regard to the nation’s resources and the prevailing domestic situation.

4. To deal with external aggression on the basis of the Japan-U.S. security arrangements, pending the effective functioning of the United Nations in the future in deterring and repelling such aggression.

JASDF DEPLOYMENT

Air Self-Defense Force

JASDF DEFENSE POSTURE

<table>
<thead>
<tr>
<th>Major Units</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Aircraft control</td>
<td>8 groups</td>
</tr>
<tr>
<td>and warning</td>
<td>20 squadrons</td>
</tr>
<tr>
<td>1 airborne</td>
<td></td>
</tr>
<tr>
<td>early warning</td>
<td></td>
</tr>
<tr>
<td>squadron</td>
<td></td>
</tr>
<tr>
<td>Interceptor</td>
<td>9 squadrons</td>
</tr>
<tr>
<td>Support fighter</td>
<td>3 squadrons</td>
</tr>
<tr>
<td>Air reconnaissance</td>
<td>1 squadron</td>
</tr>
<tr>
<td>Air transportation</td>
<td>3 squadrons</td>
</tr>
<tr>
<td>Guided SAM</td>
<td>6 groups</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Main Equipment</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Combat aircraft</td>
<td>approx 400</td>
</tr>
<tr>
<td>Fighters</td>
<td>approx 300</td>
</tr>
</tbody>
</table>

ing, they are superior to interceptor aircraft in continuity. This makes them the indispensable power in Japan’s air defense network.

Japan’s first SAM units, organized in 1964, were equipped with Nike Ajax. These early SAM units grew into six SAM groups equipped with Patriot. The JASDF is fielding Patriot Advanced Capabilities-2 product improvements to adequately cope with the evolving threat. The 4th Air Depot is responsible for the six Patriot groups and their coordination with other air defense elements. Each Patriot group is assigned to an air defense sector and contributes to overall air defense operations. We do not have enough SAM groups to defend all of Japan, but during wartime, SAM units would be drawn from less threatened areas and clustered in the main battle area.

To effectively carry out its mission of defending our country, the JASDF must not only continuously improve its equipment, in both quantitative and qualitative terms, but must also assume a firm defense posture by ensuring that its personnel, from officers on down, maintain a high level of professionalism and ability, and that its units also maintain a high level of training and proficiency. Accordingly, the JASDF’s 2nd Technical School conducts rigorous
JASDF ORGANIZATION

Director General of the Defense Agency (Minister of State for Defense)

Chief of Staff, ASDF
Air Staff Office

Air Defense Command
Northern Air Defense Force

Central Air Defense Force

Western Air Defense Force
Southwestern Composite Air Division

2nd Air Wing (Chitose)
3rd Air Wing (Misawa)
Northern Aircraft Control & Warning Wing (Misawa)
3rd Air Defense Missile Group (Chitose)
6th Air Defense Missile Group (Misawa)
Others

6th Air Wing (Komatsu)
7th Air Wing (Hyakuri)
Central Aircraft Control & Warning Wing (Iruma)
1st Air Defense Missile Group (Iruma)
4th Air Defense Missile Group (Gifu)
Others

5th Air Wing (Nyutabaru)
8th Air Wing (Tsukui)
Western Aircraft Control & Warning Wing (Kasuga)
2nd Air Defense Missile Group (Kasuga)
Others

83rd Air Wing (Naha)
Southwestern Aircraft Control & Warning Wing (Naha)
5th Air Defense Missile Group (Naha)
Others

Air Support Command

Air Training Command

Air Development and Test Command
Air Material Command

Headquarters (Ichigaya)

Other units and organizations

Air Rescue Wing (Iruma)
1st Tactical Airlift Group (Komaki)
2nd Tactical Airlift Group (Iruma)
3rd Tactical Airlift Group (Miho)
Air Traffic Control Service Group (Iruma)
Air Weather Service Group (Fuchu)
Others

1st Air Wing (Hamamatsu)
4th Air Wing (Matsushima)
11th Flying Training Wing (Shizuoka)
12th Flying Training Wing (Hofu-Kita)
13th Flying Training Wing (Ashiya)
Air Basic Training Wing (Hofu-Minami)
Others

Air Development and Test Wing (Gifu)
Electronics Development and Test Group (Iruma)
Aero Medical Laboratory (Tachikawa)
Others
ous training for Patriot soldiers, who also travel to the U.S. Army Air Defense Artillery School, Fort Bliss, Texas, to study Patriot operation and maintenance.

