



AIR DEFENSE ARTILLERY

MARCH/APRIL 1993

**“First to Fire”**  
—at the—  
**Joint Readiness  
Training Center**



AIR DEFENSE ARTILLERY

MARCH/APRIL 1993

## FEATURES

<i>Intercept Point</i> . . . . .	1
<i>ADA at the JRTC</i> . . . . .	2
<i>JRTC Experiences</i> . . . . .	5
<i>Column Write</i> . . . . .	17
<i>By the Book!</i> . . . . .	18
<i>Ohio's Hawk Team</i> . . . . .	22
<i>Army Airspace Command and Control</i> . . . . .	27
<i>If It's Broke, Fix it!</i> . . . . .	30
<i>ADA Summit</i> . . . . .	33
<i>Kasserine</i> . . . . .	36

## ADA DIGEST

<i>Interview</i> . . . . .	11
<i>Training</i> . . . . .	12
<i>Weapon Systems</i> . . . . .	13
<i>Personnel</i> . . . . .	15
<i>Letters to the Editor</i> . . . . .	44

## CORRECTION

ADA Magazine incorrectly identified Maj. Gen. Guy A. Laboa on page 13 of the January-February 1993 issue. Pictured was Lt. Gen. Howell M. Estes III, Commander, 7th Air Force and Deputy CINC UNC Korea.

**Maj. Gen. John H. Little**  
Commandant, USAADASCH

**Blair Case**  
Chief, ADA Publications Division

**Lisa B. Henry**  
Editor-in-Chief

**Hubert L. Koker**  
Editor

**Kathleen M. Doyle**  
Assistant Editor

ADA is a professional journal devoted to the advancement of the art and science of air defense artillery in the U.S. Army and is published by Image Southwest of Texarkana, Texas. Articles appearing in ADA do not necessarily reflect the opinion of the officers or members of the U.S. Army Air Defense Artillery School, the Department of the Army, or Image Southwest. Except for advertising, this version of ADA contains the same editorial information published in PB-44, the official professional development bulletin compiled by the U.S. Army Air Defense Artillery School.

**POSTMASTER:** Send address changes to Image/Southwest, 517 Main, Texarkana, TX 75501.

**CORRESPONDENCE:** Address articles and letters to Editor, ADA Magazine; ATTN: ATSA-ADA, Bldg. 2E, Rm 192, Fort Bliss, TX 79916-0002.

**SUBSCRIPTIONS:** May be obtained by contacting Image/Southwest, (903) 793-5528, or writing Image/Southwest, 517 Main, Texarkana, TX 75501. A check or money order payable to Image/Southwest must accompany all subscription requests. Subscription rates are \$18 for domestic (including APO and FPO) addresses and \$30 for foreign addresses for a one-year subscription (six issues). Individual copies are \$6 domestic and \$6.75 foreign.

**ADVERTISERS:** Query Image Southwest, (903) 793-5528, for advertising rates and schedules.

### Image/Southwest

**Terry J. Lewis**  
Publisher

**John M. Case**  
Production Manager

**Melle Harding**  
Graphics Design

# Intercept Point

Gen. Colin Powell, chairman of the Joint Chiefs of Staff, recently shelved a proposal to transfer theater air defense systems to a single service — read that Patriot and Theater High Altitude Area Defense (THAAD) to the U.S. Air Force. In his triennial “roles and missions” report, the chairman called for a joint mission area analysis to determine the correct mix of ground-based and aerial systems to perform the mission. The report’s subsequent acceptance by Congress effectively kills the proposal, at least until roles and missions come up for review again in three years.

The single service proposal is nothing new. It first surfaced in 1943 when Army Air Force (AAF) Gen. Henry “Hap” Arnold unsuccessfully recommended transferring control of the Antiaircraft Artillery to the AAF as the only solution to ground-to-air fratricide. One of the primary reasons the Army merged Antiaircraft Artillery with Field Artillery following World War II was to rescue it from the clutches of the AAF, which everyone knew was about to become an independent service. The proposal has resurfaced several times, most recently in the mid-1980s when an Army-Air Force study group explored, and then rejected, the plausibility of transferring proponent responsibility for Patriot to the Air Force.

Basically, the proposal would have proven enormously expensive and would have created a transitional window of vulnerability, not to mention tremendous personnel turbulence, while stripping the corps commander of his ability to protect his forces from air attack. And there would have been no payback in terms of enhanced joint operational effectiveness or efficiency.

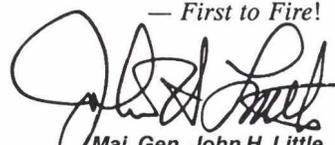
The decision that the Army and the Marine Corps should retain the ground-based theater air defense systems shouldn’t be celebrated as a victory for the Army and Marine Corps or viewed as a defeat for the Air Force. We are entering a new post-Cold War era of shrinking resources in which inter-service rivalries must be laid aside as relics of the past.



The Army and the “First to Fire” branch recognize that change is inevitable. Rather than clinging to the status quo, the Army — in particular Air Defense Artillery — has taken the lead in adapting our doctrine, force structure and weaponry to meet the demands of the changing battlefield. To that end we have adapted our air and missile defense concept to be synergistic and complementary to the Air Force rather than redundant and duplicative as in the past. We recognize that our existence as a combat arm depends on our strict attention to accomplishing missions that the Air Force or other combat arms cannot accomplish.

The crucial roles and missions decision, however, reaffirms the soundness of our revised air defense and combined arms doctrine, a vision of the future that continues to assign pivotal roles to ADA soldiers who will be —

— *First to Fire!*

  
Maj. Gen. John H. Little  
Chief, Air Defense Artillery

The air defense system we have in place works well. We’ve got a lot of experience. We think it was a success during Desert Shield and Desert Storm, and we see no reason to change it at this particular time. We’ve got the force structure in place. We can do certain things the Air Force cannot do. We can concentrate on hovering helicopters and unmanned aerial vehicles. We can handle the theater missile defense.

— Gen. Dennis Reimer,  
Army Vice Chief of Staff

I will not take away the ground commander’s ability to protect his forces. Force protection is key to decisive victory.

— Gen. Gordon R. Sullivan,  
Army Chief of Staff

The bottom line is that transferring air defense missile systems from the Army to the Air Force simply does not make sense. It would not change the way we fight our wars. In the short term, it would leave our forces vulnerable to attack from the air. And it would be enormously expensive: a \$2 billion cost for no gain in capability.

— D. R. Margo, civilian aide  
to the Secretary of the Army  
for West Texas

# ADA



# JRTC

at the

by Maj. James R. Oman

The world faces the threat of conflict on many fronts. In the Far East, Central America and the Middle East, localized wars and instability have the potential to threaten allied and U.S. interests.

Prepared to respond to these contingencies are highly trained Army rapid deployment and special operations forces. These units are ready to react to a crisis on short notice. Key to their rapid response is their ability to operate in coordination with the U.S. Air Force, which supports deployment of personnel and equipment with strategic airlift and sustainment of forces in their operational area by theater airlift. Air Force tactical aircraft provide close air support to the Army contingent on the ground.

Important to maintaining the ability to fight and win is tough, demanding force-on-force training. Providing this tough and realistic training is the mission of the Joint Readiness Training Center (JRTC). Building on the success of the National Training Center at Fort Irwin, Calif., the JRTC is the second component of the Army's Combat Training Center program. The Combat Maneuver Training Center at Hohenfels, Germany (trains forward deployed heavy divisions) and the Battle Command Training Program at Fort Leavenworth, Kan. (trains corps and division staffs) round out the program.

The JRTC conducts stressful, realistic combined arms training for both Army and Air Force contingency forces under conditions of low- to mid-intensity conflict. Joint exercises at JRTC also routinely include Navy and Marine combat units. The multiple goals for the JRTC are to increase unit readiness; develop bold, innovative leaders through stressful exercise; embed AirLand Operations doctrine throughout the Army and Air Force; provide immediate training feedback to Army and joint participants; and provide a data source for doctrine, training and equipment improvements across the force.

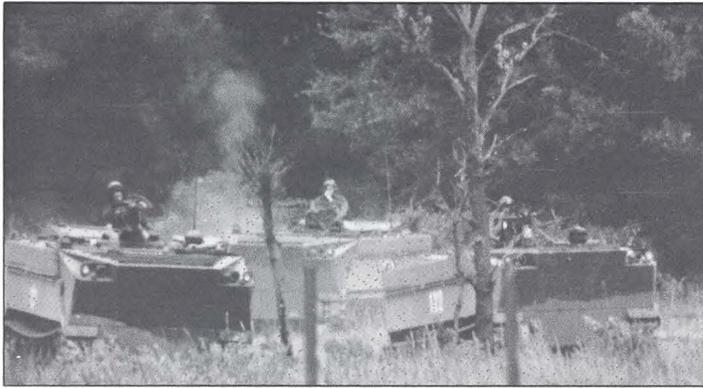
Currently located at Little Rock Air Force Base, Ark., the headquarters for the JRTC coordinates Army, Air Force and other service units that work to plan and support the force-on-force exercises held on the Fort Chaffee, Ark., military reservation. JRTC will conduct rotations at Fort Chaffee until May 1993, when it will move to Fort Polk, La. The transition

will be complete when the JRTC assumes complete operations with rotations beginning in August 1993.

Participating Army units may be active or reserve component, light infantry, airborne, air assault, ranger or special forces battalions based anywhere in the world. Mechanized and armor units routinely participate as part of the combined arms team. These units deploy their troops, equipment and supplies to an intermediate staging base and begin preparation for combat operations.

Months prior to the beginning of an exercise, the JRTC planning staff and unit commanders meet to plan the exercise scenario. It is based on the unit's contingency mission and the brigade and division commanders' training objectives. Air Force planners assist in the planning of Air Force operational support and participation in the exercise. The scenarios are built around a mythical island upon which a friendly nation and a hostile nation exist. The units scheduled to participate in the exercise are provided intelligence about the two nations and the political situation. As the tensions between the nations build, U.S. forces are deployed to assist the friendly government. The enemy that the player (BLUEFOR) unit will face in the exercise is the opposing force or OPFOR, equipped as an elite uniformed airborne force and highly trained in all levels of combat. BLUEFOR units will also be opposed by a highly organized and aggressive insurgent force, the People's National Republic Movement (PNRM). The insurgents operate in three- to four-man squads throughout the entire depth of the battlefield. The PNRM uses terrorist tactics (snipers and hit and run) that will erode BLUEFOR units 24 hours a day in all types of weather. BLUEFOR units are forced to maximize their local security and readiness posture throughout all levels of command. Having the home field advantage, the OPFOR challenges the skills of the rotational unit through the 11 days and nights of continuous combat.

Before the exercise begins, several hundred trained and experienced observer/controllers from the JRTC join the player units to oversee the exercise. Observer/controllers accompany selected units from their home station to monitor initial tactical planning and deployment operations. Throughout the rotation the observer/controllers are in the field with the training unit. They observe, coach and mentor the troops on their execution of doctrine throughout the exercise, care-



Armored vehicles maneuver during combined arms action at the JRTC. Below, an air defense observer/ controller looks on as North Dakota National Guardsmen prepare to engage threat aircraft.

fully noting actions and results that will be discussed later in after action reviews. Each soldier, weapon and tactical vehicle participating in the exercise is equipped with a multiple integrated laser engagement system or MILES. When aimed accurately, the eye-safe laser beam emitted by the MILES equipment will simulate personnel casualties and vehicle damage.

Casualties assessed from MILES engagements must be treated as actual casualties. Wounded soldiers must be evacuated to a treatment center and cared for by medical personnel before being reintroduced into the exercise as replacements.

The JRTC stresses battlefield realism in all phases of training. Civilian villages throughout the training area depict the types of villages soldiers are likely to encounter during a contingency operation. The villages are manned by host nation civilians who provide the complete infrastructure of the village. The mayor, constable, shopkeeper and other members of the village provide a critical interface with the conventional unit as well as with special forces, civil affairs and psychological operations teams. BLUEFOR units are challenged to distinguish between friendly civilians that cooperate with the Army forces and hostile insurgent civilians that report BLUEFOR Army activities to OPFOR headquarters. Civilians drive vehicles throughout the battlefield to replicate normal Third World traffic. The BLUEFOR unit cannot let its guard down because the civilians may conduct car bombings and other hostile activities. Civilians continuously replicate real world situations that the Army unit must respond to, such as logistical requests and medical support. Actual TV and newspaper personnel are inserted into the exercise as a Department of Defense press pool to further enhance the battlefield experience for the commander and his staff. All ammunition and barrier material used in the exercise replicates the size and weight of the actual items. This factor stresses the unit logistical systems re-



quired to transport and issue these items. Concurrently with the exercise, units conduct platoon-level live fire operations. These events involve day and night live fire maneuvers. Target arrays representing friendly units and civilians are included to emphasize techniques to avert fratricide.

Special operations forces participate in every exercise, integrating into missions that support the conventional force or conducting unilateral missions in support of the joint task force, such as foreign internal defense missions. Special Forces "A" teams are routinely introduced into the operational area well in advance of conventional forces.



On the designated D-Day, player units arrive at Fort Chaffee. The type of units and the tactical situation dictate whether they conduct a forced entry airborne assault into a drop zone or airland and offload equipment and personnel at one of two forward landing strips. Once the unit has arrived they quickly move into their area of operations to conduct tactical operations against the OPFOR. A typical scenario will require the unit to undertake combat operations aimed at locating and destroying small OPFOR units operating within the friendly nation's boundary. During the scenario's second phase, the unit will expand its area of operations while securing lines of communications. Civil affairs teams work closely with the civilians on the battlefield while psychological operations teams conduct specialized missions against the enemy.

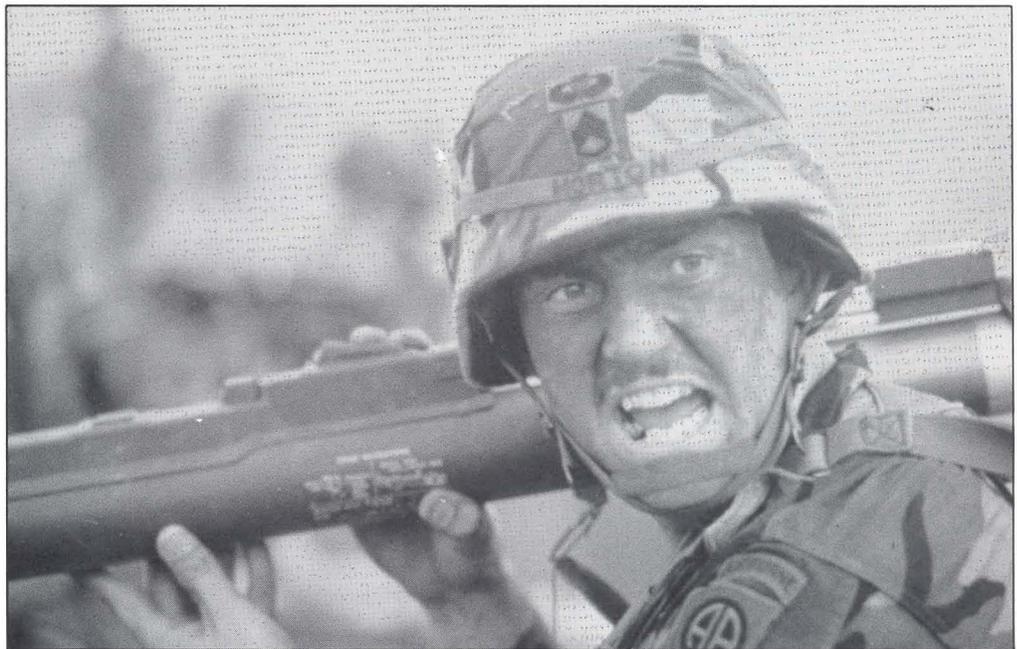
The conventional forces conduct decentralized, small unit operations and use sophisticated intelligence gathering devices in search of the enemy. Air assaults and ambushes conducted by the player unit take their toll on the enemy forces operating inside the friendly nation's border.

As relations between the friendly (host) nation and its adversary deteriorate, the player unit must dig in to defend against a more deliberate enemy attack. The action escalates as the neighboring aggressor nation violates the international border and attacks with armor, mechanized infantry and close air support. The player unit aggressively defends against the OPFOR attack using all available combat systems. Combat operations by the player unit swing the initiative back to the friendly forces; their attacks are made at night using infiltration and deliberate attacks against the OPFOR. It is this kind of realistic, demanding force-on-force training that prepares units to face the challenge, stress and fast-paced action of actual combat.

A major facet of the exercise is joint operations involving the Army, Air Force, Navy and Marines. At Fort Chaffee, active and reserve Air Force units conduct close air support and airlift missions in support of the Army task force on the ground. Air Force air base ground defense units routinely conduct security operations around the forward landing strips in support of the Army ground forces. Air Force search and rescue teams inserted into enemy territory locate and assist

downed pilots. Additionally, Air Force units conduct medical evacuation and air reconnaissance, and operate as tactical air controllers supporting Army combat units.

Marine Corps close air support and naval gun liaison teams provide an additional combat multiplier for the ground commander by bringing naval gunfire to bear anywhere within the operational area. Navy Seals participate in the full range of joint special operations missions. The integration of Air Force and Navy training objectives into the scenario allows practical training in the missions these services will perform with the Army in combat. Army and Air Force personnel work together to transport additional supplies and equipment to the combat units in the field. Air Force active and reserve tactical



His light antitank weapon poised for action, an 82nd Airborne paratrooper awaits the JRTC opposing force.

fighters may operate from Little Rock Air Force Base in support of the ground maneuver. Coordination between the services is key to the success of JRTC training.

At Fort Chaffee, the Army player unit maintains its own aviation support. This organic aviation capability provides support in the form of attack helicopters, air assault, resupply, medical evacuation and aerial observation. Other combat and combat support units include artillery, air defense artillery, engineers, signal and military intelligence. Integrated into the exercise is the unit's ability to resupply its forward elements with fuel, barrier material, ammunition and rations.



During each exercise at the JRTC, leaders from squad to brigade level participate in several after action reviews. During each after action review, they discuss assessments of how the task force performed with unit observer/controllers who possess a depth of doctrinal knowledge and experience. Key battle actions are reviewed with unit leaders and staff. The purpose of the after action review is not to criticize, but to guide the participants in an analysis of the actions that occurred and to allow them to discuss improvements that can be made. The OPFOR may also offer suggestions for improvement from their perspective. Likewise, observer/controllers meet with smaller elements, such as companies and platoons from each type of unit, to discuss the actions with the individual soldiers and their leaders. In these reviews the soldier gains a deeper understanding of how the battle was fought, how his unit contributed and how they can do better.

At the end of the exercise the unit is provided a take-home package that includes the observer/controller's written comments and videotapes of the after action reviews. The task force will use this take-home package at their home station to plan future training.

Air Defense Artillery continues its transition to the future by continuing to produce a force that can deploy rapidly, fight and defeat a wide range of new air threats anywhere in the world. ADA observer/controllers at the JRTC are responsible for capturing all aspects of air defense training performance and feedback processes associated with a rotational unit's training at the JRTC. The air defense observer/controller team is organized into a brigade group, two Stinger section groups, two Vulcan platoon groups and a Stinger mechanized armor group. These groups oversee every aspect of player unit mission planning, preparation and execution. Special emphasis is placed upon mission analysis and the development and implementation of the aerial intelligence preparation of the battlefield. This allows the commander to array his ADA fire units to best meet and defeat the threat. Junior leaders ensure that every aspect of their plan is integrated and synchronized into the combined arms force. Immediate feedback is given to the ADA soldier by the observer/controllers who stress correct doctrinal employment guidelines, aggressive battle drills and individual movement techniques that can enhance individual survivability on the modern battlefield.

Individual Stinger/Vulcan gunners engage real-world threat aircraft, including Mi-2s, Mi-8s, Mi-17s, Mi-24s and An-2s. These threat aircraft are equipped with MILES and fly threat aircraft attack profiles. Future air defense initiatives at Fort Polk, La., will involve high- to medium-altitude air defense assets to exercise lodgement operations and early warning against the threat tactical ballistic missile.

The ability to ensure U.S. security and defend overseas interests depends on the combat readiness and rapid deployment capability of the combat units.

Today's services must ensure that they train together as a combined arms team, capable of meeting any challenge, anytime, anywhere. The JRTC provides the opportunity for the rapid deployment units of the Army and its joint partners to fully train leaders and soldiers to fight and win in any potential conflict. This degree of training proficiency can only be achieved through the demanding, stressful, high quality training that units experience at the JRTC.

# JRTC Experiences

*by 1st Lts. Joel J. Levesque and Brett Chenoweth*

Have you ever wondered if you, as a platoon leader, really measure up against all the other lieutenants throughout the Army? Granted there are Armywide standards such as Army training and evaluation programs, common training tasks and a Military Qualification Skills II manual. But whoever evaluates us according to those published standards tends to be biased somehow by operations in their own unit. We do not always admit it, but we know this. Short of war, there are few chances for ADA lieutenants to prove that they are tactically skillful, physically stalwart and able to lead soldiers as well as anyone else can lead soldiers in a similar position throughout the Army. This is where the combat training centers — the National Training Center, Joint Readiness Training Center and Combat Maneuver Training Center — come in. The evaluators there look at units from all environments and locations and assess unit strengths. Realizing that no unit is the best at everything and that some units are unable to do anything well, these evaluators assess just what your unit does well according to the published standards (without some of the usual biases). In the process, they build up leaders' confidence in themselves.

In October 1991, 1st Lts. Brett Chenoweth and Joel Levesque got the word — prepare for JRTC 92-4 for February 1992. We had four months to prepare. We both knew that no other officers in our battalion would see us in action fighting the Atlanticans at the JRTC. Thus, our reputations as junior leaders would rest on the interpretation of the after action review. Undaunted by this fact, we approached the task with the same enthusiasm and apprehension young soldiers generally have before they go off to war. We wanted our soldiers to be as prepared as possible for the event, we wanted our





Soldiers take a coffee break in the rain and mud that often heighten the training realism at the JRTC.

