



AIR DEFENSE ARTILLERY

MARCH-APRIL 1994





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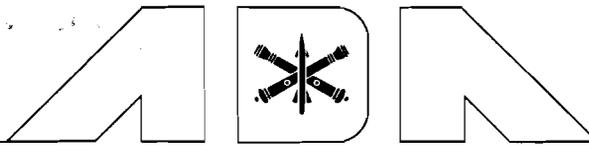
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AIR DEFENSE ARTILLERY

MARCH-APRIL 1994

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The cover photo of a computerized Theater High-Altitude Area Defense (THAAD) intercept of a tactical ballistic missile appears courtesy of Coleman Research Corp.

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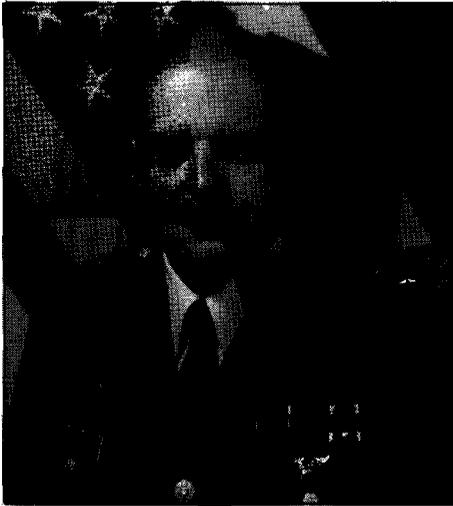
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# Intercept Point



The nature of future warfare has changed dramatically over the past few years. With the end of the Cold War, the Army found it necessary to rethink how we would conduct future operations. After several months of work, FM 100-5, *Operations*, was published in June 1993 to outline how the Army would operate in the new world order. It describes a power projection Army, required to respond to a varying set of missions worldwide... including operations other than war. It also outlines requirements to operate on a nonlinear battlefield vice the linear one we were accustomed to in the Cold War, and it articulates contingency operations involving early entry and expansion of forces leading to decisive victory.

The new doctrine espoused in FM 100-5 necessitates that we update our own ADA doctrine so that we can provide force protection in all phases of contingency operations. This is especially relevant in that future Air Defenders will be responsible for protecting against ballistic missiles, cruise missiles and unmanned aerial vehicles in addition to the traditional threat rotary-wing aircraft and fixed-wing "leakers." This combination poses challenges far greater than those envisioned during the Cold War.

A team of U.S. Army Air Defense Artillery School writers is working to revise our capstone field manual. Sponsored by the

school's Combined Arms and Tactics Department, their task is to update FM 44-100 to reflect new doctrine expressed in FM 100-5. The manual retains many tenets of AirLand Battle but, as part of the Army's "intellectual change" from the Cold War concept to a strategic, force-projection concept, adds a new tenet — versatility. It also places a stronger emphasis on joint operations, a variety of choices for a battlefield framework and a wider interservice arena.

As our writers adapt FM 44-100 to FM 100-5, they will incorporate the results of the recently completed Division Air Defense Study, a post-Cold War analysis that suggests a more flexible role for forward area air defense, and work done in support of theater missile defense initiatives. The new FM 44-100 will contain an updated threat chapter and new chapters titled "Joint and Combined Air Defense Doctrine," "Planning and Conducting Strategic-Level Air Defense Operations" and "Operations Other Than War."

The revision is not just a schoolhouse project. In an effort to involve ADA leaders worldwide, we are sending copies of draft outlines, chapters and appendices to ADA general officers and brigade and battalion commanders for comments and suggestions. The result should be a capstone field manual that represents a true branch consensus. We plan to put a final draft into the hands of all attendees at the 1994 Air Defense Artillery Commanders' Conference (see agenda, page 22) in June 1994 and, by December 1994, publish a DA-approved FM 44-100 that clearly defines the challenging role assigned those who are —

*First to Fire!*

  
Maj. Gen. James J. Cravens Jr.  
Chief, Air Defense Artillery

## FM 44-100 OUTLINE

**Chapter 1**  
Introduction

**Chapter 2**  
Threat

**Chapter 3**  
Joint and Combined  
Air Defense Doctrine

**Chapter 4**  
Fundamentals of Army  
Air Defense Operations

**Chapter 5**  
Army Air Defense  
Command and Control

**Chapter 6**  
Planning and Conducting  
Strategic-Level  
Air Defense Operations

**Chapter 7**  
Planning and Conducting  
Operational-Level  
Air Defense Operations

**Chapter 8**  
Planning and Conducting  
Tactical-Level  
Air Defense Operations

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Air Intelligence  
Preparation of the Battlefield