In training, the JASDF uses high-tech tactical equipment, including fighters, SAMs and radars. During the initial stages of training, it places emphasis on gradually upgrading the specialized knowledge and skills of individual soldiers. Soldiers assigned to a fighter, aircraft control and warning, or SAM unit train at their respective units. As skill levels rise, soldiers learn procedures for coordinating actions between units. In addition, soldiers receive comprehensive training involving air transport and air rescue units.

Since the JASDF does not possess Patriot firing ranges, we send SAM units to Fort Bliss’ McGregor Range, N.M., for annual service practice (ASP). The live-fire ASP is the highlight of JASDF training, the most essential in improving skill levels and obtaining data to improve Patriot performance. The JASDF transports missiles and ground equipment, such as radars and ECCs and launchers, from Japan to McGregor Range for each ASP, while the U.S. Army furnishes vital logistics support. We have conducted annual ASPs at McGregor Range for 33 years. Since 1963, the JASDF has fired about 200 Nike Ajax missiles, about 370 Nike Hercules missiles and about 70 Patriot missiles. At this year’s ASP, our seventh Patriot ASP, we plan to fire 35 Patriot missiles.

The end of the Cold War and the movement toward arms control and arms reduction have created a demand for cuts in defense spending and defense capability in Japan, just as they have in the United States. Defense expenditures have also been restrained and curtailed in consideration of the prevailing severe fiscal situation. The JASDF has reduced in size, and budget cuts now threaten training. The ASP, with its huge annual expenditures, has become a prime target for cost reductions.

The JASDF, however, hopes to continue ASP at McGregor Range and asks that the U.S. Army continue its support. From the JASDF point of view, the ASP is the most beneficial training for SAM units. The ASP is indispensable because it enables the JASDF and the U.S. Army to promote mutual understanding, upgrade their interoperability and ensure the smooth conduct of their coordinated actions in the event of any emergency. The ASP not only contributes to the air defense of Japan by improving the skill level of JASDF SAM units, but serves to build an effective deterrence by maintaining and increasing the credibility of the Japan-United States security arrangements.

Lt. Col. Hisashi Kasahara is the Japanese liaison officer to the U.S. Army Air Defense Artillery School, Fort Bliss, Texas.

JULY-AUGUST 1996 29
Deploy Stinger scouts without a radar system? This was the challenge I faced when I was assigned as leader of the Scout Platoon, Headquarters and Headquarters Battery, 1-2 ADA (Avenger), Fort Polk, La. Our scouts have not yet received the light and special division interim sensor (LSDIS), and won't get the opportunity to work with the ground-based sensor until the following century.

I turned to my battery commander for guidance. He had faced a similar situation as a scout platoon leader in Germany, and offered some ideas to get me on track. From then on, I focused on implementing a training strategy that would allow the scouts to operate as an early warning unit.

First, I coordinated with other units from different posts to see if their scouts had any type of early warning system. I asked those who did not have an early warning system what type of role their scouts played within the unit. Time after time I got the same answer: “We usually use them for different types of details, such as guard duty, since they don’t have a mission until they get their radar.” Well, that wasn’t exactly what I was hoping to hear.

After summing up what everyone told me, I realized the scouts did indeed have a mission, they just weren’t accomplishing it. Now that I had established my guidelines, I could derive a training strategy that would apply to all scout platoons waiting for an early warning system.

CATS, or the Combined Arms Training Strategy, is broken into three parts: gunnery/system training, soldier training, and maneuver training. Together these three parts equal “combat readiness.” Before I could complete the first part, gunnery/system training, I had to analyze what equipment I had available for my soldiers. Except for a radar system, we had everything we needed to provide early warning. Then I developed the gunnery/system table for the training strategy. It is essential, when doing this, to identify the battalion’s mission essential task list (METL) that applies directly to your platoon. Once you’ve developed the strategy and identified the collective tasks, you can discuss the types of things soldiers must do to prepare for their mission.

My next step was to develop the tasks, conditions and standards for each table. This enables the soldiers to understand what I expect from them on each table. Next, I derived the soldier training table that outlines the soldier training strategy for the year. I then developed the maneuver table, which defines the training level (team, section or platoon); the type and frequency of collective tasks training; the requisite equipment, ammunition and training area; and other mission-essential equipment.