Some things the unit leader must consider in the months leading up to the rotation are transportation requirements, developing standing operating procedures (SOPs), reports, ammunition requirements, networking with the supported unit, deployment into the box, initial staff planning and air intelligence preparation of the battlefield

unit to return basking in the glory of the observer/controllers' praises for soldiers and leaders alike, and we worried that we, as leaders, might not do all we could to bring our unit and soldiers the success we envisioned. Both of us had been on rotations at JRTC in 1990. Although we had grown immensely from that experience and consequently were confident as we approached rotation 92-4, we both wished we could have remembered everything. We decided that this time, good or bad, we were going to record our experiences so other lieutenants in the future could benefit from our experience.

### Predeployment

In retrospect, the hardest aspect of JRTC is predeployment and deployment into the game box. The actual 10 to 14 days spent fighting is extremely demanding physically, mentally and emotionally; however, time passes quickly, and before you know it, you are back at Fort Chaffee, Ark., enjoying the first shower in weeks. Predeployment, on the other hand, takes up to four months, and a lieutenant passes the entire time with a nagging worry that something is being overlooked, forgotten or not trained up to the doctrinal standards.

(IPB). Most of our JRTC successes were a result of predeployment activity in these and other areas. Our failures were a result of our lack of planning.

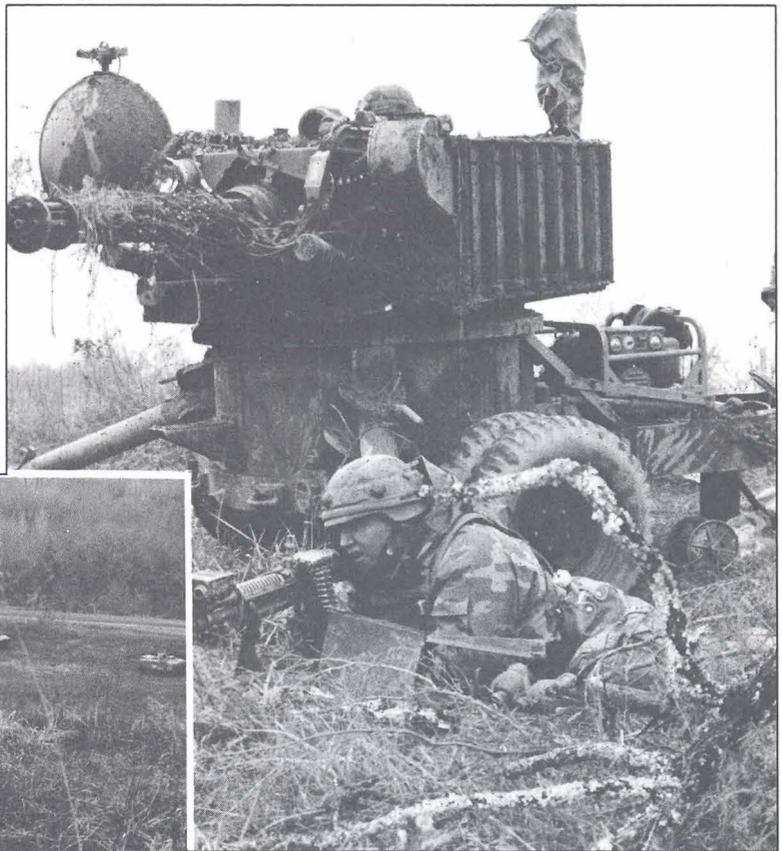
Transportation requirements were as much an issue during rotation 92-4 as they were for our previous rotation in 1990. Vehicle and passenger density listings must be passed out to every staff section at brigade and battalion levels. They may not have this requirement at first, but the action of the air defense officer (ADO) passing them this information familiarizes them with the ADA unit's capabilities and provides a forum to discuss what support Air Defense Artillery can draw from that section. Request van or bus space for equipment you may not be able to rail-load or place on the commercial truck "line-haul." Compensate for those items you forget to pack — like office supplies — by requesting extra shipping space.

This space may be significantly restricted, as ours was, by finances. It is imperative that you identify exactly what you will need three months beforehand. Take your entire basic load. We do not exaggerate when we say you may want to list what you are bringing down to the last quart of oil and last box of flashlight batteries. These often-ignored small



A Vulcan squad defends against an OPFOR ground attack during a JRTC rotation. Below, an M-167A2 Vulcan engages light-skinned vehicles.

---



packages will add up to a large box of unpacked supplies if you wait until the last week to consider them. If you fly to JRTC on a commercial airline, as we did, you will either be unable to bring everything you want or you will have to task some soldier to carry around a 100-pound box. He will not be appreciative.

Another aspect of equipment preparation that is easily overlooked is marking all equipment with a distinguishing unit symbol. This includes everything from rucksacks and rifles to water cans and other equipment. Because we are usually in a support role to an infantry unit at JRTC, we generally have to mix our belongings in with those of a larger unit.

No predeployment action is more important than developing SOPs for everything. You should have SOPs for every conceivable type of movement, communications or lack of communications, enemy contact, position improvement, resupply operations and reporting actions. These are the bare minimum. The list of necessary SOPs could grow to several pages. Creativity is the key in this area, and good SOP development is a dynamic, ongoing process. Don't wait until you get to the JRTC to find out if your SOPs work. Test them beforehand. Just how proficient you are in this area will become evident at the JRTC.

---



Ammunition management is another important item to consider before leaving home base. Continuous face-to-face networking with brigade- and battalion-level ammunition managers is a necessity, as are visits to your forward support battalion. They need to know your DoD activity address code, your ammunition resupply plan and the names of personnel on your signature cards who will actually be picking up your ammunition. It will help if your ammunition sergeant personally knows the ammunition point of contact before deployment. Every ammunition sergeant has some pet peeve. You will get your ammunition quicker and more consistently in the field if you know the name, face and habits of the people who will be supplying it to you.

Follow a similar procedure in the personnel side of the house. Knowledge of the operating procedures of your supporting personnel action center is absolutely necessary. They need to understand the significance of the low density of air defenders in your task force. Explain to the S-1 and his section that 50-percent strength in ADA personnel means that key assets are undefended from air attack. Aggressive networking and persistence in the personnel arena will get your casualties replaced quicker. This requires continuous face-to-face contact.

Civilian procedures and rules of engagement are areas that probably do not receive enough training in

our unit. Yet our soldiers were continuously faced with these issues at the JRTC. Do not overlook them and hope observer/controllers will smile favorably on your soldiers when they shoot a civilian who looked a lot like the enemy. Similarly, the observer/controllers will not reconstitute soldiers killed by a person in civilian clothing who unexpectedly detonated a car bomb. In real war, our soldiers might be court-martialed or

Finally, develop unit movement plans. Designate a unit movement officer or NCO who is expert in air load operations, departure airfield control group operations and hazardous cargo requirements, and who has the initiative to plan ahead when he finds air defense vehicles have the lowest priority in regard to movement into the JRTC game box. Be prepared to undergo the joint inspection with Air Force load planners prior to boarding the C-130s into the box. In our case, a unit-level movement/maintenance inspection was conducted one week prior to actual deployment and again upon arrival at Fort Chaffee. This allowed all of our vehicles to enter the box in a timely manner by the end of D-Day.



### Tracks passed over the early warning net must be relayed to non-ADA units.

killed — harsh realities reflected at the JRTC. This is an outstanding opportunity for unique training in situations such as those we faced in Vietnam and will probably face in future wars.

Staff planning in the predeployment phase is critical. Key leaders should be given ample opportunity to work with those people they will work with at the JRTC. The vehicle may be a preparatory field training exercise, a battlefield simulation exercise or a terrain exercise without troops. ADA staff officers will benefit from studying after action reviews and take-home packages from previous rotations, talking to veterans of the JRTC experience and conducting aerial and ground IPB. It is important to talk with your local intelligence and Air Force communities. They may provide a country study of Cortina, as well as a firsthand account of their experiences that may prove valuable in the aerial IPB.

### Deployment into the “Game Box”

In the JRTC scenario, the brigade task force first goes to an initial staging base (ISB). This is generally a secure area in or near the host nation where we make final preparations for combat. The length of stay may vary, but at the JRTC, plan on spending four to five days at the ISB. The ADA package we deployed with consisted of a battery (-): two Stinger sections, one Vulcan platoon and no battery headquarters. We had to improvise with this task organization as anyone might have to do in combat. We designated the lieutenant least involved with staffing operations as our executive officer in charge of moving personnel and equipment into play. This was the Vulcan platoon leader, as the Stinger section leaders were staffing with their supported battalions. At all levels,

we conducted an aggressive link-up with our respective supported units. We used a checklist that contained the minimal things we needed from the supported unit and items that we thought they needed to know. We used this checklist from the team chief level all the way up to the command section in the brigade tactical operations center. FM 44-16 offers a good start in the development of a checklist, but some things are not applicable to every unit at every level. The important thing is that nobody in the ADA unit who is attached to an infantry unit shows up “cold.” They need to know the general mission, area of operations, support relationships, names and so forth.

During deployment into the box and throughout the rotation, we used preprinted operation orders (OPORDs) outlines (fill in the blanks) and commander’s briefings. Do not simply preprint your OPORDs. This may lead the staff officer to believe that he has completed staff duties simply by handing the S-3 of the supported unit a piece of paper. It is the development of that paper that is really important. A preprinted outline with some general information can be easily copied



with carbon paper. This makes it easier to get information down to the lowest ranking soldier as quickly and accurately as possible.

ISB operations are pretty much like any other precombat checks activity. Remember to schedule and conduct preventive maintenance checks and services on all assigned equipment. Allocate sufficient time for OPORD development and dissemination, and conduct rehearsals and backbriefs at every level, using terrain boards if possible.

### ADA in Low Intensity Conflict

Characteristically, low intensity conflict (LIC) is offensive in nature, not defensive. Air Defense Artillery can only contribute to the infantry brigade if it takes on an offensive counterair role. The LIC battlefield is driven more by intelligence than the mid-intensity conflict. Thus, the aerial portion of the IPB is the key to success and thus warrants further discussion.

Air IPB is important at both battalion and brigade levels. The ADO must have the following maps:

- Cortinians - 1:50,000.
- 1:250,000.
- Elevation map — block out aircraft masking terrain.
- Computer simulated aids — line-of-sight analysis.
- Terrain profile computer analysis.
- Major air bases.

Use these sources to determine air avenues of approach. Remember enemy courses of action; they will not fly resupply helicopters near friendly centers of gravity. That would be suicide. They will instead remain as far away from the Army forces as possible to resupply the OPFOR insurgents. Be cognizant of the following necessary information for determining air routes:

- Known and possible air routes from forward air bases, and where those bases are located on a 1:250,000 map.
- Tactical routes from area of operations for both rotary and fixed-wing aircraft.
- Pop-up points.
- Possible Stinger positions along the air avenues of approach.

It is necessary to determine enemy capabilities. Consider the following factors:

- Night and adverse weather capabilities.
- Types of aircraft.
- Pilot proficiency.
- Ordnance.
- Tactical employment doctrine.
- Staging areas.

Using the enemy courses of action and capabilities, make a situational template overlay for your map. In simple terms, the template should clearly show other staff personnel which aircraft are most likely to hit your area, what route they will follow, what their target will be, and with what they will

attack and when. This system worked for us. We were 100 percent correct in determining when and where the aircraft would hit us. That does not mean we prevented battle damage every time. At times our task force did not heed or was unable to implement our optimal plan — either because of time or personnel shortages — and the enemy was able to attack us. The fact that our air IPB was very accurate, however, won the confidence of battalion and brigade commanders and we received as much support for ADA operations as possible. This contributed greatly to the success of the brigade task force.

In an LIC, the Stinger ambush is often the only way to shoot down enemy resupply aircraft. In an LIC it is one of the more important contributions the ADA unit can provide to a maneuver unit. Although it was used in Afghanistan to destroy hundreds of Soviet aircraft, the ambush is used so infrequently that some air defenders will state it is nondoctrinal, but it is doctrinally sound.

The ambush operation relies heavily on effective air IPB. The ADO at the battalion or brigade level must be able to determine when and where enemy resupply aircraft are flying. He must then decide where two to three Stinger teams can best destroy the aircraft. For us, the concept worked best when we placed our ambushes under the most forward deployed battalion's control and its Stinger section leader. The requirements for a successful ambush are numerous and include —

- insertion and or extraction by helicopter;
- detailed mission or contingency planning and briefing;
- experienced, rugged individuals with physical endurance and well-rehearsed SOPs and skills;
- recovery plans for downed aircraft (OPFOR quick reaction forces will attempt to recover mortar rounds from a downed aircraft);
- sustainment procedures (team must be able to sustain itself for 48 hours);
- use of hide positions;
- re-entry of friendly lines SOPs; and
- loss of communications SOP.

Reporting is an easily overlooked but essential task for air defenders. Because of the nature of Stinger ambushes, Stinger crew members will probably gather important intelligence information that needs to be passed to the S-3 and S-2 at all levels of maneuver. Specifically, engagement and spot reports must be sent through all ADA and maneuver channels in a timely manner. Helicopter spottings and engagements provide key information regarding enemy location and activity. If maneuver S-2s and S-3s do not realize this, the ADO

has to explain the importance it has on their plans.

A helicopter flying 10 kilometers away may not threaten a maneuver brigade, but it may point out to the brigade commander where the enemy is dropping off his SA-14s and 81mm mortar rounds. All aircraft tracks passed over the early warning radio net should also be relayed to the appropriate S-2.





## Vulcan squads conduct action on wheels battle drills during JRTC rotations.

---

Battalion and brigade ADOs *must continually* send information requests to the division representative. In an MIC the ADO must know enemy capabilities (including number and type of aircraft, location of air bases, daily enemy aircraft status, ordnance types, capabilities, electronic countermeasure capabilities and avenues of approach). This information changes daily. When and where the enemy will commit his air assets should be a priority intelligence requirement of the brigade and battalion S-2s.

It is also imperative that the ADO know what other friendly air defense forces are in the host nation. In a real situation, the country of Cortinia might be able to pass early warning to you or cover one enemy air avenue of approach.

One lesson we relearned on our rotation was the importance of passive air defense in an MIC environment. When the task force as a whole practiced passive air defense correctly, enemy air was unable to inflict significant damage. On one occasion, our forward support battalion was preparing to move out to a new location before morning nautical twilight. That battalion suffered catastrophic damage in an ensuing air attack even though we prevented 80 percent of the attacking aircraft from dropping ordnance.

### Conclusions/Lessons Learned

Adapting to available written doctrine, our soldiers and leaders have developed flexibility and aggressiveness. Where there was no standard way to conduct operations, we succeeded by remembering the basics: move, shoot and communicate, and conduct a thorough IPB. These doctrinal basics are endlessly repeated for a reason. They will provide the guideposts even where it may seem that ADA does not have an exciting mission. How does ADA shoot in an LIC when there is no threat of direct enemy air attack? Stinger ambush was an obvious choice. A less obvious choice included positioning the Vulcans to use their firepower whenever possible, whether that involved convoy security, perimeter security or indirect fire. Again, flexibility and aggressiveness will get one into the JRTC fight.

### Shifting into the Mid-Intensity Conflict

As our task force shifted into the mid-intensity conflict (MIC), we began dealing with more familiar concepts: linear battlefield, standard principles of air defense and massive air attacks. The enemy scenario in our rotation followed a Soviet-type doctrine. The important thing for air defenders to remember is that we must begin the transition to an MIC at least a day before the Infantry task force. This is because the enemy is likely to surge his air assets into the area of operations on the first day of his invasion to support his ground forces. It may take a day for his ground forces to reach the task force; his air assets will try to deplete our resupply, command and control and other assets well before then. This does, of course, depend on enemy courses of action and capabilities.

In the LIC phase, the early warning system was an important information collecting device. Recording and plotting early warning tracks helps to indicate where the enemy flies his resupply aircraft. He flies them near his troops, so the task force S-2 will want to know what happens with the division early warning net. Brigade and battalion commanders alike begin to question ADA warning capabilities during the transition into the MIC. They want to know how many minutes they have to react, not just that you have a "presence" or "unknown" coming across the border. In a real scenario the air defender at all levels would need to understand FM 44-100. It is possible, as in our case, that the unit has no organic early warning assets. You need to coordinate through the division to determine what electronic warfare resources are available.

Once early warning is provided to the task force, dissemination throughout brigade and battalion task forces is necessary. If possible, the air defender should try to give a professional development class to important players in the task force on how early warning must work. Early warning will work if friendly units understand and use passive and active air defense techniques.



---

*Maj. James R. Oman, author of "ADA at the JRTC," is the senior air defense observer/controller at the Joint Readiness Training Center, Fort Chaffee, Ark. 1st Lts. Joel J. Levesque and Brett Chenoweth, co-authors of "JRTC Experiences," are battery executive officers with 2-62 ADA, Fort Ord, Calif.*

# ADA DIGEST

## INTERVIEW

### LT. GEN. DONALD M. LIONETTI

*Commanding General,  
U.S. Army Space and Strategic Defense Command*

**NOTE:** The following interview with Lt. Gen. Donald M. Lionetti introduces ADA Digest's new "Interview" section. Each issue the section will feature an interview with a senior Army leader.

*The U.S. Army Space and Strategic Defense Command is a newly restructured command. What does it consist of? How is it different from the old SDC organization?*

The former Army Strategic Defense Command was structured around three hats the commander wore. He was commander, SDC, reporting directly to the chief of staff of the Army. He was the program executive officer (PEO) for the development of ground-based theater and national missile defenses. And he was the commander of the national test range at the U.S. Army Kwajalein Atoll in the Pacific.

The new command, as a result of an agreement signed between the Director, SDIO [Strategic Defense Initiative Office] and the service secretaries, no longer encompasses the PEO structure. While the PEO function fell out, the Army Space Command was added to the new structure.

This all means that the new command is focused more operationally; however, we retain the national treasure of the technology base development for missile defense. And we re-



tained the Kwajalein Atoll, a facility of enormous importance as we look ahead to the 21st Century and to the development of strategic missile defenses.

This reorganization has sent a message. That message is that the Army is a major player in space, and that is as it should be. With the power projection Army we are developing, missile defense, space systems and the products they provide — communications, mapping and terrain analysis, position location and weather analysis, to name a few — will be critical to the successful performance of the wide variety of missions our Army will perform. My job is to be an effective advocate, both within and

outside of the Army, for assured access to these products. The warfighter has to count on them and they have to be useful to him in format, timeliness and volume.

*With the collapse of the former Soviet Union, how essential is a national missile defense? What is the Army's role in national missile defense?*

A national missile defense is essential to the security of our nation. Currently, we have no capability to defend the United States against incoming ballistic missiles. There is a proliferation of ballistic missile technology that will see approximately 25 nations with the capability to deliver weapons of mass destruction on ballistic missiles by the end of the century.

While we are no longer faced with the threat of attack by massive numbers of warheads, the potential for an accidental, unauthorized or purposeful launch of a small number of warheads is still a very real threat.

We have strong congressional support to develop and deploy a national missile defense system via the Missile Defense Act of 1991. This was revalidated in the 1993 bill that was just approved. The mandate we have is to create a treaty-compliant, 100-missile, single-site NMD system. And in my judgment, we need to get on with that expeditiously.

We also have a demonstration/validation contract for the ground-based radar, and we have an RFP [request for proposal] on the street for the ground-based interceptor. Our infrastructure is in place. We own the site and our missile defense technology base is a national treasure.

The Army is the only service ever to have designed, developed and deployed an NMD system. This was the old Safeguard system. The new technology available for an NMD system enables us to use non-nuclear, kinetic energy, hit-to-kill interceptors against incoming warheads. This technology is proven, and it is cost effective. We are past midstream in the development of a new NMD system, so as far as the Army role is concerned, NMD is Army business, and as a matter of fact, Army business extends into theater missile defense (TMD).

*You say TMD is Army business emphatically? Hasn't the Air Force made a bid recently to take over the mission?*

TMD is essential to our developing power projection Army. The Army leadership firmly believes that every force has the right to self protection. We are not going to give up the capability and responsibility to provide our own air defense in support of our ground forces. The highly proliferated missile threat virtually guarantees that any mid- to high-intensity conflict we could get ourselves involved in will most probably involve ballistic missiles. The tactical ballistic missile genie is out of the bottle and won't go back. We have to be ready with very capable defenses. So, as far as I am concerned, this is Army business. There is no value added to consolidating. In fact, there is enormous cost associated with taking missions such as TMD and theater high altitude area defense out of the Army and putting it in another service.

There has been, over the years, an enormous investment by the Army in infrastructure to support the training base of this mission area, the technology and research base, and it is just

not easily picked up and converted on a whim to another service because it appears that it might be a more efficient or economical way of doing business. I think if you compare the benefits against the cost, you will quickly see that this is not a very serious recommendation. And there are no operational efficiencies to be gained. I will say again that Army organic force protection is a doctrinal imperative. Missile defenses, both theater and national, are part of the Army fabric and culture.

*With the PEO GPALS [Global Protection Against Limited Strikes] structure separated from SSDC, what is your budget picture now and for the future?*

Traditionally, the Army has received about 45 percent of the total SDIO budget. That money came primarily to one agency, the former SDC. Now the bulk of that money is divided between SSDC and the PEO GPALS. So, our tech-base budget is significantly reduced this year to about \$620 million. Our Army-funded budget for the operation of the Army Space Command and Army R&D [research and development] work comes to about \$263 million, for a total of about \$883 million.

This is an adequate budget to accomplish our missions, but I am worried about it, particularly in the arena of our tech-base R&D work. In tight resource times, like we are experiencing today, the natural tendency is to reduce the investment in the tech base. Which technologies you support or decide not to support becomes very critical. I am concerned that we have underfunded some of the technologies that, in the future, will be vital to a broader vision of strategic defense.

*How do you think the SDI program funding will fare?*

In the areas of national missile defense and theater missile defense, there is strong congressional support. There is a mandate to meet an obvious need and the future looks bright. The current reality is that, for the near term, Congress has placed space-based interceptors in research rather than development. The outgoing SDI director has nearly doubled the funds available for the development of theater missile defense, and we continue to enjoy congressional support for a "doable" first step in an NMD system. So, while I do not have a crystal ball, the indications look good for TMD and hopeful for NMD.

## TRAINING

# 14J TESTING IMMINENT

The new MOS 14J soldier's manual, *Early Warning System Operator 14J, Skill Levels 1 - 4*, is currently at the U.S. Army Training Support Center and should be in the field by April 1. Commanders of all appropriate ADA units should submit their Series 12 publications requests to ensure they receive the new manuals as soon as possible.