**Appendix B**  
Air Defense Staff Planning

**Appendix C**  
Combined Arms Air Defense



# A PRIMER ON THE MEDIA

*Editor's Note. When Lt. Col. Harry A. Krimkowitz's battalion rushed to rescue Tel Aviv from Iraqi Scuds, he discovered there was no one to rescue him from the press corps. Guidance from higher headquarters, which first had to check with Israel, was to avoid the press. It arrived three hours after he had granted his first interview. The experience convinced him that every unit should add dealing with the media to its "engagement queue."*

by Lt. Col. Harry A. Krimkowitz

It's late afternoon and the telephone rings in your office. The brigade commander calls to tell you that your unit will immediately deploy by air to an unspecified country. Your unit will be the first on the ground to defend against a tactical ballistic missile threat. Seem inconceivable? Impossible?

With today's world events and our power projection Army, this scenario may be more likely than you think. It happened to me during the Gulf War, and that's why I'm writing this article. We're all trained in the tactics, techniques and procedures required for successful accomplishment of a mission. However, we're rarely trained or prepared for dealing with the media.

When I boarded the C-5 to deploy to Israel, I had little inkling of things to come. My mission was to take two Patriot batteries and defend an entire country against Scud missile attacks. On the plane, all I could think about was the need to get emplacement information for my Patriot batteries. Information on how to deal with the media was not part of my "to be engaged queue."

Upon landing in Israel, it occurred to me that I did not even know whether or not we could march off the plane displaying the battalion colors. I had no guidance. When we deplaned, the first thing we encountered was the media taking pictures. It was then that I realized that I had no press guidance either. Our relationship with the media began on a rocky road and did not get much better throughout our entire deployment. It left a bad taste in my mouth. I did not understand that, as a soldier, I had a deep-down dislike and mistrust of the media. I did not know how to use the media to tell the battalion's story. Consequently, like most of the Gulf War, the Army's story was not told as it should have been.

*[Television] puts enormous pressure on rational government decision making. CNN always comes in before any intelligence report now. . . . At that point, we don't even know what's going on.*

— Dick Cheney,  
former Secretary of Defense

The media is not going to go away prior to the next conflict or crisis. In fact, quite the opposite will happen. We must all learn about the media so that we can effectively deal with it. This is especially important because of the new agreement between the media and the Department of Defense (DoD) on the principles that will guide press coverage during the next crisis or war (see inset). We can expect increasing exposure to the media during our next crisis. You will not be able to rely on the public affairs officer (PAO) for answers. Commanders and leaders at all levels must deal with the media to effectively tell the Army's story.

What I'll attempt to do here is tell you a little about the media, why we as soldiers have problems with the media, and how you can prepare yourself to accommodate the media so they can tell your story. I'll divide my advice into three sections: what you need to know prior to deployment, what to do upon arrival in the area of operations (AO) and what to do once established in your AO. I'll also provide some important tips on dealing with the media. I've tailored my advice for leaders at battalion level and below, and based my advice on personal experience in Israel and a review of the current literature. I hope you will not make the same mistakes I did, and that you will use the media to tell about your accomplishments and the accomplishments of your great soldiers.

### **Media and the Military**

In 1954, S. F. Crozier wrote, "there can be few professions more ready to misunderstand each other than journalists and soldiers." This statement is as true today as it was almost 40 years ago. But why do the military and press mistrust and dislike each other? Simply, we dislike each other because both the media and the Army are institutions with their own distinct cultures, traditions and values. We cannot accept the other's culture for what it is. Therefore, when we confront each other, we unconsciously agree to disagree. Apparently, our culture clash causes natural friction. We are hostile toward the media and have fostered an anti-media attitude among our soldiers and leaders. However, we must realize that the media exerts enormous influence on the public agenda through what they select to publish

or broadcast and what they choose to ignore. Realistically, the media is not going to go away. We must learn to understand the media so that we can tell the Army story to the public. But what exactly is this elusive media? What are its cultural traditions and values compared to those of the military?