After I completed all of the tables, I asked my battery commander to review the training strategy. He made some minor corrections and we discussed training my platoon on each table and ultimately working toward a successful platoon external evaluation. As soon as we defined the training goals, I explained the strategy to my platoon and we began to train on each table outlined in the gunnery/system table.

We had been training consistently for four months on Tables I through XI, ensuring that sufficient time was given to each table. Once the date was set for my platoon’s evaluation, I began to emphasize training on all the collective tasks outlined in the Army training and evaluation program. I felt this would prepare my soldiers for any type of mission they might encounter during the evaluation. Then the NCOs and I outlined all of the platoon standing operating procedures (SOPs) and began giving classes to the soldiers to make sure we didn’t overlook anything.

Section sergeants are key to a successful training strategy. They fulfill a command and control node within the platoon. For example, if the platoon is given a general support role, the section sergeants emplace all teams in their section, coordinate with the platoon sergeant for Class I and V, ensure each team accomplishes the priorities of work, ensure each team is working to complete the mission, and perform all of the other elements encompassed in a section sergeant’s responsibilities. If the platoon is given a direct support mission, the section sergeant actually briefs and recommends to the commander of the supported unit the courses of action that may be taken. He then performs the responsibilities stated in the general support role.

Briefing battery commanders did not come easy to my NCOs (although practice greatly improved their skills); in fact, this seems to be a branch-wide problem. In-depth instruction during the Basic NCO Course on subjects like intelligence preparation of the battle-field, air defense tactics and other re-
lated topics would allow NCOs to be more knowledgeable about ADA planning. Giving NCOs the opportunity to brief air defense allows the platoon sergeant and platoon leader to dedicate more time to factors they may encounter on the battlefield.

The following week the platoon deployed to the field and did an excellent job during the field training exercise. It was the first time the scouts had gone through an external evaluation. Not only did it prove that my soldiers were "combat ready," it also proved that the training strategy worked. My platoon successfully completed Tables I through XII. An after-action review defined the platoon's strengths and weaknesses—the items that define the training for the platoon for the next three to six months.

I hope this strategy can help others realize that all soldiers can accomplish their mission regardless of obstacles. With some excellent guidance and a little hard work, one can reach training excellence.

1st Lt. John B. Potestio Jr. is currently the battery executive officer, C Battery, 1-2 ADA, Fort Polk, La.

JULY-AUGUST 1996 31
The Air Defense Artillery Association’s campaign to raise funds to build a new ADA Museum continues to move forward. We are building on lessons learned during early funding efforts to make the building fund campaign more effective.

We have learned quite a bit more about writing grants and soliciting gifts. We are forming a grant writing oversight committee under the volunteer leadership of Lt. Col. (Ret.) Dick Wessling and Lt. Col. (Ret.) Randy Neeb. Dr. Wessling has prepared an action plan and a detailed job description for hiring a resource development coordinator who, among other fund-raising activities, will prepare grant proposals.

We have also learned more about the power of publicity. The ambitious plan to create a museum that will serve as a “world-class” showcase for Air Defense Artillery has already generated considerable enthusiasm inside and outside the Army. We recently activated a publicity committee whose purpose is to maintain the momentum by keeping a steady flow of articles pouring into the Fort Bliss Monitor, ADA magazine and other publications and media outlets. These articles will retell the colorful story of how Fort Bliss, El Paso and Air Defense Artillery grew up together, in the process forging close ties and writing indelible chapters into the nation’s history books. They will also explain the envisioned museum’s potential as a major regional tourist attraction and its potential as a cultural enrichment and education center for citizens of all ages.

The vision for the new ADA Museum features the dynamics of education. Certainly the museum will serve as the storehouse for the precious artifacts and as a stage for exhibitions and presentations of memorabilia that make our proud history come alive. The emphasis will be on teaching and educating a varied audience. The audience will include our young officers, NCOs and enlisted soldiers who will attend museum sessions as part of their normal training. The ADA Museum will introduce casual visitors, especially those from generations bred after the advent of the all-volunteer Army, to a heritage they may have forgotten or never known.