The window for MOS 14J soldier development tests opens Sept. 1, 1993, and lasts until the end of November. The testing is based predominantly on information contained in the MOS 14J soldier's manual. MOS 14J testing will not include questions on the light and special division interim sensor (LSDIS).

CHARLES H. SPORE

# UPGRADED RAIDES SET FOR FIELDING

*New software, workstations will make life a little easier for ADA leaders*

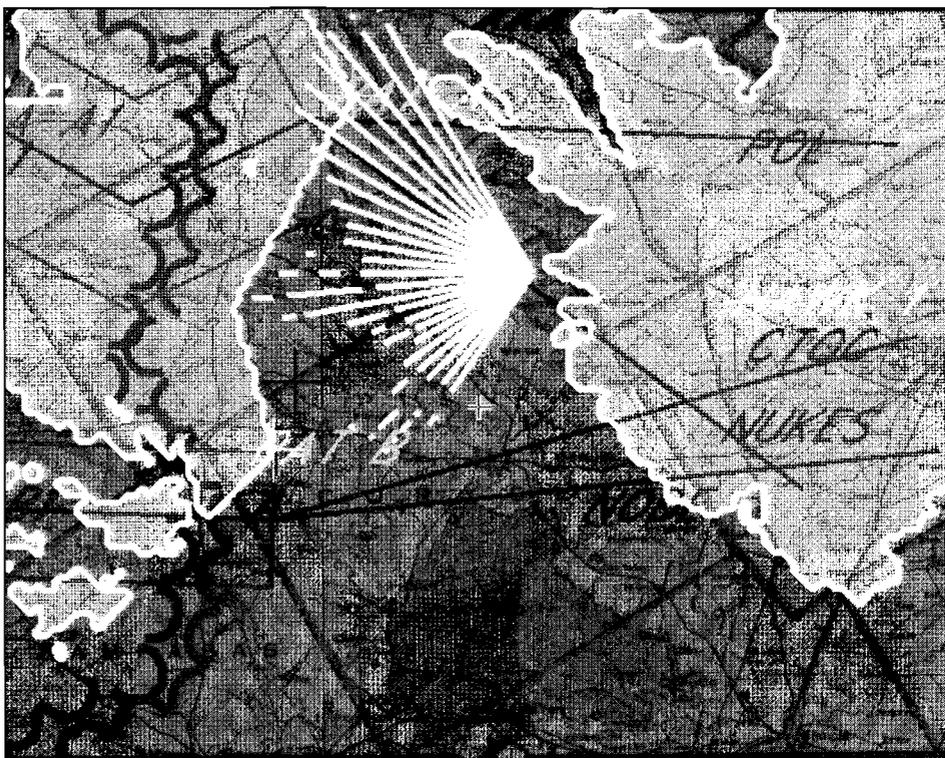
Life is about to get easier for air defense commanders looking for high-tech solutions to the high-tech problems they encounter on the modern battlefield. A significantly upgraded prototype version of the Rapid Air Defense Evaluation System (RAIDES) will soon go to the field.

RAIDES is a prototype air defense force operations planning software package developed by the Project Manager (PM),

Air Defense Command and Control Systems (ADCCS), to refine user requirements for future systems. The system allows air defense planners at battalion and brigade levels to display likely enemy air courses of action, design air defense plans to counter the threat and compare friendly courses of action based on several measures of effectiveness.

The latest version features completely new screens that enable RAIDES to run on a single-monitor computer workstation while maintaining the same functional capabilities as the presently fielded RAIDES prototype, which runs on a dual-monitor Portable All Source Analysis System Workstation (PAWS).

PAWS is a Microvax-based computer workstation with two monitors, two removable hard disks, a



*The new RAIDES, set up above to display a combined coverage diagram with a Patriot quick terrain mask, combines graphics and text displays into a single, high resolution monitor display.*

keyboard, line printer and mouse. PAWS has a 16 megabyte random access memory and a processing speed of one million instructions per second.

The new prototype RAIDES is fielded on a Sun Sparc 2 computer workstation with a minimum of 32 megabytes random access memory and a speed of approximately 28 million instructions per second. This new workstation is compatible with planned common hardware and software for the Army Tactical Command and Control System (ATCCS).

The new configuration combines the separate graphics and text displays of the PAWS into a single, high resolution monitor display. It also incorporates entirely revised screen designs. These screens enhance user friendliness and allow novice operators to quickly understand and use RAIDES, while enabling experienced operators to take advantage of an increased variety of screen capabilities. Apprentice RAIDES operators require 18 to 24 hours of training, while operators who infrequently operate RAIDES can regain profi-

ciency after approximately 12 hours of refresher training.

The organization of new RAIDES menus follows the flow of the tactical planning process. The new screen designs comply with the color, contrast and font size recommendations specified by the Human Factors Design Guidelines for the ATCCS soldier-machine interface.

RAIDES software goes through continuous upgrades based on user feedback from ADA units in the field. Software developers and engineers from the Army Tactical Command and Control System Experimentation Site, Fort Lewis, Wash., designed the screens using input from 32nd Army Air Defense Command (AADCOM), 35th, 31st and 11th ADA Brigade soldiers and rapid prototyping techniques. Software development costs were minimal.

The Army is scheduled to begin fielding the new RAIDES prototype in April to 32nd AADCOM. Fielding to CONUS air defense brigades will

follow, based on modifications resulting from feedback furnished by 32nd AADCOM.

The database includes all fielded ADA weapon systems and threat aircraft, and permits operators to add new systems and threat aircraft.

The growing complexity of the three dimensional battlefield, the increasing variety of air threat platforms and the vagaries of the new global threat environment require ADA leaders to react quickly and precisely in a range of scenarios. RAIDES helps ADA leaders —

- execute planning using all ADA weapon systems and threat aircraft;
- build enemy air courses of action based on intelligence preparation of the battlefield;
- conduct air defense site analyses by quickly displaying a radar coverage diagram for potential high- to medium-altitude air defense and forward area air defense sites;
- check line-of-sight by displaying a side view of the line-of-sight be-

tween two points (RAIDES also displays line of sight profiles between higher headquarters and subordinate units);

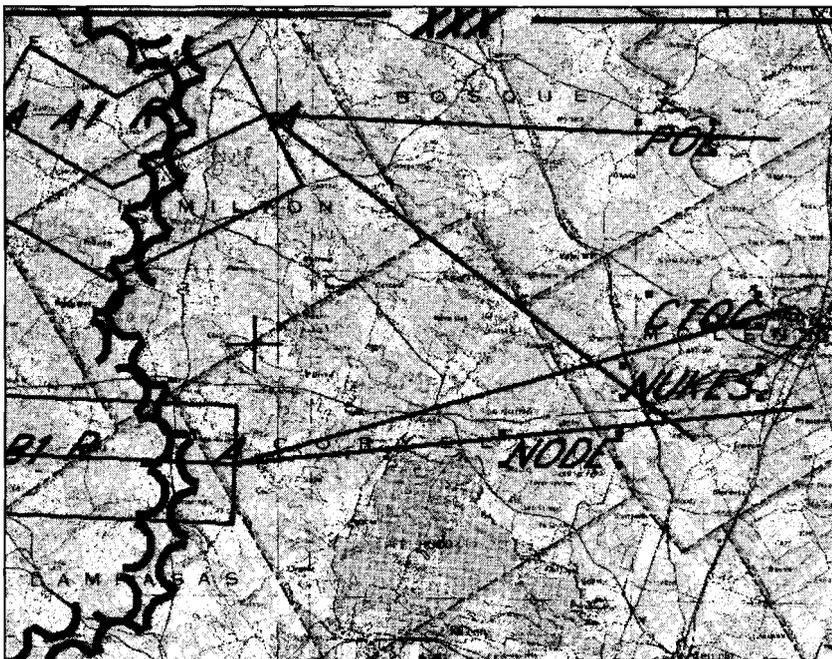
- display terrain contours at user-specified elevations and terrain masking at user-selected altitudes above ground level;
- display weapon systems detection and engagement coverages (both overlapping and combined) that takes into consideration radar masking of terrain;
- compute the number of potential engagements, actual engagements and kills by fire units against potential enemy air missions.

RAIDES evolved from a 1988 U.S. Air Force mission planning program as a result of a joint effort by 32nd AADCOM and the PM, Joint Tactical Fusion. It was used by ADA units deployed during Operation Desert Storm and all continental United States (CONUS) and 32nd AADCOM brigades.

Ultimately, the PM ADCCS plans to use a system such as RAIDES to integrate force operations planning with engagement operations, or the forward area air defense command, control and intelligence (FAADC<sup>2</sup>I) system, in a prototype air defense tactical operations center.

RAIDES "pierces the fog of battle" and increases the lethality and effectiveness of ADA fire units. The prototype system has already been soundly praised by ADA leaders, and it's about to get even better.

For more information about RAIDES, contact Lt. Col. Herbert Carr, PM, Extended Air Defense C<sup>2</sup>, DSN 788-5437, or Maj. Keith Emberton, ATCCS Experimentation Site, (206) 967-8359/8363 (DSN 357).



The new RAIDES screen displaying an enemy course of action.

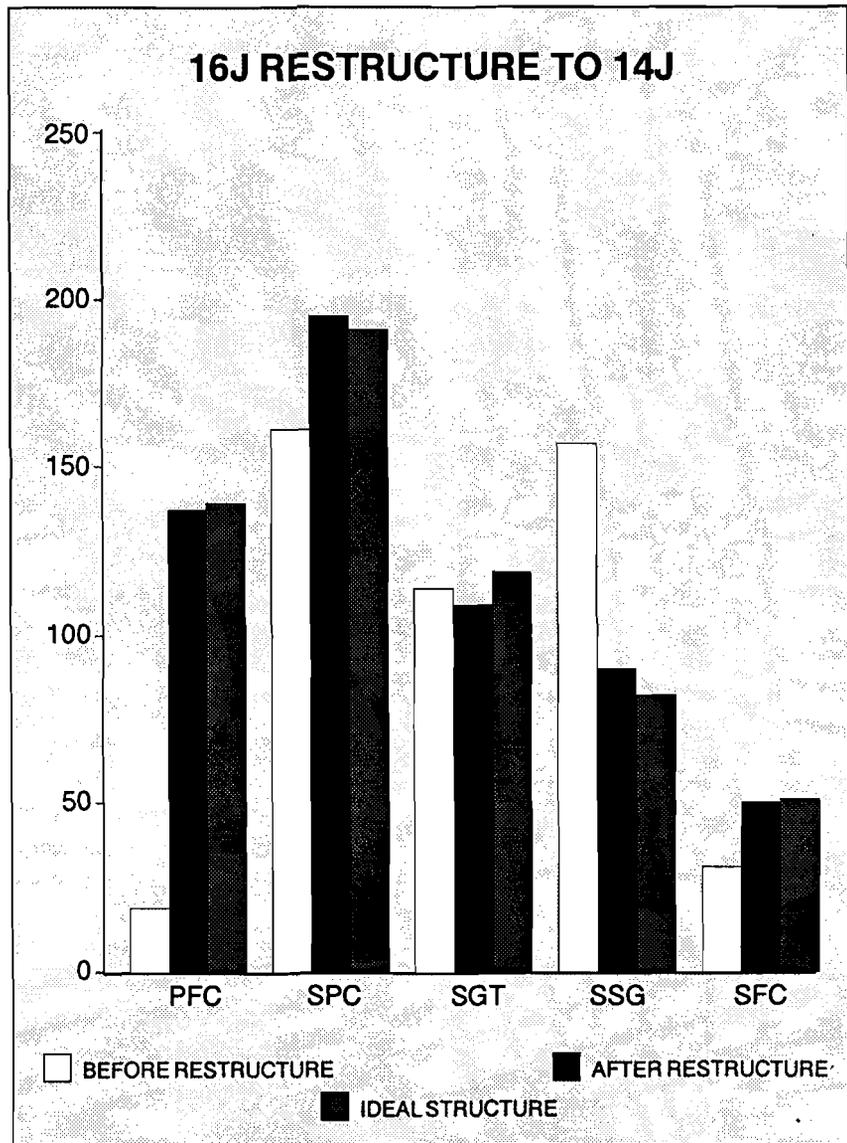
MAJ. KEITH EMBERTON

# MOS RESTRUCTURING CONTINUES

Why do personnel experts at the Office, Chief of ADA (OCADA) and the U.S. Army Personnel Command (PERSCOM) continue to restructure ADA military occupational specialties (MOSs)? Restructuring occurs whenever a new MOS replaces an existing MOS or MOSs. Restructuring is also necessary when we update Standards of Grade Authorization (SGA) tables in AR 611-201, *Enlisted Career Management Fields and Military Occupational Specialties*, to reflect actual positions in tables of organization and equipment (TOEs) and tables of distribution and allowances (TDAs). The restructuring process results in a grade feasible MOS that allows normal career progression.

With time, an MOS will become grade infeasible due to changes in modified TOEs and TDAs. The authorizations for a particular grade grow out of proportion to the other grades in an MOS. For example, if an MOS has more authorizations for sergeant first class than for staff sergeant, nearly everyone will be promoted to sergeant first class. When the opportunity for promotion is 100 percent, there is no quality check — everyone gets promoted. Conversely, when the opportunity for promotion is 25 percent, only one in every four soldiers gets promoted, and the MOS stagnates in that grade.

The Department of the Army has set the ideal percentage of opportunity for promotion to the next higher grade (based on total authorizations for an MOS) at 62 percent. The chart at right shows how restructuring an MOS brings the percent of opportunity for promotion closer to this target.



OCADA and PERSCOM have restructured MOSs 14D, 14J, 14R, 14S, 16R, 16S, 23R, 24T and 25L in the last three years. They will continue to monitor each MOS to ensure it remains grade feasible. Because of force structure changes and new equipment fieldings, OCADA and

PERSCOM are currently restructuring MOSs 14J, 14R, 14S, 16R, 16T, 24T and 25L. The revised SGAs for these MOSs should become effective in the fourth quarter of FY94.

MSGT. ROBERT BALONIER

# PROJECT WARRIOR

*Do you want to be an observer-controller at one of the combat training centers?*

It's 0450 in the middle of February (18-degree windchill) at the National Training Center (NTC) and you are sitting in an open Humvee observing a Vulcan platoon leader preparing to cross the line of departure with a mechanized Infantry task force. You are having about as much fun as is authorized by Army regulations since your Humvee heater is non-operational and it is definitely colder than you ever imagined it could get in "Southern California."

If this sounds exciting and you think you have the mettle to accept the challenge of being an air defense observer/controller (OC) at the National Training Center, Fort Irwin, Calif., then sit back, relax and read on. If this sounds a bit too miserable for your lifestyle, please turn ahead to the next article.

If you have completed a successful battery command, are looking for a professionally rewarding and challenging assignment, want to stay with troops and have a significant impact on the future of ADA doctrine and employment in support of maneuver brigades and task forces, then Project Warrior may be for you.

Project Warrior alumni are quality individuals who have completed a successful forward area air defense battery command and demonstrated their knowledge of current air defense warfighting doctrine and their ability to successfully interact with soldiers and commanders in a stressful training environment.

Project Warrior officers serve two years at one of the combat training centers (CTCs) as an OC and then

two years in the tactics department of the U.S. Army Air Defense Artillery school as a small group instructor (SGI).

The NTC is located in the Mojave Desert, approximately 40 miles north-east of Barstow. Its training area encompasses 1,000 square miles and consists of high mountains, large valleys, several wadis and hills. Terrain is very similar to that of the Middle East. Training that maneuver units received at the NTC proved extremely valuable during Operation Desert Storm.

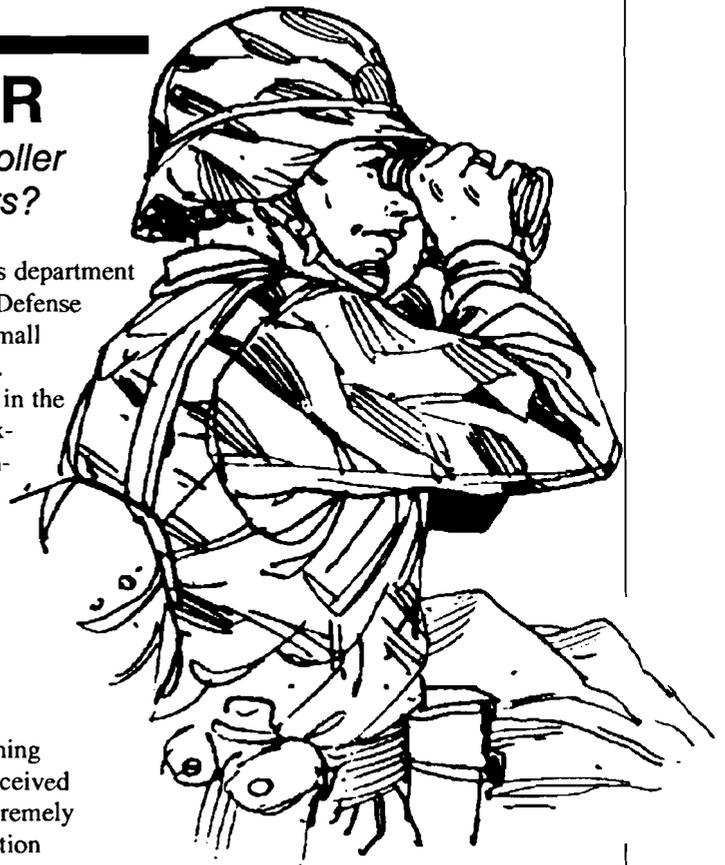
The NTC's 1981 opening filled the Army's need for an area to conduct realistic, battle-focused training. The NTC provides tough combined arms and services training for battalion task forces, squadrons, maneuver regiments and brigades (heavy and light) according to the latest AirLand Battle doctrine. It allows brigade and battalion task force-sized elements to conduct tactical force-on-force operations and live fire exercises in a harsh tactical environment. Units must prepare and execute their tactical plans, something rarely done realistically at their home stations.

The force-on-force training allows rotational units to conduct tactical offensive (movement to contact, hasty attack, deliberate attack) and defensive (defense in sector, defense of a battle position) operations against a live opposing force (OPFOR). The

rotational units and OPFOR are equipped with the multiple integrated laser engagement system (MILES), a tactical scoring system that uses an eye-safe gallium arsenide laser transmitter. The transmitter can be coded to represent various weapons systems, from rifles to tanks.

Through the force-on-force training leaders and soldiers gain valuable near-combat experience and further improve their technical and tactical abilities. Collective and individual skills are trained in a challenging and demanding environment that provides realistic battle focused hands-on training. Leaders and soldiers are able to learn and improve collective and individual skills in a realistic training environment with maximum stress and minimum casualties and fatalities. The only limits placed

*(continued on page 40)*



# Column Write

## Equalizing Promotion Opportunities

After serving ten months as the ADA command sergeant major, I've found that the biggest concern in the field is that promotions to staff sergeant and sergeant in our forward area air defense (FAAD) MOSs are not fair. The problem lies in the conversion of MOSs 16P, 16R, 16S, 24M and 24N to MOSs 14R and 14S.

Simply stated, promotion opportunities abound in the new MOSs. But only those soldiers who have already undergone MOS conversion training and who now hold the MOS may compete for promotion in MOS 14R or 14S. Where does this

leave our other soldiers? It leaves them wondering if they have a future in Air Defense Artillery — or even in the Army.

Soldiers on the short end of the stick feel that soldiers lucky enough to be in the right place at the right time (in this case, in a unit undergoing MOS conversion) get promoted by default to sergeant or staff sergeant. What's driving this feeling is that a lot of soldiers are seeing their peers, who had the same MOS but considerably fewer promotion points, get promoted. The sad part is, they're right. This *is* happening, and we're losing some of our best quality soldiers as a result.

Maj. Gen. John H. Little, chief of Air Defense Artillery, and I met with Maj. Gen. Gerald H. Putman, U.S. Army Personnel Command (PERSCOM) commanding general, March 24 to discuss a solution to this problem. We recommended that PERSCOM create an ADA database showing the transitional MOS authorizations; convert all of the

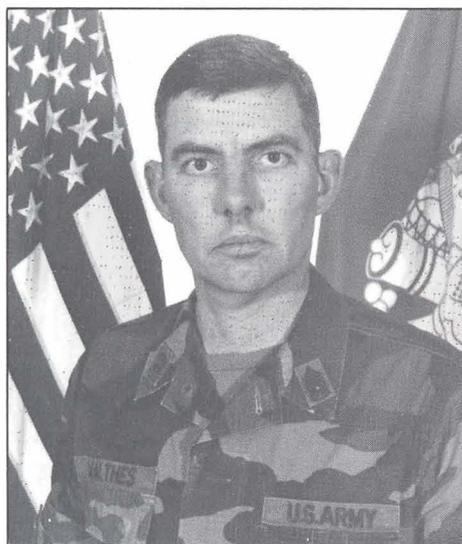
soldiers in the FAAD MOSs undergoing conversion to the new MOS; and tag each soldier who has not yet undergone transition training with a Y2 additional skill identifier (to be removed upon completion of training).

Here's what the plan accomplishes. All of our soldiers will be able to compete for promotions in the transitional MOS without waiting for conversion training. Chances for promotion no longer depend on being in the "right place at the right time." Our soldiers will no longer wonder whether their career in the branch and the Army is un-

stable and will be able to plan their futures.

The hitch to this plan is that it requires an exception to Army policy. But Putman seemed eager to use Air Defense Artillery as a "testbed" for the Army — a guinea pig, if you will, to prove that this new approach to equalizing opportunities will work across the board.

Air Defense Artillery *must* retain the quality soldiers who are so indispensable to our smaller force. The "First to Fire" branch inherited an enviable reputation as the Army's leader in soldier care from the Coast Artillery Corps. The innovative transitional data base plan symbolizes the branch's determination to maintain that legacy.