The media is the means by which the public receives news, and includes military and civilian television, radio, newspapers and magazines. The media is also comprised of news organizations (both American and in-

*The pen is mightier than the sword.*

— Shakespeare

### **DoD Combat Coverage Principles**

Open and independent reporting will be the principal means of coverage of U.S. military operations.

Pools are not to serve as the standard means of covering U.S. military operations. Pools may sometimes provide the only feasible means of early access to a military operation. Pools should be as large as possible and disbanded at the earliest opportunity — within 24 to 36 hours when possible. The arrival of the early access pools will not cancel the principle of independent coverage for journalists already in the area.

Even under conditions of open coverage, pools may be appropriate for specific events, such as those at extremely remote locations or where space is limited.

Journalists in a combat zone will be credentialed by the U.S. military and will be required to abide by a clear set of military security ground rules that protect U. S. forces and their operations. Violation of ground rules can result in suspension of the journalist's credentials and expulsion from the combat zone. News organizations will make their best efforts to assign experienced journalists to combat operations and make them familiar with U. S. military operations.

Journalists will be provided access to all major military units. Special operations restrictions may limit access in some cases.

Military public affairs officers should act as liaisons but should not interfere with the reporting process.

Under conditions of open coverage, field commanders should be instructed to permit journalists to ride military vehicles and aircraft whenever feasible. The military will be responsible for transportation of pools.

Consistent with its capabilities, the military will supply PAOs with facilities to enable timely, secure, compatible transmission of pool material and will make these facilities available whenever possible for filing independent coverage. In cases when government facilities are unavailable, journalists will, as always, file by other means available. The military will not ban communications systems operated by news organizations, but electromagnetic operation security in battlefield situations may require limited restrictions on the use of such systems.

These principles will apply as well to the operations of the standing DoD National Media Pool System.

*The spokesman spoke in words that had no currency left as words, sentences with no hope of meaning in the sane world, and if much of it was sharply queried by the press, all of it got quoted. The press got all the facts (more or less), it got too many of them. But it never found a way to report meaningfully about death, which of course was really what it was all about. The most repulsive, transparent gropes for sanctity in the midst of the killing received serious treatment in the papers and on the air. The jargon of progress got blown into your head like bullets, and by the time you waded through all the Washington stories and all the Saigon stories, all the other war stories and the corruption stories and the stories about brisk new gains in ARVN effectiveness, the suffering was somehow unimpressive. And after enough years of that, so many that it seemed to have been going on forever, you got to a point where you could sit there in the evening and listen to the man say that American casualties for the week had reached a six-week low, only 80 GIs had died in combat, and you'd feel like you'd just gotten a bargain.*

— Michael Herr,  
*Dispatches*

ternational) that gather, evaluate, package and distribute, through print and electronic means, information for public consumption.

The media, as an institution, is necessary in our democratic society. It energizes our political system by enlightening and informing the public. Our free press safeguards rights and serves as a watchdog over other institutions of power within our society.

The military is one of those societal institutions of power, an hierarchical institution that is action-oriented and impatient with outside interference. We want to be left alone to carry out our assigned mission. However, because the media provides oversight, traditionally, it is skeptical and intrusive of the institutions within our society. Soldiers value authority, conformity, control, discipline, accountability, group loyalty and cohesion; conversely, journalists are individualistic, competitive and impatient. They have varied needs depending on the type of media they represent and the audience to which they provide information. They mistrust authority and are pressed by deadlines. "A journalist tends to be creative while a soldier is more content with traditional approaches," wrote retired Marine Lt. Gen. Bernard E. Trainor. "Reporters are independent while the military are team players. One tends to be liberal while the other conservative and accepting."

Thus, it is because of these distinct differences in institutional cultures that the military has a tendency to be hostile toward the media. However, it is quite interesting to note that, in general, the media is indifferent toward the military; in fact, some journalists do not understand your organization or your mission. As Peter Baestrup writes in the introduction to John Failka's book, *Hotel Warriors*, "with the end of the draft in 1972 and the influx of women into journalism, the culture gap between the journalist and the military had widened greatly. Increasingly, tactics, logistics, weaponry and military language have become as foreign to most American reporters and their bosses as the basics of football are to, say, Kuwaitis."

Both the Army and the media suffer from a severe case of culture shock. Our challenge is to provide the means consistent with operational security and effectiveness to enable the media to observe and accurately

report about the military and the war it fights. Let's look at how we should do this.