A science and technology program will provide hands-on orientation for high school students. They will be able to admire the technology embedded in the world’s finest ADA equipment and marvel at technological advances that are producing even more advanced weaponry to meet future threats. The vision is to create an atmosphere similar to the Space Complex in Huntsville, Ala., at Fort Bliss for young people. Sam Hoyle, Fort Bliss director of museums, will soon demonstrate the impact of such education programs through the Children’s Bicultural History program this year at Fort Bliss’ Replica Museum. We expect to continue this program, as well as the ADA Museum, once it is built and its educational programs are implemented.

A soon-to-be-implemented program to generate ADA soldiers and unit enthusiasm and increase expertise in certain ADA weapons of the past is called “Adopt an Artifact Program.” Fort Bliss units will “adopt” a weapon system artifact currently in storage in various buildings around the installation. The units, with guidance from museum experts, will cosmetically restore the weapons, which will then be placed on display in a large-bay training building on Fort Bliss as part of the new training exhibit.

These are some of the ongoing activities and initiatives designed to raise enthusiasm and resources to build a new ADA Museum. Working together, we can make the vision of a new ADA Museum a reality.

Maj. Gen. (Ret.) John B. Oblinger
President, ADA Association
Individual Subscriptions Now Available at Reduced Prices!

The individual annual subscription price for ADA magazine has dropped to $13 (domestic and APO) and $16.25 (foreign). Now's a great time to begin or renew your subscription.

United States Government INFORMATION

Order Processing Code: * 5741

YES, please send ____ subscriptions to:

Air Defense Artillery (AIRDA) at $13 each ($16.25 foreign) per year.

The total cost of my order is $______.
Price includes regular shipping & handling and is subject to change.

Company or personal name (Please type or print)

Additional address/attention line

Street address

City, State, Zip code

Daytime phone including area code

Purchase order number (optional)

Credit card orders are welcome!

Fax your orders (202) 512-2250
Phone your orders (202) 512-1800

For privacy protection, check the box below:

☐ Do not make my name available to other mailers

Check method of payment:

☐ Check payable to: Superintendent of Documents

☐ GPO Deposit Account [ ] [ ] [ ] [ ] [ ] [ ] [ ]

☐ VISA [ ] MasterCard [ ]

[ ] [ ] [ ] [ ] [ ] [ ] [ ]

(expiration date)

Authorize signature [ ] 5/98

Mail to: Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250-7954

Important: Please include this completed order form with your remittance.

Thank you for your order!
AIR DEFENDER
IS I CORPS' NCO OF THE YEAR

by Sgt. Rusty Qualls

"I'm not better than anyone else. I just wanted it more," said Sgt. Sean A. Coombs, a Patriot crew chief in D Battery, 2nd Battalion, 1st Air Defense Artillery. This hunger, this primal drive, this relentless pursuit enabled Coombs to make the ultimate test of his Army career: the I Corps NCO of the Year Board.

This test was actually a year-long process, starting with a Soldier of the Quarter Board in Southwest Asia where Coombs' unit was deployed on a six-month rotation. He lost a Battalion NCO of the Quarter Board there, but came back to win the next NCO of the Quarter Board, the Battalion NCO of the Year Board, and the 35th ADA Brigade NCO of the Year Board.

The I Corps NCO of the Year Board lived up to its reputation for toughness, Coombs said, noting that it was an intense experience to be grilled by eight command sergeants major, plus the I Corps command sergeant major. The physical training test and command sergeant major's run were also difficult, Coombs said. The PT test was administered by the NCO Academy who enforced "more than the letter of the law."

The tall, lean ADA sergeant said his desire came from his experiences when he was growing up in Los Angeles, Calif. While other kids were out playing, Coombs explained, he would help his mom with her catering business or walk around construction sites with his dad. These experiences made him more mature and responsible than his peers, but not being accepted by them was hard on his self-image. Coombs is also dyslexic (he sees letters upside down) and this presented another challenge that affected his self-image. These challenges, however, gave him great determination to prove his worth.

When Coombs joined the Army in 1989, it gave him an opportunity to excel because it matched the maturity and responsibility his parents had taught him with a profession that puts a premium on those qualities. "I like the Army because I'm good at it. I like the responsibility of making things happen," he said.

Winning the I Corps NCO of the Year Board was the second most important thing that ever happened to him, Coombs said. "The only thing that happened to me that was more important was marrying my wife (Jennifer Lynn Coombs)."

"I don't know how I did it," Coombs said. "The people who cared about me were in my corner; God was in my corner. Deep inside I think I'm made of better stuff. Maybe because I've been through harder stuff."