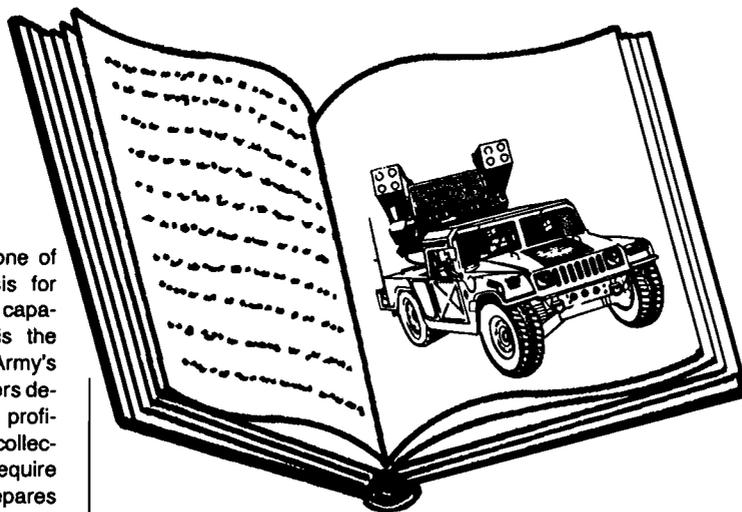


CSM James E. Walthes  
Post Command Sergeant Major

Air Defense Artillery continues to make equitable promotion opportunities for its enlisted soldiers a top priority. Promotion scores for 16R (Vulcan) and 16S (Stinger) for E5 and E6 are higher than for 14R (Bradley Stinger Fighting Vehicle [BSFV] Crewman) and 14s (Avenger). Soldiers with 16 series MOSs are transitioned to 14 series MOS either in conjunction with a PCS by attending school TDY en route or during a unit's new equipment training for BSFV or Avenger. Therefore, those soldiers in light or special division that are not scheduled for new equipment for a couple of years are being left behind. By the time the system catches up and those soldiers get their chance to transition to 14 series, the cut-off scores for these soldiers will have risen from where they are now, and they will have to wait further for promotion. My response has been to ask the Army Personnel Command to treat all forward area air defense MOSs as a consolidated bloc when considering promotions to E5 and E7. This action is still under review.

— Maj. Gen. John H. Little,  
chief of ADA, 1993

# By the Book!



Training is the cornerstone of readiness and the basis for credible deterrence and capable defense. Training is the means by which the Army's quality soldiers and leaders develop their warfighting proficiency and exercise the collective capabilities they will require in combat. Training prepares soldiers, leaders and units to win in war — the Army's basic mission.

— Gen. Carl E. Vuono,  
FM 25-101,  
Battle Focused Training

Training is the imperative on which the units of our Army focus day to day. It is through training that the noncommissioned officers and company and field grade officers of today's Army contribute most directly to maintaining our warfighting edge. It is the link between what we do in peace and what we do in war. Simply stated, training is the top priority for our units in peacetime.

— Gen. Gordon R. Sullivan,  
Army Chief of Staff

When challenged to "Do things by the book," soldiers often ask, "What book?"

by Jim Kelley

When challenged to "Do things by the book," soldiers often ask, "What book?"

This article attempts to explain "what book?" or training publications ADA officers and NCOs should use, their interrelationship and how training concepts are translated into action.

The Air Defense Artillery School's training literature reflects the collective expertise found throughout the Army. The military and civilian subject-matter experts who develop and write Army training literature are frequently the soldier-trainers responsible for the day-to-day training programs. This institutional knowledge and practical hands-on training, once transcribed into training literature, provides the basis for confident leadership and survival on the battlefield.

Most ADA officers and NCOs appreciate the importance of doctrine and are familiar with FM 44-1, *U.S. Army Air Defense Artillery Employment*, and FM 44-100, *U.S. Army Air Defense Operations*, the branch's basic doctrinal "bibles." They understand why training is the Army's top priority, but few understand the training literature architecture. The integrated training programs that produce soldiers and units trained to a common standard is created and supported by training publications.

Today's training publications determine what we train and how we train, and set the standards to which we train. We know our training strategy works because we constantly test and evaluate training programs and observe, as during Operation Desert Storm, the results on the battlefield.

Training publications are practical, integrated and battle-focused descriptive documents designed to help officers and NCOs define training requirements. They provide the training specified by FM 25-100, *Training the Force*, and FM 25-101, *Battle Focused Training*. Training publications include the Army training and evaluation program (ARTEP), mission training plans (MTPs) and drill books, military qualifications standards (MQS) manuals, soldier training publications (STPs) and Standards in Training Commission (STRAC) publications.

The Army has two basic types of training literature: *collective* training publications and *individual* training publications. These publications are concerned with combat and survival critical tasks. Collective training publications are ARTEP MTPs and drill books. Individual training publications are MQS manuals for officers and STPs for enlisted soldiers.

Training literature is the result of a team effort that includes field unit trainer comments. Training activities and training literature are interrelated and interdependent. Each training publication is part of a chain that links missions with collective training and individual training tasks; for example, as the diagram below illustrates, the individual tasks indexed in STPs and drill books are linked directly to collective tasks and exercise matrices contained in the ARTEP MTPs.

While soldiers train from the bottom up; that is, they progress from individual to collective training, the training literature architecture, by necessity, is built from the top down. National military strategy, based on the geopolitical threat environment, determines the types of missions we prepare soldiers to accomplish. The feeder data used for the development of missions include organization; doctrine, threat and tactics, techniques and procedures (TTP).

An analysis of missions and organizations yields the collective tasks that units must perform to accomplish their missions and

also supports the development of ARTEP MTPs and drill books. A study of collective tasks produces the individual tasks that soldiers must master to perform as effective members of their units.

ARTEP MTPs are required for each type of battalion, battery and platoon that operates independently. They contain training and evaluation outlines (T&EOs) for each collective task the unit must perform to accomplish its mission. Each ARTEP MTP shows relationships between missions, exercises and collective tasks in matrix format, identifies the unit missions and provides suggested training outlines. At least one mission is detailed in the form of a field training exercise (FTX) along with supporting situational training exercises (STXs) or command post exercises (CPXs). These may be used to train the mission or may be modified per the unit mission-essential task list (METL). They may also be used as examples to develop other exercises.

T&EOs identify the element that performs the task, conditions under which the task should be performed and the standards

Units must focus training to support... combined arms operations and sustain individual and collective task skills by following guidance in appropriate training publications (i.e., Soldier Training Publication and Army Training Evaluation Program/Mission Training Plan).

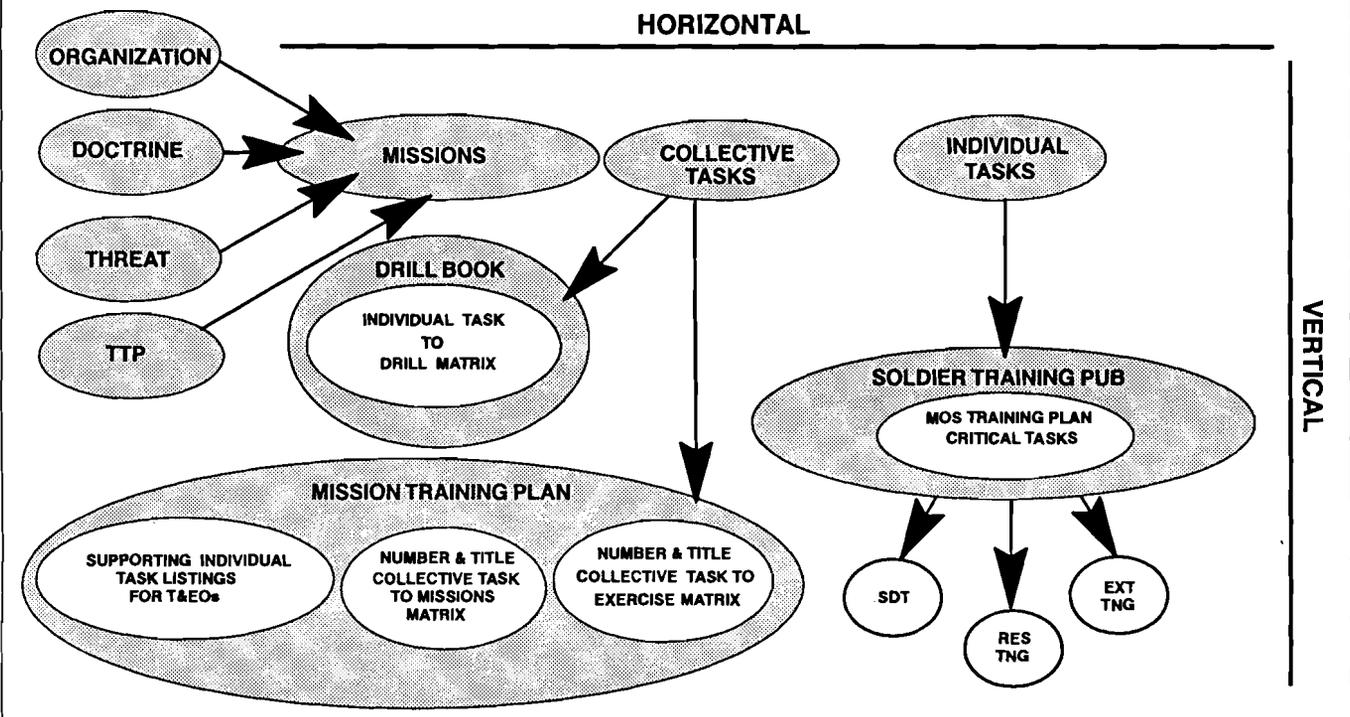
— U.S. Army  
Modernization Plan,  
Volume II, Annex E

Do essential things first. Each commander must determine wisely what is essential and assign responsibilities for accomplishment. The nonessentials should not take up time required for essentials.

— Gen. Bruce C. Clark,  
FM 25-101,  
Battle Focused Training

## BATTLE FOCUSED TRAINING PRODUCTS AND RELATIONSHIPS

The circled data within the product circles list some of the information contained in the publications that ensures the proper linkage between missions and collective and individual tasks. Note that individual tasks support the STP and derived from the STP are the SDT, resident training and extension training.





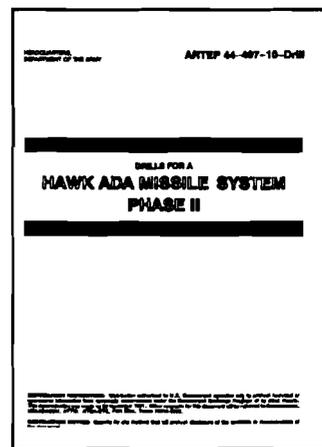
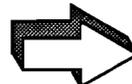
Skill requirements and training event matrices link individual training publications, the Military Qualification Standard, above, and the Soldier Training Publication, below, to collective training publications, the ARTEP Mission Training Plan and ARTEP Drill, at right.



to be achieved. They also detail the task steps and performance measures and identify all leader, individual and opposing force supporting tasks.

MTPs contain a detailed training evaluation guide, threat data, certification guidance and combined arms training strategy (CATS). They are used by trainers, evaluators and other leaders to plan, train and evaluate units (platoons through battalions).

Drill books are separate documents developed for squads and platoons or equivalent units. They provide a limited number of drills that are Department of the Army standard methods for executing selected collec-



tive tasks. Drill books identify the individual tasks supporting each drill. Each drill, in turn, reflects collective task objectives, standards and performance measures. Performance measures are the standardized, correlated actions required of each crew member. Trainers must ensure that crew members are trained to mastery on all individual tasks that support a drill before training them to perform the drill as a crew.

CATS is an appendix in battery and battalion MTPs. It is a descriptive resource document that offers a strategy for conducting gunnery, maneuver and individual training. Each CATS appendix contains maneuver and gunnery training strategy charts that list training events and show frequencies of performance for each echelon. The charts also show resources that support each event.

CATS uses the principles of FMs 25-100 and 25-101 and approved doctrine to inte-

grate unit and institutional training to train the total Army to operate effectively as a combined force. It is constrained by operating tempo; identifies critical gates and future training aids, devices, simulators and simulations; and will incorporate DA Pamphlet 350-38 (STRAC).

The STRAC manual provides weapons standards, training strategies and resource requirements. It details frequency of events (live fire, subcaliber usage and training devices), prescribes ammunition usage and outlines three different training readiness conditions for the Active Component and/or Reserve Component. The STRAC manual

also contains maneuver training strategy charts that list various events and training products available to help trainers conduct battle-focused training.

MQS manuals define officer tasks, which are separated by grade and position within each branch. They specify how to perform each task and are used by individual officers to prepare for conducting operations.

The Army publishes an STP for each military occupational specialty (MOS). Each STP describes the task, conditions, standards and performance measures for soldiers holding the MOS. The STP tasks determine which skills are taught in resident and non-resident training. MOS training plans in STPs identify which skill level performs the task, the collective task or drill that each individual task supports, training location and recommended sustainment training frequency.

## INDIVIDUAL TASKS



Trainers use STPs to plan, conduct and evaluate individual training. Soldiers use their STPs to review and sustain their individual task performance knowledge, prepare for their self-development tests and train-up for the next higher skill level.

Out of necessity, the trainer uses the “top down” process to plan and resource training; however, he uses the “bottom-up” process to execute training. Planners identify what is to be trained, the mission or missions, the supporting mission-essential tasks and the strategy to use (don’t forget CATS), then uses the MTP to identify which exercises train the mission. After identifying all tasks that support the mission to be trained, the planner must assess his organization’s training proficiency to determine which tasks are already well-trained and which tasks need refresher training. Long-range, short-range and near-term refresher training is then scheduled, resources are allocated, instructors and trainers are notified and prepared, and training is conducted accordingly.

The soldier is the key to decisive victory; his training is monumentally important. The U.S. Army demonstrates its determination

## COLLECTIVE TASKS



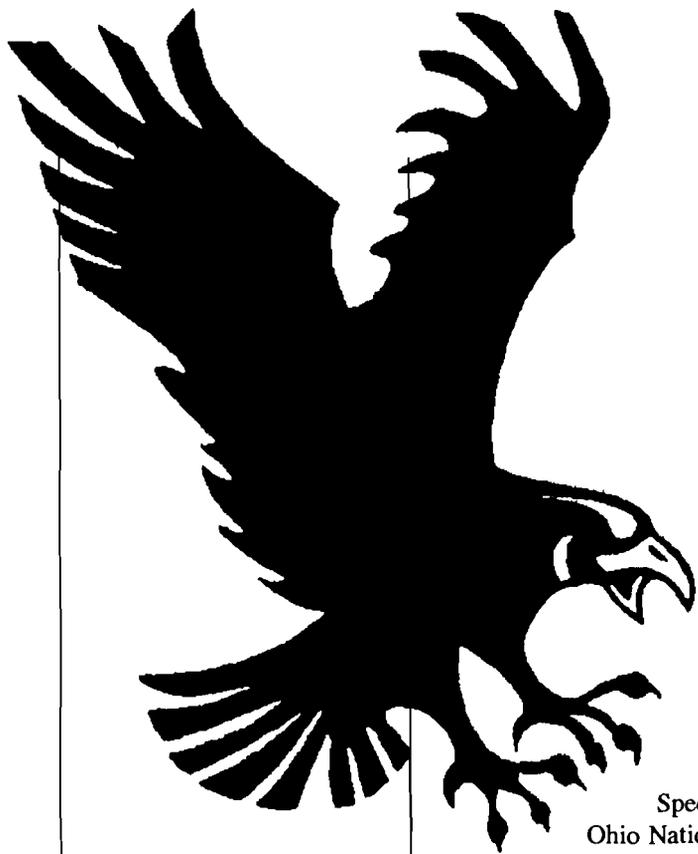
*The trainer uses the top-down process to plan and resource training, but the bottom-up (individual to collective) process to train.*

to never again send half-trained soldiers and units into battle by maintaining tough, realistic, battle-focused training as its highest priority. It is a shared responsibility. The U.S. Army Air Defense Artillery School conducts MOS qualification training while ADA units in the field conduct sustainment training to maintain individual and team skills. The guidance provided by ADA training literature ensures that our battle-focused air defense training will continue to support combined arms operations and sustain our soldiers’ individual and collective task skills.

**Jim Kelley**, a Department of the Army civilian, works as a training specialist at the U.S. Army Air Defense Artillery School, Fort Bliss, Texas.

The commander is not responsible for following an MTP verbatim. He is responsible for determining and pursuing a training program uniquely designed to prepare his own unit to meet successfully or surpass the training and evaluation standards set forth in his MTP(s).

— Lt. Gen. Arthur S. Collins Jr.  
U.S. Army (Ret),  
Common Sense Training



# Ohio's Hawk Team

by Hubert L. Koker

Spec. J. D. Biros of the Ohio National Guard's Public Affairs Office found his assignment to write an article about a Hawk battalion's close-knit relationship with a small Ohio town an easy task.

"Ask anyone in the small southeastern Ohio town of McConnellsville how to get to the Hawk's Nest and everyone knows the way," he reported in the January 1993 issue of *On Guard*. "Depending on which way you drive into town, you'll be instructed to hang a right, hang a left or just pass by the memorial statue in the middle of the town square.

"Then you'll come to a hill and you'll want to veer right. Take that road out until you come to a water tower that reads: McConnellsville - Home of the HAWK Battalion.

"Positioned on hilly terrain just outside downtown," he discovered, "lies the 2nd Battalion, 174th Air Defense Artillery, one of the newest additions to the Ohio Army National Guard."

The town square of McConnellsville, like those of thousands of small American towns, is adorned with monuments commemorating U.S. war veterans, but the Morgan County village is home to much more than memories of half-forgotten wars. Each weekend, hundreds of National Guardsmen drive to McConnellsville to train at a newly completed Hawk maintenance and training complex. The huge complex has made tiny

McConnellsville a big player in the nation's post-Cold War national defense strategy.

As a rule, both the Active Army and Army National Guard are shrinking across the board as the United States restructures its military forces to the new strategic and geopolitical environment. However, Air Defense Artillery is something of an exception to the rule. As the Active Army air defense segment shrinks, the Army National Guard air defense segment will grow until it makes up more than half of the Total Army air defense force.

It's no secret that across the board the Active Army is shrinking more and the Army National Guard is shrinking less than former Secretary of Defense Dick Cheney and Chairman of the Joint Chiefs of Staff Gen. Colin Powell, who publicly fretted about "unbalancing the force," would have liked. Senators and representatives are reluctant to shut down National Guard armories that breathe economic life into small towns within their districts. 2-174 ADA is a picture-perfect example of the symbiotic relationship that exists between small-town America and its National Guard armory. "Team Hawk enjoys a very special relationship with the citizens of McConnellsville and Morgan County," says CSM Stephen D. Paver Sr. "These people go all out to support us and we take every opportunity to assist in community activities."

When the Ohio Army National Guard reorganized in 1959, an air defense battalion activated and moved into armories in Southeastern Ohio. During this period the battal-

Strike up the band! Raise the flags, for it will be a gala event, indeed. Ohio Adjutant General Maj. Gen. Raymond R. Galloway is coming to McConnellsville on Sept. 22 to tour the future site of the Ohio Army National Guard's new Hawk missile battalion training site. Residents of McConnellsville are cleaning up their city, painting buildings and flying banners to give a cordial welcome to the adjutant general. Galloway will be paraded to the city's historic Opera House where he will address more than 500 community officials, veterans, businessmen and high school students about the reorganization of the modified Hawk battalion.

— Ohio Army National Guard  
press release

ion, equipped with Dusters, occupied armories in McConnellsville, Athens, Logan, Marietta, Caldwell, Cambridge, Stuebenville, Zanesville and New Lexington.

The old armories, some built more than 60 years ago, were small and cramped. Sometimes open areas or buildings adjacent to or nearby the armories were leased for space to train.

Another Ohio National Guard reorganization in 1988 established the 2nd Battalion (Hawk), 174th Air Defense Artillery. Hawk missiles replaced the 40mm Duster guns, but the unit, confined to its cramped armories, was still scattered across the southeastern part of the state. The need for larger armories and secure training areas became even more apparent.

Meanwhile, the whole concept of the U.S. Army National Guard was changing. 2-174 ADA's new, high-tech equipment required formal schooling and technically skilled soldiers. State National Guard officials decided it would be cheaper to consolidate and build a Hawk missile complex that would serve as a one-site training center for the whole battalion.

From the beginning, it was obvious that the complex promised a tremendous economic boom to the city selected as the building site. The new armory would accommodate 750 to 800 guardsmen. There would also be a training area and a maintenance shop to maintain trucks and trailers and provide maintenance to the command post. Within the complex, 375 of the people would be full-time National Guard members. The full-time annual payroll would be more than \$13 million, while the weekend and two-week training payroll would be more than \$1 million.

Other items that would positively impact on the local economy were expenditures for meals (full-time and weekend workers and trainees would not be fed at the site), lodging and full-time security, as well as janitorial and other support activities contracted locally. The location chosen would be the one that would best fit the needs of the battalion. Environmental impact testing and other studies were soon underway in the nine counties in which elements of 2-174 ADA were located.

The National Guard project coordinator and county officials in Morgan, Noble, Mus-

kingum, Guernsey, Jefferson, Perry, Hocking, Athens and Washington counties attended public meetings to discuss the proposed Hawk missile complex. Each of the counties was asked to submit a proposal not later than July 15, 1987, to the state adjutant general. The proposal was to include three main items: the availability of at least 200 acres of suitable land, which would be deeded to the state; the provision of utilities, such as natural gas, sewer and water lines, and electricity; and access to a two-lane highway, with airport and possibly rail facilities nearby.

Opportunity knocks just so often and the Hawk missile battalion armory site appeared to be a golden opportunity for the people of Morgan County and vicinity. Not only the Morgan County commissioners but many individuals, organizations and businesses went on record early as supporting the establishment of the Hawk missile complex in Morgan County. The proposed site would be located between State Routes 78 and 60 in Morgan Township adjacent to the village of McConnellsville. The land was owned by the Ohio Power Company, which had used it in the past to retrieve coal used to produce electrical power.

McConnellsville's population is approximately 4,000 while Morgan County's population is just over 14,000. The inhabitants felt that one thing in Morgan County's favor was its central location in the nine-county area.

On Aug. 6, 1987, Bob James, chairman of the Morgan County Commissioners, received a letter from Maj. Gen. Raymond Galloway, state adjutant general, informing him that, by the direction of Governor Richard F. Celeste, Morgan County had been selected as the site of the Ohio National Guard's new Hawk complex. The village of McConnellsville had been selected on a competitive basis to receive the largest National Guard installation in Ohio.