### Pre-Deployment Actions

It is extremely important that you try to obtain some *public affairs guidance* from your commander or PAO. Do not accept "don't talk to the media" as guidance. As I said previously, I had no public affairs guidance upon my deployment. I finally received guidance from higher headquarters some three hours after my first visit from the media, and that guidance was to "avoid any dealings with the press." In all fairness to my higher headquarters, I have since discovered that the Israeli Defense Forces did not want us dealing with the press. However, there were some 400 journalists in Tel Aviv during the Gulf War, and my Patriot battalion unit was the only show in town. For the first few days of our deployment, I believe that B Battery was the biggest tourist attraction in the country. By refusing to respond to the press, you are, in effect, abandoning the field to the critics of the armed forces. Then speculation and misleading stories abound. If you don't give the media the story, they will find their own. Seize the initiative and establish an open and honest relationship with the media. Develop a professional relationship with the media in your AO, because the media has shown little inclination in recent years to develop professional relations with soldiers.

Create a *canned, unclassified briefing* about your unit, its mission and organization. Always remember that the media does not understand what your unit, mission and organization are all about. Throughout our deployment to Israel, we had numerous visits from the press as a result of visits by congressmen, senators and heads of state. Usually, the task force commander took the visiting dignitary into his headquarters for a briefing. The media was not allowed in the headquarters; they just milled around. If I had seized the initiative and given an unclassified briefing to these journalists, perhaps one of them would have gotten my name, rank and duty position right in the numerous articles written about me. It would have been even better if one of my battery commanders or soldiers had given this briefing.

Be aware of the implications of the speed of modern communications that can trans-



Visits from Deputy Undersecretary of Defense Lawrence Eagleburger (left, with Krimkowitz) and a California congressman (above) prompted hordes of media to invade the Patriot site at Holon, Israel.

mit television pictures (via satellite from the battlefield to a mass audience) faster than information can pass over military communications nets. An important part of instilling trust and confidence in the people back home is to appear professional. Establish *standards of appearance* when you and your soldiers appear before a TV or video camera.

### Actions Upon Arrival

It is extremely important to check on the *host country's media policy* if you are the first unit into the country. Also, check with the embassy or consulate for any words of wisdom. Find out what restrictions exist on dealing with the media. In my situation, on the first day of the Gulf War, Israel imposed a total curfew on the Palestinian population in the occupied territories, and the Israeli Defense Forces kept tight control on Western and Palestinian journalists. Although this was documented, we had no idea this was taking place. We could have avoided many misunderstandings if we had all understood the ground rules.

Who will accredit the media and by what means will you identify accredited media? Establish *media accreditation procedures* before allowing any media to visit your unit. The host country or the embassy should assist you with this. The Israeli Defense Forces were responsible for the security of all of the Patriot sites in Israel. During the media's numerous visits to our site in Holon, I do not

recall seeing any visible form of media identification. On several occasions, we had more than 50 journalists on the site. Although we used the Israeli PAO, and later our own PAO, to determine who were the accredited media representatives, I still did not get a cozy feeling that we had this situation completely under control.

I don't want to belabor this point, but take the initiative and *get the story to the media* so that they don't make up a less-than-flattering story. Journalists and reporters get paid to produce stories. After our first engagement of an Iraqi Scud, one of the task force soldiers entered into a conversation with an American in a hotel in downtown Tel Aviv. The next day a story ran in the *New York Post* about this engagement, alleging that the Israeli soldier manning the Patriot system was scared to push the "engage" button, and that he had to be pushed out of the way by an American. This story was totally false and embarrassing to both the task force and the Israeli government. So be aggressive. Seize the initiative. Give the press the story to the extent that security restrictions permit.

When the media arrives on site, *set the ground rules*. The media first visited my site on our second day in country. I received a call from the American embassy saying that the Deputy Secretary of State, a Deputy Undersecretary of Defense and the Ambassador to Israel would visit our site in about three

*Get out of my way, you drunken swabs!*

— Field Marshal Earl Kitchener to the press corps during the Sudan campaign, 1898

*Journalists poorly prepared to cover war, high technology and international diplomacy were assigned to cover the conflict in the Gulf. A great many embarrassed the profession. By contrast, briefers provided to the press by the military seemed, more often than not, professional, knowledgeable and worthy of trust. The situation became so bad that Saturday Night Live aired a skit satirizing the performance of the press corps assigned to cover Desert Storm and lauded the military.*