The letter read in part: "The selection for this site was not an easy one to make. Your overall presentation best meets our needs and will certainly satisfy the short- and long-range goals of the Ohio Army National Guard."

The announcement was the talk of the town and of other towns in and around Mor-

Not since the Morgan Raiders football team went 10-0 a few years back have we seen so much excitement generated in the county. And rightly so. Getting a new unit of the Ohio National Guard in our county, along with the boost in the area economy that the project promises to bring, is something to get excited about.

— *Morgan County Herald*

"Four years ago," Morgan County commission chairman Robert James said, "Morgan County's destiny was like the Muskingum River's: Everything flowed through it, but nothing ever stopped. But Tuesday, something did stop — long enough, at least, for a rain-soaked parade and a handful of tear-in-the-air patriotism celebrating what could be the county's passbook to a brighter economic future. Crammed into the McConnellsville Opera House, a dampened crowd listened to James and Ohio National Guard officials plug the coming of a Hawk missile training site that could pump millions of dollars a year into the local economy."

— *The Times Recorder*



McConnelsville is a big player in the nation's post-Cold War national defense strategy.

The demographic capabilities of the location, its topographic suitability to meet standards of the U.S. Army Missile Command, the cost of site acquisition and improvements and the effect on the readiness of other Guard units were the primary factors considered in selecting Morgan County.

— Ohio Governor  
Richard F. Celeste

gan County. The Associated Press picked up on the story; the announcement appeared in *USA Today* and was read by Morgan County citizens traveling abroad.

The Aug. 12, 1987, issue of the *Morgan County Herald* proclaimed in a six-column, 72-point, bold headline: "Morgan County gets HAWK!" An editorial in the *Herald* said in part: "We must work together to reach worthy goals. Certainly there will be differences of opinion about what those goals are, but the letter writing campaign by many individuals and groups and the cooperation of local units of government prove that we can come to realistic decisions that will benefit the county."

The differences referred to were a widespread belief and fear at first that the site would include nuclear material or at least high explosives. There were also people who feared the village of McConnelsville could not afford to provide the services. But, finally, they all came around and supported the local government in its choices.

On Sept. 22, 1987, Galloway visited McConnelsville, bringing the permanent orders designating Morgan County as the location of the new Hawk complex. After a parade and much pomp and ceremony, the adjutant general received a key to the city.

He in turn presented two sets of framed permanent orders designating Morgan County as the location of the new Hawk missile battalion. Galloway said, "Of the three sites left to select from, it became obvious that Morgan County was the best location. With the 500 acres available, it is going to be a boon to future development."

When the Morgan County Chamber of Commerce honored the Hawk missile battalion at its 35th annual banquet in November 1987 at McConnelsville, Capt. David Clark, operations and training officer with the 88th Ohio National Guard Battalion in Athens, was the guest speaker. Clark said, "Now that Governor Celeste has made the site selection, we are pounding on congressional doors for funding to build

the facility. The future of the Hawk facility depends on that money. I am pleading for your help."

In May 1988, an Associated Press story concerning funding for military projects mentioned that funding for the Hawk missile battalion was not approved by the Senate Armed Services Committee. The article caused concern to Morgan County residents and spurred another letter writing campaign.

Congressman Clarence Miller and Senator John H. Glenn worked hard to get funding approved. Finally, at the end of June 1988, the Department of Defense Authorization Conference reconciled their differences, and all three components of the new Hawk missile training battalion base at McConnelsville were approved.

Funding included \$4.7 million for an armory, \$1.2 million for a maintenance shop/support facility and \$914,000 for a training site. State Representative Tom Johnson and State Senator Robert Ney announced in March 1989 that \$256,795 in state funds were allocated to design and plan the new buildings at the battalion site.

The McConnelsville Village Council was notified in August 1989 that they had received 100 percent grant funding for the water and sewer project. Kim Shields, a consul-

tant hired by the village to seek grant funds, was credited with much of the work in getting the grant funding. "To get 100 percent grant funding is almost unheard of," Shields said. "But the Appalachian Regional Commission will fund the entire \$1,128,000."

Everything was coming together. Funds were committed for building design, construction and city services. All that remained was to get the land transferred and incorporate it into the village.

Morgan County commissioners granted the petition for annexation of the site, and in January 1988, the McConnelsville Village Council adopted Emergency Ordinance 88-5 to accept the annexation of the 470.6-acre site into the corporation limits of McConnelsville. The annexation doubled the size of the village.

Monday, March 27, 1989, was the date set for the Hawk missile site land transfer. At a ceremony at the Opera House, Ohio Power Company agreed to donate 476 acres of land to the Morgan County commissioners, who in turn presented the deed for the property to the United States of America.

Maj. Gen. Richard C. Alexander, an ADA officer who is presently the Ohio adjutant general, came to McConnelsville in September 1989 to sign legal documents pertaining to the Hawk land transfer. The adjutant general signed a 25-year lease for the land.

The pre-construction meeting for the organizational maintenance shop and training site for the Hawk was held in November 1989 with a one-year completion time. Prime contractors were all in attendance, as were representatives of the Ohio National Guard and Burgess & Niple, architects and engineers for the project. Work was reported to be progressing on the road network and the rest of the actual site preparation where the equipment would be located.

David J. Baker, state development director, came to McConnelsville in May 1990 and got an up-close look at the progress being made on the Hawk missile battalion site. Maj. Tom Grandstaff, Hawk battalion executive officer, told the group on the tour that three training support buildings were already under roof at the three battery locations. One of the training support buildings would house classrooms, a communications center, latrines and offices until the armory

was built. The radar would be located in front of the building on the hillside.

The foundation was laid on June 25, 1990, for the direct support unit/organizational maintenance shop, the second largest building (next to the armory) on the site.

The McConnelsville Village Council took a giant leap toward providing utilities to the new Hawk missile battalion June 19, 1990, when they signed contracts with three different firms to lay the water distribution line, construct the water tank and provide water and a sewage system for the site.

While Morgan County, the Village of McConnelsville and State National Guard officials were working hard to make the Hawk missile complex a reality, 2-174 ADA was also hard at work planning for the move.

The old Duster battalion batteries were reorganized from four firing batteries and a headquarters to three Hawk firing batteries, a headquarters and headquarters battery, and the 997th Ordnance Company.

At the time of the reorganization, many military occupational specialties (MOSs) were deleted and replaced. Since the changeover, there has been an almost constant rotation of people coming home from and going to military schools to become qualified in their new MOSs. Approximately 250 students trained in their MOS at Cambridge during 1990 and 1991. Some soldiers transferred to other units, others joined and, for the first time, women were enlisted or assigned to the battalion.

By June 25, 1990, 500 people were with the Hawk battalion, both full-time and part-time. Twelve people worked out of the McConnelsville office, and the others were either in Cambridge or in school. At the same time the old Duster equipment had to be turned in to depot and the Hawk equipment drawn.

While construction on the training site and maintenance shop building progressed, battalion personnel began fielding the equipment packages at a temporary site in Cambridge. Equipment fielding began in May 1990 with the 997th Ordnance Company DS/GS (direct support/general support), and was completed in August 1990.

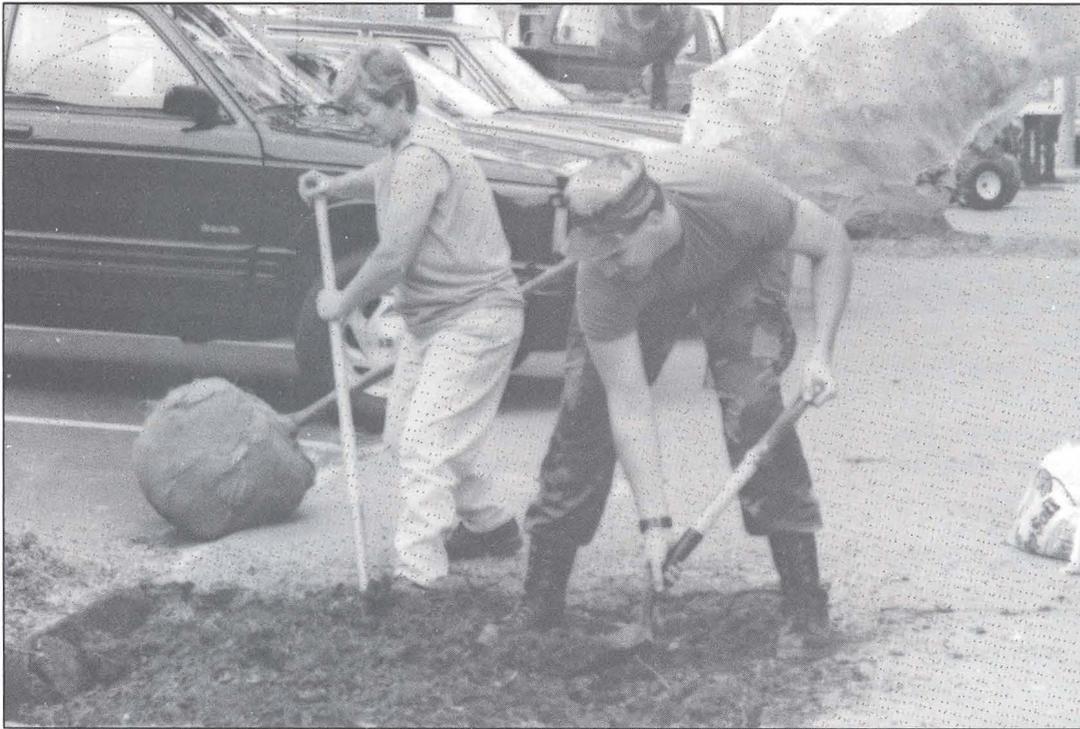
Nature does not wait and went about its sometimes destructive route whether the Hawk site was finished or not. About 100

Morgan County has always taken pride in its feistiness. Its staunchness in the face of big odds. The high school mascot, the Morgan Raider, is named after the scrappy Confederate general who captured almost four times the number of his own forces. And today, after lobbing a winning salvo against seven percent unemployment, the county seat is being draped with signs proclaiming it the new home of the Hawk missile.

— *The Times Recorder*

The current 174th Air Defense Artillery battalion will be changed to the high technology Hawk battalion, with an authorized strength of 755 personnel, of which approximately 375 positions will be full time. The combined annual salaries of all full- and part-time members will be an estimated \$14.3 million. A training site will be constructed at an estimated cost of \$7.2 million.

— *Ohio Army National Guard press release*



Citizens and soldiers alike work to prepare one of the training sites for new shade trees.

Regardless of what the governor said, there was another factor and that was the letter writing effort. The citizens and business leaders wrote the adjutant general's office and asked them to look favorably on this county. It was a unified effort on our part. Some other countries sent negative letters saying they didn't want it in their area, but they didn't get one negative letter from us.

—Sara Hurst,  
The Time's Recorder

people from the Hawk battalion went to Shadyside, Ohio, for nine days in June 1990 when the battalion was mobilized as a reaction force to the floods that tore through Wegee and Pike Creeks. National Guardsmen provided search crews, communications teams and logistical support.

The dedication of the new Hawk missile battalion training site in McConnelville coincided with the 30-year reunion of the 183rd DS Hawk Detachment held in Zanesville in October 1990. The 183rd DS Hawk was the first Hawk unit deployed overseas. It arrived in Germany in August of 1960. Public displays and demonstrations of Hawk equipment used by 2-174 ADA was held.

In February 1991, the three firing batteries moved to the completed training site. During March 1991, the 997th Ordnance Company occupied their new shop building on the training site, and the following month, the organizational maintenance shop's 18 personnel occupied their end of the maintenance facility.

In June 1991, the battalion and the ordnance company conducted their two-week annual training at their new home. In addition to normal crew training, 100 soldiers

completed MOS exportable package schools during this two-week period.

Site improvement continued on a monthly basis. Unit members have constructed land navigation courses and a hand grenade course. Army National Guard engineers from Ohio built additional military parking areas during their two-week annual training in 1991 and 1992.

Training continues at a fast pace. Twice training teams from the U.S. Army Air Defense Artillery School at

Fort Bliss, Texas, came to assist 2-174 ADA.

In June 1992 2-174 ADA was designated as a contingency force unit (CFU) under the new military force structure. It is the only battalion-size element in the Ohio National Guard so designated and one of only two Hawk battalions in the entire Reserve Forces designated as a CFU.

CFUs have a higher priority on equipment and support that they would otherwise not receive. However, with CFU status comes the requirement for 100 percent strength.

"The Active Army is turning a very large slice of the air defense mission over to the Army National Guard," said Maj. Gen. John H. Little, chief of Air Defense Artillery. "Knowing that units like 2-174 ADA, which has established a reputation for strong training, good maintenance, unit esprit and community support, are taking up the slack helps me sleep better at night. These soldiers from America's heartland are a deeply appreciated addition to the 'First to Fire' branch."

**Hubert L. Koker** is a member of the ADA magazine editorial staff.

# Army Airspace Command and Control

*Can we design an A<sup>2</sup>C<sup>2</sup> system that provides significant enhancement of friendly crew and aircraft survivability while preserving the lethality of weapons systems against enemy air assets?*

by Capt. Hector R. Valle



The adage, "If it ain't broke, don't fix it," is generally sound advice, but our Army airspace command and control (A<sup>2</sup>C<sup>2</sup>) system is broken and needs fixing. The alternatives are ground-to-air fratricide rates so high that Army Aviation and the U.S. Air Force will probably begin placing friendly ADA units on their target lists, or rules of engagement so restrictive as to make it unlikely ADA units will be allowed to shoot at anything other than incoming tactical ballistic missiles.

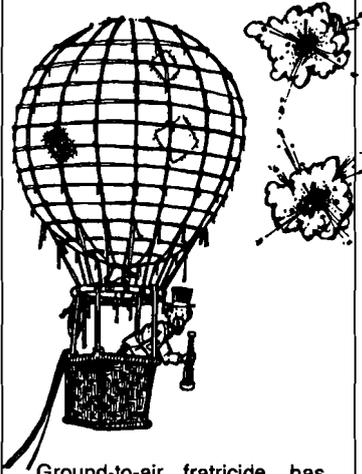
Historically, Air Defense Artillery has exercised principal staff responsibility for airspace management at divisional level.

Today, the division has elevated airspace management to the ground maneuver commander, his staff and supporting tactical air, Army aviation, field artillery and air defense elements at all levels.

Present A<sup>2</sup>C<sup>2</sup> doctrine is designed to accomplish three things: **coordination** to achieve effective, efficient and flexible use of airspace; **integration** to consolidate and focus airspace requirements toward a common objective; and **regulation** to supervise activities over the division's airspace to prevent real-time conflicts among the various airspace users while allowing for enough flexibility to ensure combat effectiveness.

"First to Fire," the ADA motto, was adapted in part because of the ground-to-air fratricide problem. For years, the unofficial motto of Air Defense Artillery — "If it flies, it dies!" — adorned T-shirts and often appeared in print alongside the branch's unofficial mascot, the hapless Oozlefinch. Although the U.S. Air Force never lodged an official complaint, airmen let it be known they thought the slogan reflected a calloused or cavalier attitude toward the ground-to-air fratricide problem. In 1986, Maj. Gen. Donald R. Infante, the chief of Air Defense Artillery, organized a contest to select an official branch motto. "First to Fire" thus became the ADA slogan during the 1986 ADA Commanders Conference.

A night drop of the 504th Airborne Regiment, 82nd Airborne Division, suddenly turned into catastrophe when a friendly machine gunner opened fire on the second wave of low-flying aircraft. Suddenly, every allied gunner in the area opened fire at the group of aircraft, shooting down 23 planes, badly damaging 37 more and causing 225 friendly casualties.



Ground-to-air fratricide has been a problem since the earliest days of aviation. During the American Civil War, Union riflemen fired on a Federal observation balloon as it inadvertently drifted over friendly lines.

The operational strategy for air defense employment and the increasing complexity of target acquisition, air-breathing and ballistic missile threats, coupled with low-observable technologies, emphasize the need for a decentralized C<sup>3</sup>I architecture.

— United States Army  
Modernization Plan,  
Annex E, Air Defense

A<sup>2</sup>C<sup>2</sup> planning at divisional and subordinate levels is supposed to be thorough and accomplish all of the above as part of the normal decision process.

So what's wrong with A<sup>2</sup>C<sup>2</sup> doctrine? We need to continually update and refine A<sup>2</sup>C<sup>2</sup> to synchronize it with emerging AirLand Operations doctrine, but the basic problem isn't doctrine. The doctrine should work, but doesn't, and the primary reason it doesn't work is that we don't make it work.

The breakdown begins with coordination. A 1985 U.S. Army Training and Doctrine Command (TRADOC) study rated coordination of A<sup>2</sup>C<sup>2</sup> between echelons unacceptable in most cases. The study backs up my own observations. I have seen a lack, if not a total absence, of coordination between the separate elements of the divisional and brigade A<sup>2</sup>C<sup>2</sup> component. The leaders in each A<sup>2</sup>C<sup>2</sup> element didn't want to be there to begin with and, most of the time, were unwilling to share information with each other. Apathy affected the integration process throughout the divisional A<sup>2</sup>C<sup>2</sup> structure. As an example, aviators usually did not care to provide information to associated A<sup>2</sup>C<sup>2</sup> slices, making air corridor planning and friendly air data dissemination extremely difficult, if not impossible, for the Air Defense Artillery and Field Artillery slices. The Air Force liaison officer (LNO) was no exception either. Whenever the Air Force LNO was actually present, he or she seldom volunteered information, responding only to repeated requests for information that was usually provided too late for planning purposes.

Each slice's leadership seemed to suffer from the common malady of overblown branch pride. People seemed to forget they were supposed to make A<sup>2</sup>C<sup>2</sup> work for the benefit of the combined force. We do not need the "damned duck hunters" and the "stupid prop heads" attitudes that are so prevalent at this level today, but rather a combined arms attitude from the team players assigned to the A<sup>2</sup>C<sup>2</sup> element.

Regulation of A<sup>2</sup>C<sup>2</sup> is almost nonexistent at divisional level. I rarely observe commanders at the division and brigade levels actually take an active role in the "supervision of activities over the division's airspace" as the doctrine clearly implies. It ap-

pears to me as if the commanders limit the extent of their supervision to receiving a briefing from the divisional ADA and aviation LNOs, and that commanders seldom understand the information presented. A<sup>2</sup>C<sup>2</sup> does not enjoy the widespread support of commanders when it comes to training priority.

Finally, I noticed in the area of communications that the A<sup>2</sup>C<sup>2</sup> elements did not have redundant means to talk expediently with units in the field. The ADA slice of the A<sup>2</sup>C<sup>2</sup> is usually restricted to receiving and providing early warning for the division. There is no communication capability between branches either. For example, an AH-64 Apache pilot in distress could not communicate, doctrinally, with the ADA Stinger platoon in his sector to let them know he was coming back through, and that he had enemy air on his tail. This is certainly a hypothetical example, but one that is not without merit. Constant coordination vertically and horizontally calls for a communications system that simplifies a variety of needs.

The doctrine for A<sup>2</sup>C<sup>2</sup> was developed in the past decade as incidents during the '70s indicated that there was a need for such ideas. Not to imply that the current A<sup>2</sup>C<sup>2</sup> doctrine is absolutely inadequate because it is based on an obsolete era of aging principles and equipment, but we must emphasize the requirements of A<sup>2</sup>C<sup>2</sup> doctrine development for the '90s. Future conflicts will definitely demonstrate how efficiently we have applied the lessons learned in airspace management as a true element of modern AirLand Operations. TRADOC Pam 525-5 points out that "we must continue to evolve the underlying concepts that define how our Army will operate." This pamphlet also proposes the employment of Army forces always in conjunction with other forces and services in the future, adding even more complexity to the A<sup>2</sup>C<sup>2</sup> equation.

### What if A<sup>2</sup>C<sup>2</sup> is Broken?

During prospective AirLand Operations the joint battle area will present the greatest challenge for Air Defense Artillery as U.S. Army, Air Force and allied forces air assets overlap within the spectrum of air operations. Added to the modern battlefield are

the ideas of the nonlinear battlefield and the extended role of naval aviation's support of ground forces. How will the Air Defense Artillery of the future adapt to such changes? What will happen to the A<sup>2</sup>C<sup>2</sup> doctrine of the future to synchronize the forces at work and keep them from striking the wrong target? Can we design an A<sup>2</sup>C<sup>2</sup> system that provides significant enhancement of friendly crew and aircraft survivability while preserving the lethality of weapons systems against the enemy air assets?

The answers to the above questions rest in the analysis of current inadequacies in the A<sup>2</sup>C<sup>2</sup> system and examination of the suggestions for their improvement. The A<sup>2</sup>C<sup>2</sup> system can be dissected and viewed through five problem areas of adequacy: personnel, training, doctrine, equipment and leadership.

Operations at corps level provide an initial look at the tactical application of the A<sup>2</sup>C<sup>2</sup> system. The corps receives the airspace control plan from higher headquarters, and from it distills routine updates as airspace control orders, which flow down to battalion level or below. How the airspace control order is implemented at division level and below holds utmost relevance to the five problem areas of the A<sup>2</sup>C<sup>2</sup> adequacy formula.

### **A<sup>2</sup>C<sup>2</sup> Functions in Need of Acculturation**

In terms of personnel, the division G-3 air officers present a significant problem area. While modified tables of organization and equipment authorize sufficient A<sup>2</sup>C<sup>2</sup> personnel, the number actually assigned is usually insufficient. A shortage of aviation personnel and LNOs from the Air Force, Air Defense Artillery and Field Artillery hamper the A<sup>2</sup>C<sup>2</sup> element's ability to operate continuously. I observed that subordinate commanders are reluctant to assign and designate personnel to fill A<sup>2</sup>C<sup>2</sup> positions because they perceive them as unimportant. Liaison personnel routinely were absent from their positions, justifying their absences with more critical tasks elsewhere.

When the secretaries call in sick, business executives simply dial a temporary service. "Temporaries" may fit in fine in the business world, but would they fit in fine in combat?

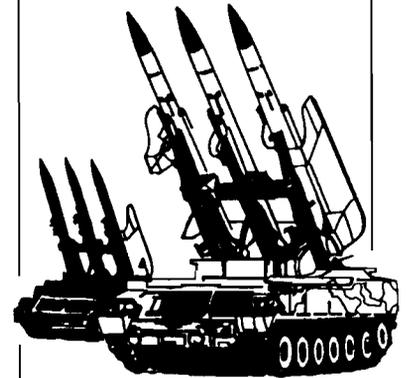
We had better hope so, because A<sup>2</sup>C<sup>2</sup> slices are manned by temporaries. The difference is that temporary secretaries usually know how to type, but temporaries assigned to A<sup>2</sup>C<sup>2</sup> slices usually know next to nothing about airspace management.

Personnel should be assigned to A<sup>2</sup>C<sup>2</sup> positions for a specified minimum length of time and special schooling or experience should be a requisite for the A<sup>2</sup>C<sup>2</sup> crew. Massive turnover should be avoided as should be the current practice of finding a "filler" for the corresponding A<sup>2</sup>C<sup>2</sup> slice just for the time that a soldier or officer is waiting to PCS or attend some nonrelated schooling. This tendency of short-term assignments in the A<sup>2</sup>C<sup>2</sup> affects the ability of the cell to work as a team and to circulate timely and accurate information.

Training, or rather its lack, is a major A<sup>2</sup>C<sup>2</sup> system problem. Most officers never attend a specialized course in A<sup>2</sup>C<sup>2</sup> and cannot do the job when they report for A<sup>2</sup>C<sup>2</sup> at divisional level. While "on-the-job" training may eventually provide the necessary skills, the Air Force Air-Ground Operations School offers a better option. This school offers the A<sup>2</sup>C<sup>2</sup> community several courses that qualify officers to operate an A<sup>2</sup>C<sup>2</sup> element at various levels. Some TRADOC schools now offer specialized training and instruction in A<sup>2</sup>C<sup>2</sup>. The ADA Officer Advanced Course also offers a strong foundation on A<sup>2</sup>C<sup>2</sup>.

After attending one of these courses, an officer could train his or her school-acquired skills to subordinates by using a formalized "on-the-job training" approach. Another challenge in this area is the conduct of realistic collective training by the users of A<sup>2</sup>C<sup>2</sup>. Correcting this shortcoming will require new thinking from all the players involved. Training at all levels on a routine basis could help educate all the players on A<sup>2</sup>C<sup>2</sup> doctrine and implementation.

In the area of doctrine, most of the current precepts seem about right. A new and expanded FM 100-103 (or '90s equivalent) would be nice since our doctrinal priorities are being restructured to cope with new and evolving threats. New doctrine needs to provide direction for the lower levels of A<sup>2</sup>C<sup>2</sup>, such as the brigade and battalion levels, where the greatest doctrinal voids exist. The



During the 1973 Arab-Israeli War, Arab gunners shot down 139 aircraft. However, 59 were their own.

The dynamic nature of the battlefield requires forces to engage the right targets at the right times and places on the battlefield, and to capitalize on the beyond-visual-range capabilities of today's weapon systems. Positive identification — to prevent fratricide — is a major mission area need for Air Defense Artillery, Close Combat and Aviation. Non-cooperative target recognition (NCTR) devices are to be employed on some air defense weapons. Near- and mid-term development efforts focus on: improving detection and positive identification performance of NCTR systems developed for Avenger and the ground-based sensor, expanding NCTR capabilities to other air defense weapon systems, and exploiting the inherent passive target acquisition capabilities of NCTR systems.

— United States Army  
Modernization Plan,  
Annex E, Air Defense

Traditionally, the U.S. Army has failed to recognize the importance of liaison as evidenced by the assignment of liaison officers with little regard for military ability and personality traits; neglect of liaison training; and a general failure to appreciate the functions and values of liaisons.

— *Combined Operations in Peace and War*, 1982

During one phase of the Iran-Iraq war, Iranians shot down 80 aircraft, 52 of which turned out to be their own. The Iraqis fared better because they painted large Iraqi flags on the sides of their helicopters to distinguish them from the enemy's.

essence of doctrinal change is tailoring it to focus on the close battle. Simple, standardized terminology with an aggressive training program emphasizing various operational levels would enhance the current system.

The fourth area in need of improvement is equipment. We need to develop an automated communications system to provide a suitable means of command and control of the battle's third dimension. The A<sup>2</sup>C<sup>2</sup> element should be able to communicate via redundant methods with units and aircraft in the field. This hypothesis generates controversy among commanders and staff at various levels. Dissenters say this would bypass the chain of command and weaken command and control. A counterpoint to this view is the premise that most fratricide incidents occur as action in the battlefield intensifies while direct command and control degrades. Redundant A<sup>2</sup>C<sup>2</sup> communications means would assure C<sup>2</sup> of airspace in the absence of the primary C<sup>2</sup> nodes.

This postulate provides a good argument for redundant command and control systems to allow real-time airspace users informa-

tion to and from ground combatants via A<sup>2</sup>C<sup>2</sup>. A good communications network for the A<sup>2</sup>C<sup>2</sup> system should provide long-range compatibility with all Army branches, brother services and allies involved in a particular operation. It also should allow communication with aircraft at distances within the area of interest and beyond. Aircraft should be able to communicate not only with forward air controllers, but also with air defense, fire support and command and control centers in the field.

Finally, and most importantly, is the role that leadership plays in the overall A<sup>2</sup>C<sup>2</sup> equation. Leaders at various levels seem to have less confidence in the A<sup>2</sup>C<sup>2</sup> system than their staffs. Commanders cannot expect the system to work if they do not provide the necessary support to make it work. Awareness must be raised at all levels through education and emphasis. Due in great part to confusion or ignorance, the A<sup>2</sup>C<sup>2</sup> system merits more support by commanders. A<sup>2</sup>C<sup>2</sup> positions are usually regarded as "obscure," so leaders place less interest in A<sup>2</sup>C<sup>2</sup> leadership than in more traditional leadership roles

---

# If It's Broke, Fix It!

*FAAD C<sup>3</sup>I's link to automated airspace command and control system will increase ADA lethality and reduce fratricide*

by Fred Lugo

Effective, timely and coordinated Army airspace command and control (A<sup>2</sup>C<sup>2</sup>) is a tough problem. As Capt. Hector Valle indicates in the preceding article, the solution lies not in one domain, but in the multiple domains of doctrine, training, leadership, organization and materiel. As the Army wrestles with drastic downsizing, increasing its reliance on Army Reserve and Army National Guard units and restructuring its divisions, Air Defense Artillery is confronted with target sets that include tactical ballistic missiles, cruise missiles, unmanned aerial

vehicles, remotely piloted vehicles and rotary- as well as fixed-wing aircraft.

Amid these difficult challenges, Air Defense Artillery is about to embark on a new era in command and control with the fielding of the forward area air defense (FAAD) command, control, communications and intelligence (C<sup>3</sup>I) system. The Army hopes to begin fielding FAAD C<sup>3</sup>I to light and special divisions (101st Airborne [Air Assault], 82nd Airborne and 7th Infantry) late this year. FAAD C<sup>3</sup>I fielding to heavy divisions will commence in FY95.

such as troop command or primary staff work. We could enhance our operational effectiveness through producing motivated, knowledgeable and trained leadership. A<sup>2</sup>C<sup>2</sup> officers need to place aside their negative attitudes and make the flow of information on who is flying — and where — their foremost priority. Assistant division ADA officers can contribute significantly to offensive counterair and suppression of enemy air defense missions if they are properly schooled and actively involved.

### Conclusions

We need to upgrade and integrate the A<sup>2</sup>C<sup>2</sup> system into future AirLand Operations to avoid repeating past mistakes. The future air defense environment will become increasingly complex as new technology emerges. The evolution of the threat and our own doctrine calls for revision of our A<sup>2</sup>C<sup>2</sup> doctrine and practice. We must identify and correct deficiencies to ensure future A<sup>2</sup>C<sup>2</sup> elements are prepared to meet the demands of the future. Changes should concentrate on personnel, training, doctrine, equipment and

leadership. Training, equipment and leadership should receive much attention, respectively, while doctrine and personnel, presently somewhat adequate, must concentrate on providing elasticity for future demands. Proper schooling of assigned personnel, better equipment for communicating and coordinating the airspace activities, and better attitudes from the leadership toward A<sup>2</sup>C<sup>2</sup> should narrow the gap between theory and practice. Closing this span between doctrine and implementation will permit us to accomplish our primary mission of protecting the force while inflicting as much damage as possible on our opponent.

Common sense orchestration of airspace users with the ground maneuver forces will allow them to conduct their assigned missions within a safer environment without hindering the application of combat power against enemy forces.

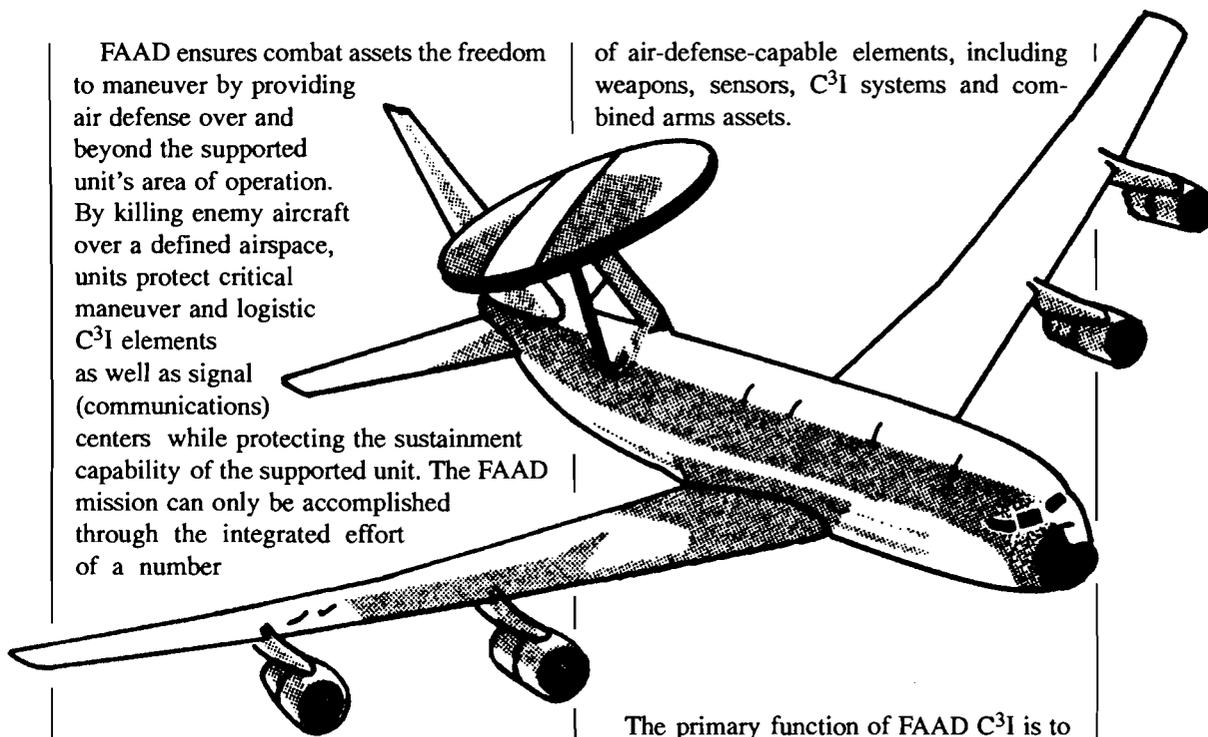
Capt. Hector R. Valle wrote this article while enrolled in the ADA Officer Advanced Course.

Liaison officers are often assigned from excess officers or NCOs having no specific other duties. Many of these personnel, therefore, see their role as acting as nothing more than glorified messengers, because they have not been impressed with the value of the assignment. This lack of enthusiasm is furthered by the receiving headquarters' reception of liaison officers. This reception can best be described as indifferent.

— *Combined Operations in Peace and War, 1982*

FAAD ensures combat assets the freedom to maneuver by providing air defense over and beyond the supported unit's area of operation. By killing enemy aircraft over a defined airspace, units protect critical maneuver and logistic C<sup>3</sup>I elements as well as signal (communications) centers while protecting the sustainment capability of the supported unit. The FAAD mission can only be accomplished through the integrated effort of a number

of air-defense-capable elements, including weapons, sensors, C<sup>3</sup>I systems and combined arms assets.



The primary function of FAAD C<sup>3</sup>I is to provide real-time data. This permits our units to engage the air threat at the maximum



The FAAD C<sup>3</sup>I system will be the first of the Army Tactical Command and Control Systems (ATCCS) to receive a "green light" to field the Army units.

— *Maj. Dennis Pate,*  
*Army Testing and*  
*Experimentation Command*

effective range of their weapon systems while concurrently avoiding fratricidal engagement of assets. FAAD C<sup>3</sup>I rapidly disseminates early warning information, weapons control orders, airspace control measures and real-time air picture data. This information permits effective alerting and provides prioritized data (specific and timely positional data with tentative identification of aircraft within a designated range) to the fire units.

A secondary, but equally important, mission of FAAD C<sup>3</sup>I is to provide interoperability of the FAAD battalion command and control elements with other U.S. and allied forward area air defense organizational elements, higher echelon ADA units (i.e., high-to medium-altitude air defense units) and corps FAAD elements while also providing a link between the battlefield functional areas (air defense, maneuver, combat service support, fire support and intelligence/electronic warfare) and joint Air Force, Navy and Marine Corps elements operating in the divisional area. It is within this interoperability area that Air Defense Artillery hopes to use FAAD C<sup>3</sup>I to alleviate the A<sup>2</sup>C<sup>2</sup> problem.

The C<sup>3</sup>I system will provide a real-time air picture over the division area to the G-3 air cell located at the division tactical operations center. The FAAD A<sup>2</sup>C<sup>2</sup> liaison officer (LNO) will use this air picture to alert the division commander, division staff and Air Force, Army Aviation and Field Artillery LNOs to the presence of hostile or friendly aircraft within the division's airspace.

The necessary coordination between the division staff and LNOs will be accomplished via the maneuver control system (MCS). The MCS will automatically exchange information between the five battlefield functional areas, ensuring battlefield coordination by disseminating battlefield geometries and airspace management information throughout the division.

Army Aviation, for example, will automatically relay information (such as flight corridors, forward area refueling points and friendly origins) via the MCS to FAAD C<sup>3</sup>I for incorporation into the procedural identification algorithms used to determine friendly or hostile identification. The FAAD C<sup>3</sup>I system will automatically transmit air

strike warning information to all battlefield functional areas via the MCS.

FAAD C<sup>3</sup>I will receive long-range early warning from Air Force airborne warning and control system aircraft. This information will be correlated with C<sup>3</sup>I ground-based sensor information and disseminated to FAAD fire units to prevent them from firing at friendly aircraft and to guide them in the engagement of hostile aircraft.

The Air Force is also automating its methodology for preparing and disseminating air tasking orders, air mission tasking, airspace control orders and related airspace management information. The Army Joint Staff J-6 recently designated the Air Force Contingency Tactical Air Control System Automated Planning System (CTAPS) as the joint standard for airspace management and directed all components to be able to prepare and disseminate air control orders and air tasking orders in a timely manner.

A user interface requirement (UIR) will define the interface between CTAPS and MCS and allow the automatic dissemination of airspace management information. U.S. Army Air Defense Artillery School experts are reviewing the UIR to make sure that pertinent Air Force information, such as low-level transit routes, airfield locations/information, weapons control orders and air defense warnings, will be available for dissemination through FAAD C<sup>3</sup>I.

A "swivel chair" interface between MCS and FAAD C<sup>3</sup>I will be available late this year. The automated interface will replace the interim interface in FY95.

Although FAAD C<sup>3</sup>I is not intended to solve all A<sup>2</sup>C<sup>2</sup> problems and shortcomings, it will replace the time-consuming, error-prone method of preparing and disseminating A<sup>2</sup>C<sup>2</sup> we employ today. Air Defense Artillery School experts truly believe that FAAD C<sup>3</sup>I will go a long way toward reducing fratricide and allowing joint usage of the division airspace in a manner that improves, rather than hinders, joint force effectiveness.

**Fred Lugo** is the chief of Software Implementation Branch, Command and Control, Computers and Software Division, Directorate of Combat Developments, U.S. Army Air Defense Artillery School, Fort Bliss, Texas.

# ADA Summit

## *American and Russian air defense chiefs talk shop*

*by Col. Jeffrey Gault*

Not long ago, they would have called it treason. Maj. Gen. John H. Little, chief of U.S. Army Air Defense Artillery, recently briefed General-Colonel Boris Dukhov, commander of the Russian Federation Ground Forces Air Defense Artillery, on the "First to Fire" branch's roles and missions, its modernization plan and its strategy for future battlefields. Then, in a lengthy conversation between "professional soldiers," the two leaders discussed the intricacies of Hawk-Patriot task force integration and air defense command and control architecture.

The unprecedented exchange occurred when Gen. Gordon R. Sullivan, U.S. Army chief of staff, hosted a visit by a delegation of senior leaders of the Ground Forces of the Russian Federation. Russian delegates, besides Dukhov, were General-Colonel Vladimir M. Semenov, commander in chief of the Ground Forces Russian Federation, and General-Colonel Sergev A. Mayev, deputy commander in chief for Armaments, Russian Ground Forces. Each delegate met with their U.S. Army counterpart.

The trip began with the Russian visitors flying from eastern Russia to Anchorage, Alaska, where they were met by Sullivan and visited the troops and facilities of the 6th Infantry Division at Fort Richardson. The next stop was the National Training Center at Fort Irwin, Calif., to observe a rotation, tour the training facilities and inspect the instrumentation used to record the results of

player unit battles with the opposing force. Units from the 2d Armored Division, including air defenders from 2d Battalion, 5th ADA, Fort Hood, Texas, and the Stinger platoon of the 3d Armored Cavalry Regiment, Fort Bliss, Texas, were on rotation.

A critical part of the mock battle was the success of the Vulcans and Stingers against the visually modified Hind attack helicopters during the brigade attack phase.

The next stop was Fort Riley, Kan., where the Russian visitors inspected U.S. equipment and visited with troops. Dukhov sat in the tub of a Vulcan, tracked targets and talked with soldiers of the 2d Battalion, 3rd ADA, 1st Infantry Division.

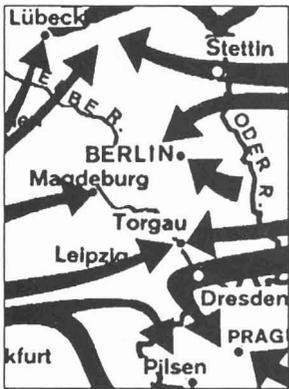
Prior to their final stop at Department of the Army Headquarters in the Pentagon, the delegates visited the Combined Arms Center at Fort Leavenworth, Kan., for in-depth discussions on training and doctrine, a tour of the Command and General Staff College (CGSC) and meetings with faculty, students and local Leavenworth officials. As part of the CGSC visit, Semenov (Russian equivalent to the U.S. Army chief of staff) and the

Like their Soviet predecessors, Russian military scientists view Operation Desert Storm as the paradigm of future war in strategy, operational art and tactics. For example, General-Major I.N. Vorob'yev recently summarized the central lessons of Desert Storm. He began with a statement unprecedented for both the Soviet and Russian press: the Iraqis lost the Gulf War because they fought with Soviet doctrine and Soviet weaponry. Indeed the thrust of his article is a call for "new military thinking" on the part of "our generals and officers" who are still locked into the "inertia thinking" of the World War II generation.

— Mary G. Fitzgerald,  
Military Intelligence



Little briefs Dukhov on the U.S. Army's perspective of global events and threat situations that have evolved in recent years.



1945

Encountering dispirited German soldiers, jubilant American and Allied prisoners, apprehensive German civilians, and exuberant, sometimes intoxicated foreign laborers, Lieutenant [Albert L.] Kotzebue and his men advanced almost due east through the town of Dahlen toward the Elbe in the vicinity of Strehla, a few miles northwest of Riesa, some seventeen miles southeast of Torgau. It was almost noon when the jeeps slowed to enter the farming town of Leckwitz, less than two miles from the Elbe.

Far down the main street, the men spotted a horseman just as he turned his mount into a courtyard and passed from view. At a glance, the man's costume seemed unusual. Could it be? Was this it?

Spinning forward, the jeeps came to a halt at the entrance to the courtyard. Inside, among a crowd of foreign laborers, was the horseman. There could be no doubt. He was a Russian soldier.

The time was 1130 on 25 April 1945, the setting inauspicious, but the moment historic: the first contact between Allied armies from the west, Soviet armies from the east.

— Charles B. MacDonald,  
The Last Offensive, U.S. Army  
in World War II: European  
Theater of Operations

delegation members participated in a panel discussion and question and answer session with the students of the School of Advanced Military Studies course. The open, forthright Russian leaders highlighted a number of concerns on the part of the Russian army senior leadership:

- The challenge of downsizing and retraining the active force while dealing with budget cuts as the force draws down.
- The potential for conflict as a result of ethnic and religious factions and unrest.
- A reorientation of the mission of the Russian armed forces as the result of the changing world situation and perceived threat. The task of the Russian army leadership in dealing with these difficult challenges is made more difficult by the sheer magnitude of the changes in the economic, political and social structures that are sweeping through Russia and the other states of the former Soviet Union.

A highlight of the delegation visit was Little's talk with Dukhov. The chief of Air Defense Artillery briefed the Russian air defense chief on the U.S. Army's perspective of global events and threat situations that have evolved in recent years. In the early

1980s, the U.S. Army kept a large portion of its forces, particularly ADA units, forward deployed in Europe to counter the Soviet threat. The U.S. Army and Air Defense Artillery is adjusting to the Soviet Union and Warsaw Pact breakup by becoming a predominantly stateside-based force-projection Army, ready to respond quickly to regional contingencies worldwide.

The briefing also covered the ADA mission and the range of threat systems Air Defense Artillery must counter in the future, with particular focus on tactical ballistic missiles, cruise missiles, remotely piloted vehicles (RPVs), unmanned aerial vehicles (UAVs) and attack helicopters. Little ended with a discussion of ongoing ADA system modernization programs, including the forward area air defense systems, Corps SAM, Theater High Altitude Area Defense system and improvements to Patriot.