— U.S. News & World Report, *Triumph Without Victory*

*I wouldn't tell the people anything until the war is over, and then I'd tell them who won.*

— Anonymous military censor,  
World War II

*Obviously, what they really wanted to tell you was how tired they were and how sick of it, how moved they'd been and how afraid. . . . After a year I was so plugged in to all the stories and the images and the fear that even the dead started telling me stories, you'd hear them out of a remote but accessible space where there were no ideas, no emotions, no facts, no proper language, only clean information. However many times it happened, whether I'd known them or not, no matter what I'd felt about them or the way they'd died, their story was always there and it was always the same: it went, "Put yourself in my place."*

— Michael Herr,  
Dispatches

hours. (Remember, I had no press guidance at this time.) The media arrived ahead of the dignitaries, and the Israeli PAO asked me about rules. I told him that the media could photograph any equipment on the site, but could not enter or film inside any of my weapons systems vans. I also insisted that they speak only to me. Although the majority of the media complied with these rules, I was unprepared for the numbers of journalists present. As I took the dignitaries around, they went out of control. Perhaps they didn't understand my rules, came late and did not hear them, or chose to ignore them; whatever the reason, they were all over the site talking to everyone. A few ran across the site to get near the Patriot launchers that, at the time, were operational and could have automatically launched missiles, reducing some of the media to crispy critters. Escorts could have averted this disaster. The objective is to exert positive control without interfering in the media's pursuit of the story.

Do anything you can, within reason, to *help the journalists* get their copy to their agency. With CNN and television, it's difficult for a newspaper reporter with deadlines to compete. Much of the Army's story in the Gulf War was not printed or presented on television newscasts because of delays in getting the copy out. If you want to see your story, by all means, help get it out.

### Post-Establishment Actions

Journalists and reporters are aggressive by nature. You may receive numerous requests for visits and interviews. Correspondents from foreign countries may camp on your doorstep. Once accreditation procedures have been established, prepare your soldiers to *deal with unaccredited media* by training them in the established procedures.

How great it would be if a reputable journalist became a *unit correspondent*, actually staying with the unit throughout the deployment. Let he or she live as you do, and perhaps see things through your eyes. "Invariably, if you allow the media to look at what you are doing and put them with the soldiers, it comes out fine," wrote U.S. Army Maj. Gen. Paul E. Funk in *Military Review*. "You must take advantage of the opportunity to show your good points and hope that journalists are fair about it."

Go the extra mile to *help the media* get your story to the American people (I touched on this point above). DoD allows media accompanying the unit to ride in your vehicles or aircraft, so help the media to tag along. Use your vehicles and communications assets to help correspondents get copy back to their agency. If the story is not fresh, it probably won't get published or aired.

As media visits increase throughout the operation, especially when they find out you can accommodate them, it becomes easy to send them to the same unit time and again. Ensure your units receive *balanced coverage*. Don't send the media to the same unit all the time, and don't overlook attached units. I had two additional Patriot batteries and an Ordnance detachment assigned from another battalion during our deployment. In retrospect, they did not receive their fair share of the media coverage.

Establishing a rapport with the media can pay great dividends in *soldier benefits*. Once you have established a positive relationship, encourage the media to set up a communications link with the home front so your soldiers can say hello to their loved ones. A radio link, television link or even videotapes to send home go a long way toward improving morale in the field and at home. If you are successful, ensure that you do this often enough to give most everyone a chance, and don't neglect your attached units.

### Dealing With the Media

Here are some hints about actually dealing with reporters, correspondents and journalists during visits and interviews.

Set firm ground rules before talking to journalists. Have a specific understanding on the rules of engagement. Be precise. This may prevent misunderstandings.

Let your soldiers talk to the media when the mission permits. Brief them in advance about what subjects, if any, to avoid. Tell soldiers to accentuate the positive, stay away from operational matters and be mindful of the impact the information they are giving will have on the folks back home.

Maintain a professional appearance and attitude. Regardless of how aggressive the journalist or how stupid the question, stay in control of the situation by giving reasoned and tactful responses.

Be candid. Tell the truth at all times. Say "I don't know" or "I can't say." The worst thing you can do is lie.

Only discuss subjects you know about.

Speak English. Don't use acronyms when speaking to the media.

Complain about mistakes. Journalists are not infallible. If they publish something that is incorrect, do not let it pass.