Dukhov was extremely frank and receptive. At the outset, he stressed a desire to put past differences aside and talk air defense issues "from one professional soldier to another." "Politics is above my wage level," he emphasized through his interpreter. "We are now friends; no more confrontations."



Little and Dukhov discuss the intricacies of Hawk-Patriot task force integration and air defense command and control architecture.

Dukhov appeared to be quite knowledgeable of the operations and capabilities of U.S. Army ADA systems and made a number of comparisons between U.S. and Russian air defense weapons. He seemed most interested in ADA command and control, observing that Hawk and Patriot had different types of C<sup>2</sup> systems and data links. He asked if we had permanently formed mixed Hawk-Patriot task forces to capitalize on the inherent capabilities and advantages of each system.

Little replied that, while we do not have permanently mixed units, we do task organize for combat and exercises. As an example, he cited the two Hawk-Patriot task forces that deployed with XVIII Airborne Corps and VII Corps during Operations Desert Shield and Storm. The two leaders also discussed the changing nature of future land and air warfare, the types of assets most appropriate for protection by different air defense systems and the vital role of future ADA systems in the counter-reconnaissance and anti-missile roles.

Dukhov pointed out numerous differences in command relationships between Russian and American air defense units. He seemed somewhat surprised to learn that the corps ADA brigade commander works for the corps commander and deploys brigade ADA assets in response to the corps commander's priorities. In the Russian ground forces, Dukhov explained, the corps ADA commander oversees an independent staff and establishes air defense priorities in the corps area.

The final event of the visit was a dinner that Little hosted in a well known downtown Leavenworth steak house. Guests included Leavenworth Mayor Marguerite Strange, Lt. Gen. (Retired) and Mrs. Robert Arter, Leavenworth City Councilman Joel Grodberg and Capt. Kirk Lawrence, an ADA officer attending CGSC. The dinner provided a number of insights into differences between American and Russian restaurants. Dukhov seemed quite surprised with the number of menu choices, especially the salad dressing and dessert selection.

Little highlighted the evening with a toast in honor of the president of the Russian Federation and a brief ceremony during which he inducted Dukhov into the Ancient Order



From left: Little, Col. Allen P. Hasbrouck (Director, Directorate of Combat Developments, U.S. Army ADA School), Dukhov, Gault.

of Saint Barbara and presented him with a Stetson cowboy hat as a memento. Dukhov responded with a toast to the "great soldiers" of the U.S. Army Air Defense Artillery. In his brief after-dinner remarks, Dukhov commented on how impressed he was with the high quality of the U.S. Army officers, NCOs and soldiers he had met. He observed that they were well trained, dedicated to their country and clearly well equipped to ensure the nation's defense. He emphasized that America and Russia must remain friends, and that such cordial and open discussions would have hardly seemed possible a few short months ago. He stated his strong desire to visit Fort Bliss, "The Home of ADA," at some point in the future and concluded by inviting Little and ADA School representatives to Russia to visit Russian air defense units, soldiers and facilities. He also presented Little with a Russian Navy dagger and sheath as a memento of the visit.

This visit did much to foster understanding and help build bridges between the armed forces of both nations. As Dukhov declared, "We never realized how close our two countries are until we flew from eastern Russia to Alaska. Hopefully we can build on these meetings for a good relationship and a more peaceful, stable world."

Col. Jeffrey Gault is the director of the Combined Arms and Tactics Department, U.S. Army Air Defense Artillery School, Fort Bliss, Texas.

Serbs and Croats, Armenians and Azeris have feared, hated and murdered each other for centuries and are likely to go on doing so. Great powers have often interested themselves in these conflicts; great wars have sometimes come out of them. The other major source of potential instability is at the level of the Great Powers themselves. The Europe of the near future will probably include two major states, Russia and Germany, each with its own reasons for eventually challenging whatever transitory pattern appears.

— James M. Garrent,  
"Confidence Building  
Measures: Foundation for  
Stability in Europe,"  
Journal of Strategic Studies

The Cold War's conclusion has dramatically improved prospects for international peace and prosperity. The Soviet threat, the basis of our nation's defense for decades, is gone. While the sum of global changes is overwhelmingly positive, the high degree of uncertainty about the emerging international security environment and the continuing threats to U.S. national interests are cause for prudent concern.

— Army Focus 1992

## 50TH WWII COMMEMORATION

# Kasserine

*"When America loses the next war and a dying American soldier spits out his last curse, I want the name not to be MacArthur but Roosevelt!" exclaimed Gen. Douglas MacArthur. The Army chief of staff had come to the Oval Office to protest Great Depression era defense cuts he feared would reduce the U.S. Army to a skeleton force. "You must not talk to the president that way!" answered President Franklin D. Roosevelt.*

by Hubert L. Koker

In the winter of 1942-43, at a place in North Africa called Kasserine Pass, American soldiers didn't lose a war, but they paid a terrible price for their lack of preparedness

in blood and lost prestige. Although American soldiers had been fighting in the Pacific for a year, Kasserine Pass was the Army's and antiaircraft artillery's baptism of fire against its most powerful and capable foe, the German army. Thrown into combat against Field Marshal Edwin Rommel's veteran Afrika Corps, U.S. commanders proved inept at conducting combined arms operations on a fluid battlefield against an enemy well versed in maneuver warfare. Some U.S. soldiers fought stubbornly and well, but many, exposed for the first time to the shock of battle, panicked and ran. "The worst part," said one officer after the battle, "was that the British laughed."

The North African campaign did, however, change the way top U.S. leaders thought about air defense. Before landing in North Africa, they were confident they had plenty of antiaircraft artillery to go around. They were soon to discover they had made a terrible mistake.

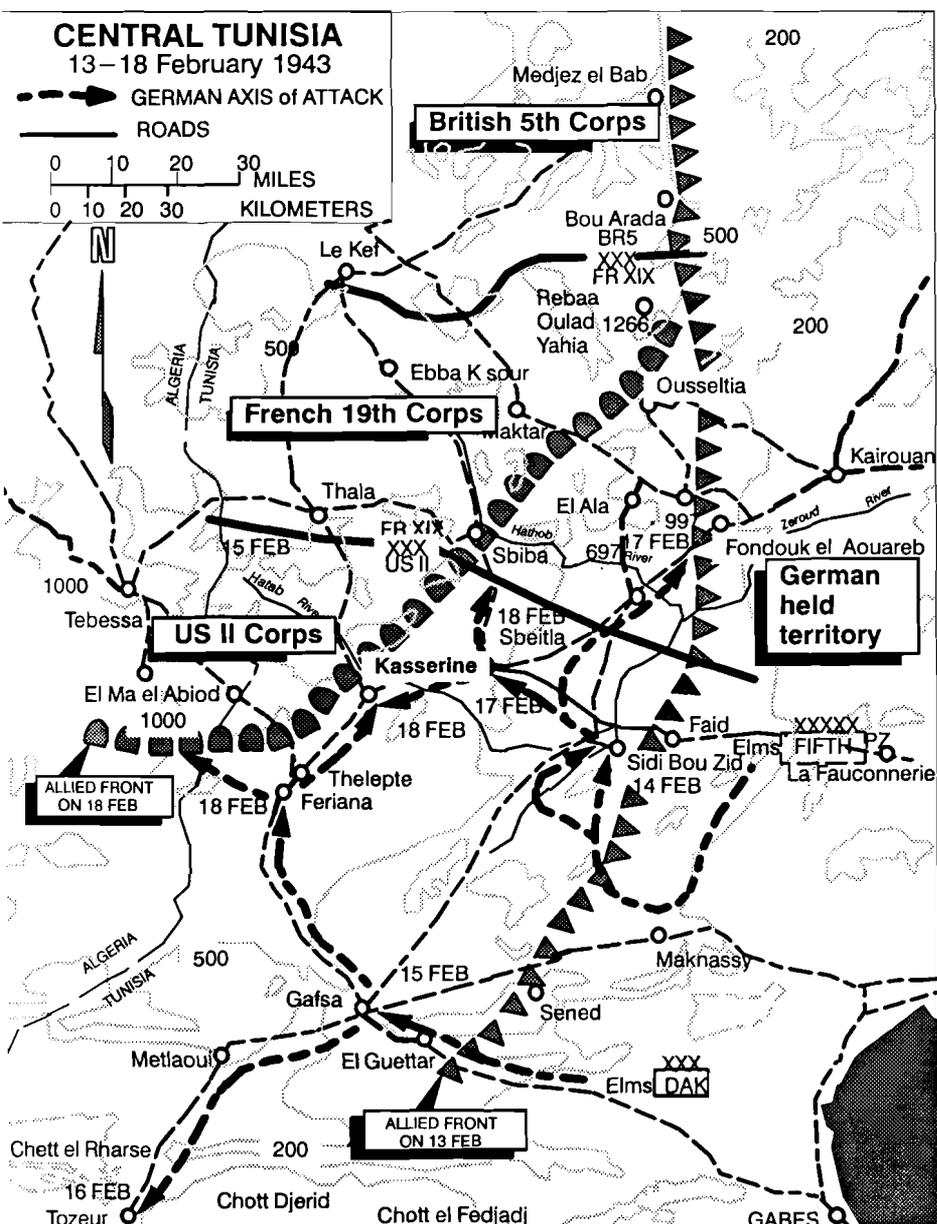
The United States needed to strike at Hitler to relieve military pressures and boost homefront morale. With the Allies still too weak to invade Europe, Franklin Roosevelt and Winston Churchill agreed to open a new front in North Africa to stop the Axis advance. The three-pronged Allied invasion of Morocco and Algeria, Operation Torch, opened on Nov. 8, 1942.

Buoyed by the success of the landings, the Allies turned east for their main objectives in Tunisia. By Feb. 1, 1943, the battle line in Tunisia was fairly well established. It ran north and south generally along the mountain ranges commonly referred to as the Eastern and Western Dorsals.

However, U.S. operational art was mostly theory, based on the famed Louisiana Maneuvers of 1939 but untested by battle or by unit rotations through laboratories such as

During the Kasserine action, three guns of D Battery were overrun by a German infantry attack at dawn one morning, along with five guns of the field artillery unit D Battery was protecting. Another 105mm section, retaining its fuse cutter, although surrounded for hours, kept the Germans at bay by cutting fuses to give practically muzzlebursts and firing the gun by a telephone wire tied to the lanyard.

— Maj. Henry Von Kolnitz,  
Coast Artillery (AA)



today's combat training centers. Allocating the training funds needed to conduct field training exercises or maintain soldier and leader development at today's level would have been unthinkable during the Great Depression of the 1930s.

And there were not, U.S. commanders discovered at the outset of Operation Torch, nearly enough anti-aircraft guns to go around. The German air force pounded U.S. troop movements and headquarters and was able to offset the U.S. force's most significant advantage — American artillery out-ranged German artillery — by directing the preponderance of its air strikes against U.S. artillery units. Anti-aircraft dispositions were over such a wide area that some battalions maintained two command posts. Early warning was sparse to nonexistent.

In Tunisia, the untested U.S. forces were about to go up against the enemy's first string, and the bill for their lack of preparedness was about to come due.

The Allied troops in Tunisia consisted of three corps, the British V, French XIX and American II. The American II Corps occupied the southern end of the line with the corps front extending nearly 100 miles. By February 1943 there were five AA regiments and 10 separate AA automatic weapons battalions in North Africa. Yet, until Feb. 18, the American II Corps, the primary American fighting unit in North Africa, had only one-and-a-half automatic weapons battalions and one 90mm gun battalion. However, during the Battle of Kasserine Pass, elements of two other automatic weapons battalions and an anti-aircraft regiment would be drawn into the action.

Early on the morning of Feb. 14, 1943, the German 21st Panzer Division with supporting artillery, dive bombers and fighters attacked American forces in Faid Pass in the Eastern Dorsals. The German armor, with its massive 60-ton Tiger tanks, rolled through the pass, quickly overrunning two American artillery battalions including 12 of the 31 air defense systems of B and D Batteries, 443rd Coast Artillery Automatic Weapons Self-Propelled Battalion (the Army's only AA self-propelled battalion in Africa), sent to protect these artillery battalions. More accurately, as the 443rd Battalion unit history states, "B and D Batteries ceased to exist."

By the night of Feb. 17-18, the Germans had driven the Allies out of eastern Tunisia and into defensive positions along the Western Dorsals. The subsequent battle named for a town at the entrance to a pass in the Western Dorsals was known as the Battle of Kasserine Pass.

The Battle of Kasserine went on for another week while II Corps retreated more than 50 miles into the Western Dorsals, giving up Kasserine Pass and suffering severe losses. The German offensive gradually ground to a halt, stopped by stiffening American defenses, exhaustion and fuel shortages. With prospects of further success dimmed by the arrival of U.S. reinforcements, Rommel ordered a withdrawal. He had won a tactical success, but not a major victory.

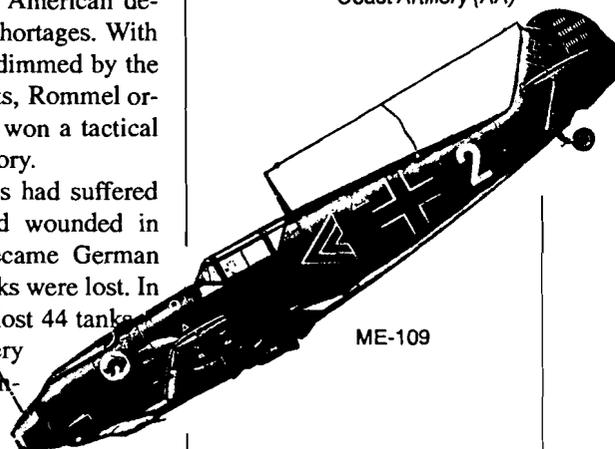
At the end, the Americans had suffered more than 3,000 killed and wounded in battle, and nearly 4,000 became German prisoners. More than 200 tanks were lost. In Faid Pass alone, Americans lost 44 tanks, 59 half-tracks and 26 artillery pieces. The Germans, by comparison, had suffered only 1,000 casualties and lost 20 tanks.

However, American anti-aircraft units took a heavy toll on enemy aircraft. C Battery (40mm Bofors), 105th CA (AA), while supporting the 36th Field Artillery Battery, shot down 23 planes in four days. The two remaining batteries of the 443rd CA AW (SP) shot down two Stuka dive bombers attacking the 27th Armored Field Artillery on Feb. 21. Ninety-millimeter anti-aircraft guns were moved forward in a direct fire role but never got close enough to fire at tanks. This wasn't a bad record considering AA battalion attachments, ranging from half-track units to airborne machine gun batteries, even 90mm guns, were never concentrated to achieve effective fires but were scattered throughout infantry and armored units.

However, there was a downside. On Feb. 21, U.S. anti-aircraft fire damaged five American planes beyond repair and turned back two friendly air missions. The next day friendly anti-aircraft guns shot up five U.S. P-38s, despite their distinctive double fuselage and specific instructions to ground troops to stay alert for low-flying friendly aircraft. The American automatic weapons

February 21 we were attacked by a flight of 10 JU-87s and three were reported destroyed. This was the first occasion on which our men had come into contact with the much talked-about Stukas. They stuck to their guns throughout the whole attack. Later the unit was commended very highly for the part it played in breaking up the Axis attack at Kasserine Pass.

— Maj. Henry Von Kolnitz,  
Coast Artillery (AA)



We were attacked by 15 JU-88s and ME-109s coming from out of the sun. Our guns shot down two of the planes. Later in the day our guns dispersed another 12-plane raid, causing the attackers to drop their bombs far from their target. The third and last raid of 24 planes came after we had reached the infantry de-trucking area and were in a tactical position. Two of these planes were destroyed and others damaged. . . . The next morning, in the half-hour from 8:00 to 8:30, we destroyed seven enemy planes as they raided our position. The result of our heavy firing was to put three of our four guns out of action. The .50-caliber guns were warped from the heat and the 37mm guns had jammed tightly, making it impossible even to cock them

— North Africa AA Platoon,  
Anti-aircraft Journal, 1943

The Battle of Kasserine Pass was a shocking defeat for the Americans. In the nine-day operation, the Germans had inflicted almost 7,000 casualties and destroyed 183 tanks, 104 half-tracks and 208 artillery pieces. In turn, the Germans lost only 20 tanks and suffered about 1,000 casualties. The U.S. commanders had mismanaged the battle and allowed that they had much to learn about intelligence, combined arms tactics and coordination. More unnerving, in the test of battle, some troops had panicked and fled to the rear.

— Capt. Michael E. Bigelow,  
Military Review

During the morning we were constantly firing at dive bombers and fighters and were credited with two planes. February 16 we assembled in Sbeitla protecting the CP of a combined command. We were bombed and strafed by FW-190s and credited with two planes. February 20 we assembled with the battalion at Tebessa for reorganization. On February 22 the platoon was attached to an armored division Field Artillery unit at Kasserine Pass. We fired at nine Stukas with a credit of one plane. During the landings, morale had been good, but the Faid and Bou Zid reverses unnerved several members of the platoon. Due to the coordinated firing of enemy tanks, planes and ground weapons, about three-fourths of the men were jittery, but they recovered after a good rest and the arrival of the battalion at Tebessa.

— North Africa AA Platoon,  
Antiaircraft Journal, 1943



A 443d Coast Artillery anti-aircraft half-track provides air defense coverage for U.S. forces in Tunisia.

battalions were neither authorized binoculars for the gun crews nor dedicated observers to alert the unit of incoming aircraft.

Some observers attributed the problem to poor aircraft identification training, which was true in many units. Many American fighting men arrived in North Africa without ever seeing friendly aircraft in the air. However, in view of the distinctive shape and marking of the American planes and specific instructions to ground forces to expect them, the loss of aircraft to friendly fire on Feb. 21 and 22 could not be attributed to mistaken identification alone. The lack of training and fire discipline on the part of American ground troops and the confusion and nervousness caused by the German breakthrough and subsequent withdrawal were contributing factors. There was no doctrine for integrating close air support, interdiction and air superiority operations, and anti-aircraft artillery fires near the line of contact.

The ground-to-air fratricide problem was so severe that Gen. Henry "Hap" Arnold recommended transferring control of anti-aircraft artillery to the Army Air Force. However, issuing binoculars to anti-aircraft crews, which allowed them to identify friendly aircraft at longer ranges, reduced the problem to acceptable limits.

The Battle of Kasserine Pass is not a very pleasant memory for anti-aircraft artillery, but lessons learned during the battle were to pay important dividends. The battle, for example, placed a premium on anti-aircraft artillery mobility by dramatically demonstrat-

ing the need to quickly concentrate anti-aircraft units at decisive points. The 443d Coast Artillery Battalion, which lost two batteries at Faid Pass, was equipped with 80 prototypes (not field tested) of new self-propelled AAA systems. Following the battle, the U.S. Army stepped up the fielding of mobile anti-aircraft guns.

After Kasserine, more anti-aircraft systems were allotted forward and better early warning and command and control were established. Regiments were reorganized into separate gun, automatic weapons and searchlight battalions and group and brigade headquarters units were organized to control these varying size units. However, while everyone agreed that one of the most obvious lessons learned was the need for more anti-aircraft artillery, there were still differing views on how it should best be deployed.

Although Lt. Gen. Dwight Eisenhower had at first directed that most U.S. anti-aircraft artillery assets in North Africa be placed in the theater rear area, the early success of the German bombing campaign convinced him that combat units needed more anti-aircraft protection. In December 1942, he recommended that anti-aircraft units be organic to every division, corps and army, but U.S. Army Ground Forces Commander Lt. Gen. Leslie McNair, who thought AAA should be held at corps and allocated forward as necessary, refused his request.

"There has been and probably will be continued controversy about anti-aircraft defense, in the forward area particularly," said



upon the training's realism are the amount of mental and physical stress the leaders and soldiers can tolerate.

The NTC provides the Army's most sophisticated live fire training area. The training consists of maneuver task force-sized elements with fully uploaded live ammunition conducting deliberate defensive and offensive operations against computer-driven pop-up targets — clearly the closest thing to combat any peacetime army will ever experience.

Operations Group is a table of distribution and allowances organization that contains the various OC teams, ranging from the Scorpions (Mechanized Infantry Task Force Trainers) to the Dragons (Live Fire Combat Trainers). OCs identify training weaknesses and tactfully suggest tactics, techniques and procedures that may be helpful in correcting the rotational units' perfor-

mance. ADA OCs serve from brigade to platoon level, and on occasion, travel with individual Stinger teams.

The OCs' primary mission is to have a thorough knowledge of current Army tactical doctrine; observe the planning, preparation and execution of all battles; provide constructive comments to soldiers and leaders on ways to improve their performance; apply battlefield effects by assessing casualties (artillery, airstrikes, mines and NBC warfare); ensure the operational readiness of all MILES equipment; and enforce the rules of engagement. ADA OCs live with the rotational units while at the CTCs and serve as subject matter experts on air defense employment in support of AirLand Battle doctrine to enhance the training and performance of rotational units and ensure that they are employing their ADA assets properly.

The OCs are primarily responsible for being with the rotational unit 24 hours a day, and observing and analyzing unit performance from planning through execution of all missions. Their secondary mission is to ensure that the rotational unit's MILES equipment is combat ready at all times.

To become an OC you must complete a two-phase training and certification program: the Technical OC Training Course at Fort Bliss, Texas, and the CTC OC Training Course at the training centers. ADA captains qualify for the Technical OC Training Course by completing the ADA Officer Advanced Course.

The four-day Technical OC Training Course gives a branch-specific doctrinal and tactics update to OC candidates and qualifies them to serve as OCs at one of the three CTCs. It consists of an air threat update; forward area air defense battalion organization update; FM 44-100, FM 44-16 and FM 44-63 reviews; the role of the commander; NTC lessons learned; review of the Forward Area Air Defense Platoon Leaders Guide; OC seminar; Chaparral, Vulcan, Stinger, Avenger and Bradley Stinger Fighting Vehicle familiarization; MILES training; tactical warfighting practical exercise; and written examination.

The CTC OC Training Course completes the OCs' education by covering evaluation skills specific to the CTC and survival skills relevant to the particular CTC. This specific training and certification program usually lasts from two to three weeks, and is conducted as part of the OCs' in-processing and training.

The course consists of an orientation to the training analysis facility mission, capabilities and products; evaluation techniques and the preparation of an evaluation plan; conduct



of an after action review; rules of engagement; MILES maintenance, repair and direct exchange; navigation on local terrain; and safety rules. The final phase of the CTC-specific training and certification program usually consists of a written test, one rotation check-ride with the outgoing OC and a specific OC team initiation process.

Besides the vital role played by the OCs at the NTC, the OPFOR is instrumental to the unit's success. The OPFOR consists of approximately 1,500 177th Armored Brigade soldiers who provide an elite and sophisticated Soviet-equipped and trained enemy force with all of the combat multipliers. The OPFOR exposes rotational units to the full spectrum of threat. The OPFOR typically outnumbers the units and attacks when it has at least a three-to-one advantage over the defenders.

The 177th Armored Brigade consists of a mechanized and an armored battalion organized as a Soviet Motorized Rifle Regiment (32nd Guards MRR) that portrays all of the equipment, personnel, combat support and combat service support elements, augmented by stateside Infantry, Engineer and ADA units.

The OPFOR uses U.S. equipment modified to resemble Soviet equipment: T-72 tanks, BMPs, 122 SP Howitzers, ZSU 23-4 antiaircraft guns (modified M-55A Sheridan armored reconnaissance airborne assault vehicles) and BRDM-2s (modified M-998 high mobility multi-purpose wheeled vehicles).

The rotational unit schedule is 24 days, 12 rotations per year. The typical rotation schedule is five days to deploy and draw pre-positioned equipment, 14 days to conduct the tactical training at force-on-force and live fire, and five days for equipment turn-in and redeployment. The rotational units spend 14 days in a

tough, realistic tactical environment that allows for very little rest. Units must be alert 24 hours a day.

Upon completion of your tour as an OC, you have the opportunity to share your new experience of combined arms education with future ADA battery commanders and staff officers as an SGI.

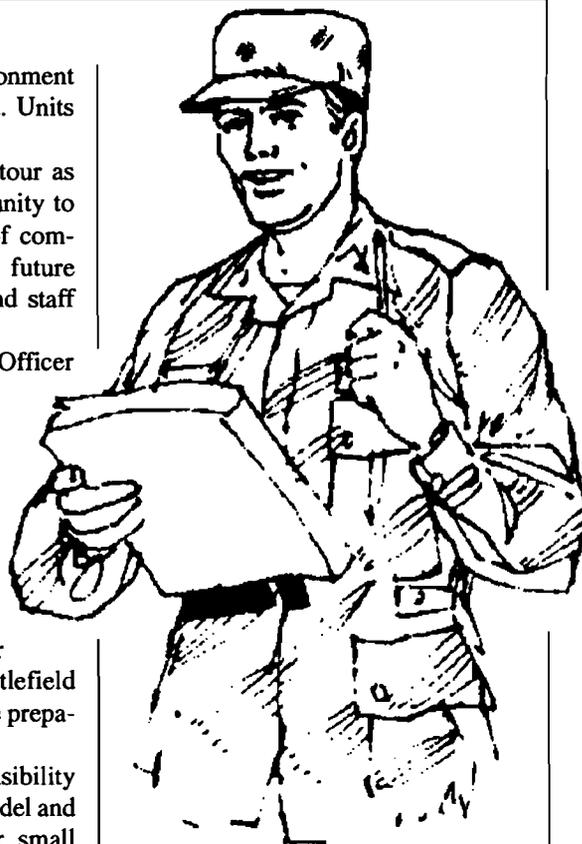
The mission of the ADA Officer Advanced Course SGI is to produce air defense officers who are tactically proficient and prepared to serve as battery commanders and staff officers — physically fit warriors who understand the Army Training Management System, how to fight air defense on the modern battlefield and the process of intelligence preparation of the battlefield.

The SGI's primary responsibility is to serve as a mentor, role model and leadership standard for their small group. SGIs provide quality, professional instruction, set tough academic and physical fitness standards, serve as subject matter experts, develop course content and write and update doctrine.

To qualify as an SGI, officers must complete the USAADASCH Combined Arms and Tactics Department (CATD) SGI Certification Program, which consists of a CATD overview and orientation, director's welcome, Leadership Assessment Development Program, Small Group Instructor Training Course, a written examination and evaluation of the SGI's instructional abilities.

What are you waiting for? Pick up the phone and get your assignments officer working your assignment as an OC at the NTC. Accept the challenge, be a WARRIOR!

MAJ. DEAN NOGLE



### How Do I Sign Up?

Contact PERSCOM at DSN 221-0025. Your assignments officer will explain the program and quickly appraise your file to determine if you are eligible. If you are initially qualified, he will contact CATD at USAADASCH. CATD will review your file and Officer Record Brief and will also contact your chain of command and personnel with whom you have served to determine your qualifications. Upon approval, the CATD director submits your name to the school assistant commandant. If approved by the AC, you are well on your way to a combat training center for the most challenging and professionally rewarding assignment of your career.

# 21ST CENTURY SCHOOL SYSTEM

A U.S. Army Training and Doctrine Command task force has created a "university" concept to place the training systems of all three Army components under one Total Army School System. Gen. Gordon R. Sullivan, Army chief of staff, directed the task force, called Future Army Schools Twenty-one (FAST) to develop a school system for the Army of the 21st Century. Gen. Frederick M. Franks Jr., U.S. Army Training and Doctrine Command (TRADOC) commander, set the goal for the task force. "America's Army needs a cohesive institutional training system that leverages available resources and investments currently in the Total Army School System," he said. "As we reduce the size of components, we must also cut our institutional training investments."

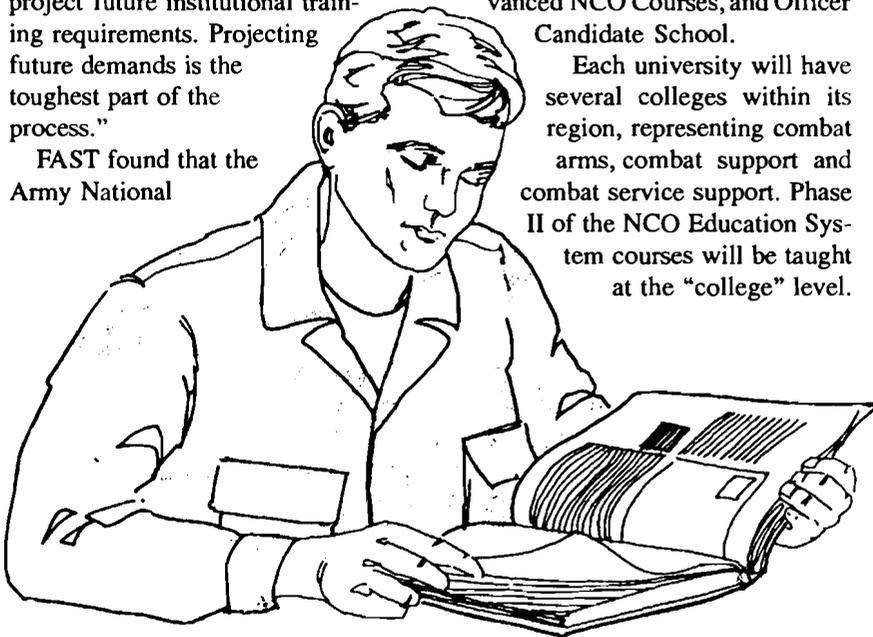
In existence for about six months, Task Force FAST developed a proposed training organization that includes standardized instruction certification, institutional accreditation and firm training standards.

"FAST is not another study," said task force director Col. Evans Spiceland, an ADA officer. "We've had numerous studies and quite a few initiatives over the years." Spiceland said past efforts concentrated on one component at a time, either the Active Army, Army National Guard or Reserves. Only active Army members made up the study group. Task Force FAST, by contrast, consists of 20 full-time members, 10 from the Active Army and five each from the Army National Guard and Army Reserve. "What makes this organization unique is the active support of the Army National Guard and the U.S. Army Reserve," Spiceland said.

"Over time, we have developed three separate school systems to meet specific training needs," Spiceland continued. "We will retain those elements of our existing system that have sustained us over the years."

"Before a single system could be created, we had to identify the resources devoted to those systems and project future institutional training requirements. Projecting future demands is the toughest part of the process."

FAST found that the Army National



Guard operated 88 schools with a total staff and faculty of about 3,000, the Reserve maintained 124 schools with about 13,000 staff and faculty, and the Active Army ran 63 schools with about 40,000 staff and faculty. FAST also found that many of the schools, even though some were in the same geographic area, taught similar subjects.

Under the proposed Total Army School System, there may be five or more regional universities depending on a demographic profile of student populations, geographic data and force structure.

TRADOC, as the system's executive agency, will set goals for schools within the system, and the Army National Guard and Reserve will provide support. Besides being a headquarters location, each university will be the site for such training as the Primary Leadership Development Course, Phase I of the Basic and Advanced NCO Courses, and Officer Candidate School.

Each university will have several colleges within its region, representing combat arms, combat support and combat service support. Phase II of the NCO Education System courses will be taught at the "college" level.

Under each college will be schools aligned with Army proponents such as the Air Defense Artillery Center, Infantry Center and Artillery Center.

The locations for universities, colleges and branch schools may be existing Army National Guard, Reserve or Active Army training centers. This arrangement ensures decentralized instruction is available to all soldiers.

"Our long-term goal is to expand options and add flexibility to the system," Spiceland said. "We envision a system where Active Component soldiers can be trained in Reserve Component institutions."

Consolidating the schools will also require less equipment and fewer facilities.

"We may only save a few positions at the school level, but the structure above that level will be smaller," said SGM Jim Skalitzky, FAST sergeant major and a member of the Army National Guard. "The proponents have fewer locations they have to accredit and ensure are fully staffed. We will need fewer people to monitor fewer organizations. The savings will be in the overhead, not the instructors."

The Directorate of Evaluation and Standardization at each TRADOC school will conduct assessment and assistance visits to each affiliated school about twice a year. Army National Guard and Army Reserve soldiers will be on each team. TRADOC branch schools will also ensure that programs of instruction and training support packages are current.

TRADOC will conduct an accreditation program for the system. FAST has already begun with the 13 Army National Guard regional and Army Reserve academies. For other reserve component schools, the teams made assessment rather than accreditation visits. "We haven't written all the policy and guidelines so it would be unfair to the Reserve Component schools," Spiceland said. "We use the same checklist to show them where they would stand if we were accrediting them. Then we schedule them for accreditation in a cycle program."

So far, composite teams have completed 158 assessments.

The task force has learned that, for the most part, Army National Guard and Reserve are doing a good job. Their facilities range from state-of-the-art to austere. Many Reserve schools also have to borrow training equipment from various sources. The assessment also showed that full-time instructors were rated better

teachers. Under the university system, there will be a standard method for training and certifying all instructors.

"As envisioned, Reserve Component instructors will be assigned back to TRADOC schools for refresher training about every four years," Spiceland said. "Most would go back to their schools, but for the first time, some will be used to develop programs of instruction, conduct critical task analyses and teach in the Active Component school system."

He estimates that it will take until 1996 to recertify all the instructors within the current Reserve Component system.

"The goal is a trained and ready Army, unit and soldiers," Spiceland said. "I am excited about this. We are moving in the right direction."

## REDUCTIONS!

The Chief of Staff of the Army has approved several reductions for FY93. Effective immediately, only promotable sergeants may attend the Basic NCO Course and, with few exceptions, only promotable specialists may attend the Primary Leadership Development Course. Soldiers may only attend specialized training (such as airborne, pathfinder, ranger and technical schools) if they are assigned to fill a valid operational requirement. Soldiers at the school will only attend school on temporary duty to meet operational requirements, not for professional growth.

COL. DENNIS L. MORREALE

## BRADLEY MASTER GUNNER



SSgt. James R. Martin, right, of B/2-6 ADA, recently won certification as ADA's first Bradley master gunner. SSgt. Ruben Duran, left, a Cavalry Bradley master gunner also assigned to B/2-6 ADA, helped train Martin. Duran has applied for reclassification and expects to exchange his crossed Cavalry sabers for ADA's crossed cannons and missile insignia.

SFC PAUL NITKA

## LETTERS TO THE EDITOR

Dear Sir:

Congratulations on your article on the awarding of the Theater High Altitude Area Defense system. It is interesting and informative. But I do take exception to the last paragraph of the article: "Air defenders have dreamed of devising an effective defense against tactical and *intercontinental ballistic missiles* since the first Nazi V-2 rocket impacted in London during 1944. Patriot's successful Gulf War intercepts were the beginning of that dream." Hardly!

As a member of the Source Selection Council that chose Raytheon and Martin Marietta to build SAM-D (later Patriot) and one who is tremendously proud of Patriot's record, I don't in any way belittle Patriot, but Patriot was not the beginning! Surely with all of your good articles on the history of air defense artillery, you have not forgotten our efforts to deploy the Safeguard for defense against the intercontinental ballistic missile. We were well on the way to doing just that when our successes convinced the Soviet Union that the U.S. Army would soon have in place a defense against the ICBMs and the U.S. offensive capability could penetrate the Soviet's then existing, but rather crude, antiballistic missile defense around Moscow.

The Safeguard BMD system was then the most complex defense system ever deployed by the U.S. Army. It began in 1955 when the Army contracted with Western Electric and Bell Labs to study a guided missile system to defend against the ICBM. It was first called Nike Zeus (the first Zeus missile was fired at White Sands Missile Range in 1959). Zeus successfully intercepted an ICBM (launched from Vandenberg AFB)

over Kwajalein in 1962. Many successful intercepts followed. The Zeus system was reoriented and renamed Nike-X to include the Sprint and Spartan missiles and phased array radars. The Spartan was to be the long-range interceptor of targets detected in the exoatmosphere. Sprint was a short-range interceptor designed to intercept nuclear vehicles at relatively close ranges. With its extremely high acceleration rate, it reached intercept altitude within seconds of launch. It blasted from its launcher and climbed to 10,000 feet in the time it takes one's heart to beat twice.

The system was again renamed (Sentinel) and then in 1967 became the Safeguard system with the two missiles and two radars (PAR or perimeter acquisition radar and the MSR or missile site radar).

We were moving ahead with development of cadres at Fort Bliss and start of construction of Safeguard sites in Montana and North Dakota. The PAR faced north to provide surveillance over the polar regions and detect and track multiple targets at ranges well over 1,200 miles. It was the largest known radar facility of its kind in the world.

I remember well losing an argument with the Safeguard system manager about training PAR personnel. I was the Commanding General, Army Air Defense Command, and as the ultimate user of the system, ARADCOM wanted a prototype of the PAR installed at Fort Bliss for training maintenance and operator personnel. The system manager, facing a tight budget, thought this was too costly and said we should train our personnel on site on the operating system — a real challenge! We took our fight to the Chief of Staff of the

Army (General Westmoreland) who ruled in favor of the system manager. I'm glad he did. As I drive around Fort Bliss today, I would hate to look at an enormous white elephant we didn't use!

The PAR was built and in operation, and missiles were deployed at Grand Forks, N.D. The Ballistic Missile Defense Center was completed in the Command and Control Center of the North American Air Defense Command in Cheyenne Mountain, Colorado Springs, Colo. We met our equipment readiness date of Oct. 1, 1974. The Safeguard system facilities in North Dakota and Colorado had been turned over to the newly activated Safeguard Command on Sept. 27, 1974. Hands-on training and other tasks were initiated to reach operational capability by mid-1975.

But the SALT agreement had been signed, and planning for a second site halted. Safeguard Command was phased out and missiles were removed from their launchers. Nonetheless, we learned a tremendous amount — experience that has and will be used in the ongoing efforts in THAADs and the National Missile Ground-Based Radar.

As Norman Augustine, then Assistant Secretary of the Army for R&D, said when turning the equipment over to the Safeguard Command: "Although limited to a one-site deployment . . . it will provide us invaluable experience in operating ballistic missile defenses, experience the Soviet Union has been amassing for several years." He also emphasized the Safeguard system's influence in attaining the ABM treaties and interim offensive agreements with the Soviet Union. "The benefits in terms of peace for people throughout the world are the real payoff."

*Richard T. Cassidy, Lt. Gen. (Ret.)*

# ADA Association Gift Shop

Address orders to:  
ADA Association Gift Shop  
P.O. Box 6101, Fort Bliss, TX 79906  
915-564-4331 (DSN 978-5412)  
FAX 915-566-9407

## T-Shirts

Adults	(S, M, L, XL)	\$9.50
Youth	(ES, S, M)	8.50
XXL		10.50

First to Fire  
Flies it Dies  
Have Hawk Will Travel  
Patriot  
Patriot Scudbuster  
Stinger  
Avenger  
Chaparral  
Vulcan  
Missile Systems

## Coffee Mugs

5.00

ADA Logo  
Hawk  
Patriot  
Patriot Scudbuster  
Stinger  
Chaparral/Vulcan

## Hats

Ball Hat	\$7.50
Golf Hat	10.00
Patriot	
Hawk	
Avenger	
Stinger	
Vulcan	
Chaparral	

## Belt Buckles

ADA Commemorative	\$19.95
ADA	8.50

## "Hottest Brand in the Army"

Apron	\$12.00
Tote Bag	5.00
Scarf	4.50

## ADA Brass Logo Items

Plaques	(8x10)	30.00
	(5x7)	25.00
Walnut Box	(Cigar Size)	70.00
	(Card Size)	40.00

## Bookends

\$40.00

## Pen Set

(Double)	\$30.00
(Single)	25.00

## ADA Desk Flag Set

\$6.00

## First to Fire Sunscreen

\$5.00

## ADA Tie

\$16.95

Chapters and units may order any item in larger quantities and receive a 15% discount.

Prices do not include shipping and handling.

# ADA Association Membership Application



## Mail form and payment to:

ADA Association  
P. O. Box 6101  
Fort Bliss, TX 79906

## Or call Association Secretary:

Edith Fanning  
915-562-0665

MAILING ADDRESS

LAST NAME	FIRST NAME	RANK

UNIT

STATION

ADDRESS

CITY	STATE	ZIP

PERMANENT MAILING ADDRESS OR HOME OF RECORD  
TO ENSURE CONTINUED SERVICE IF YOU MOVE

ADDRESS

CITY	STATE	ZIP

MEMBERSHIP DUES (PAYABLE TO THE ADA ASSOCIATION)  
LIFETIME MEMBERSHIP \$30.00

---

FOR ASSOCIATION USE ONLY FOR ASSOCIATION USE ONLY FOR ASSOCIATION USE ONLY

TOTAL AMT	DATE JOINED	MBR NUMBER

ADA ASSOCIATION FORM NUMBER 5, REVISED 25 APR 92

From the world leader in LOS radios....  
Over 20,000 fielded: AN/GRC-103 and AN/GRC-226

# AN/GRC-512(V)

## Maximum ECCM

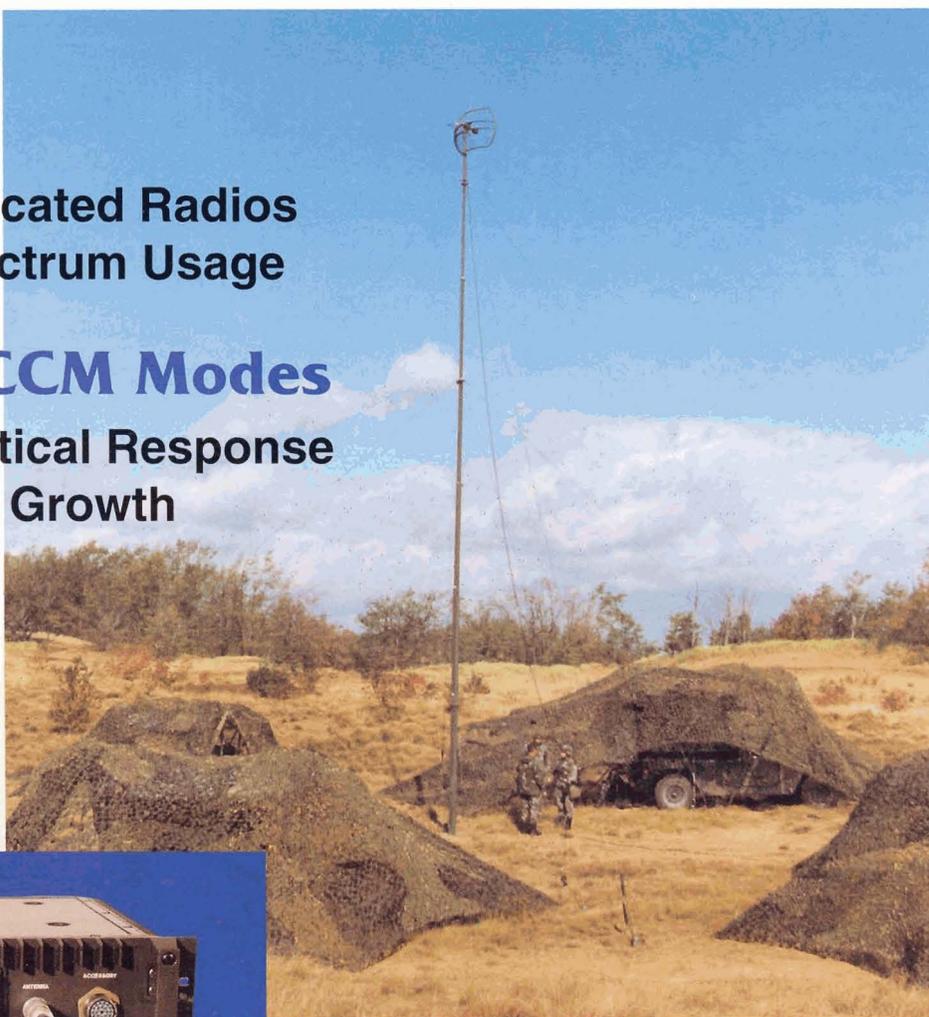
Full Band Hopping  
Frequency and Time Diversity  
Fastest Hopping

## Time Duplex

Multiple Co-located Radios  
Optimum Spectrum Usage

## Multiple ECCM Modes

Flexible Tactical Response  
Customized Growth



**CANADIAN MARCONI  
COMPANY**

COMMUNICATIONS SYSTEMS  
DIVISION

2442 Trenton Avenue  
Montreal, Quebec, Canada H3P 1Y9

Telephone: (514) 340-3000

Telex: 05-827822

Fax: (514) 340-3100