If time permits, know the reporter, the media outlet and the issue. If you know how familiar the reporter is with military matters, you can avoid misquotes or factual mistakes by answering the questions in a way the reporter understands. Know the media outlet. Learn its message, how it communicates and who reads or sees it.



Allowing a reputable correspondent to live as the soldiers live — perhaps in places like Tent City, Holon, Israel (above) — may help the Army get the correct story to the American people.

## Conclusion

If we accept the fact that the ultimate decisions on the conduct of war rest with the people, it follows that a free and independent press, protected by constitutional guarantees, assures that the people have access to the needed sources of information from which they can make these informed judgments. Therefore, media interest in the military is necessary and healthy.

As Chief of Staff of the Army Gen. Gordon Sullivan says, "The Army must do its part to help the media tell the story, and this means an honest, cooperative and practical approach to media relations. We must overcome what some suggest is a tendency to treat the media as a nuisance or hindrance and recognize that correspondents on and off the battlefield play a vital role in maintaining public support for our soldiers and America's Army. The media and our leaders must understand their respective responsibilities in keeping the public informed."

I've tried to get you to start thinking about the media and how you can use it to effectively tell the Army story. I've also attempted to encapsulate in one document the things you need to know about the media and

some pointers on how to deal with this important institution. Put this information into your kit bag and use it to avoid making the same mistakes that I did.

I've based my advise on a no-notice deployment scenario. Perhaps you will have time to prepare for deployment and have press guidance and PAO personnel to assist you. Also, it is never too early to plan and implement public affairs plans for deployments for training. Remember though, this article only deals with one of three areas of public affairs: public information. Command information and community relations are equally important parts of public affairs and should not be neglected. Exercise and plan to use all facets of public affairs. Properly told, your unit's publicized story will be a great morale multiplier for your soldiers, their families and your unit.

*Lt. Col. Harry A. Krimkowitz is the deputy for the Force Readiness Division of the Operations, Readiness and Mobilization Directorate, Deputy Chief of Staff for Operations, Washington, D.C.*

*This time, the officials decided, Americans would see only authorized versions of the fighting. To accomplish that goal, the Pentagon imposed an unprecedented regime of restrictions on the press. War correspondents were denied access to the front, except as members of "pools" led by U.S. officers who took them only where the military wanted them to go. These restrictions, together with subtler forms of persuasions, veiled threats and selective disclosure, touched off a storm of protest from journalists, civil libertarians and sympathetic politicians. The moves also raised disturbing questions about the rights of citizens in a democracy to know how their war is being conducted.*

*— Desert Storm:  
The War in the Gulf*

# ADA DIGEST

## WEAPON SYSTEMS

### PATRIOT SUPPORTS JOINT OPERATIONS

Two years after the United States and coalition forces defeated the Iraqi military and liberated Kuwait, U.S. forces are still standing watch in Southwest Asia against a potential Iraqi threat. Although Saddam Hussein's ground and air forces were soundly defeated and won't pose an offensive threat outside Iraqi borders for several years, the Iraqis still have the potential to launch surface-to-surface missiles against targets in the area of responsibility. This potential threat, combined with Hussein's occasional challenging rhetoric and his continuing offensive actions against his own people (the Shi'a in the south and the Kurds in the north), have forced the United States to establish and enforce no-fly zones in northern and southern Iraq.

To enforce the United Nations' sanctioned no-fly zone over southern Iraq, the United States has established Joint Task Force-Southwest Asia (JTF-SWA), which monitors Iraqi compliance with the no-fly zone established below the 32N parallel. Army, Navy, Air Force and Marine assets all participate in Operation Southern Watch. The U.S. Army's contribution is a Patriot battalion that provides tactical ballistic missile (TBM) defense of critical assets. To fully integrate the Patriot units' activities, an ADA liaison has been established at the JTF headquarters, known as the air operations cen-

ter. In May 1993, I had the opportunity to serve as a liaison officer (LNO) for 11th ADA Brigade. This brief tour proved to be a fantastic educational experience. I watched the planning process in the air operations center from start to finish, and I participated in the daily situation brief to the JTF-SWA commander. I finished my tour with a much clearer understanding of how ADA units are integrated into joint operations.

Working at a man station inside the air operations center, the LNO monitors the status of the Patriot fire units, ensures actual or exercise TBM alerts are rapidly disseminated to the fire units, and acts as the ADA expert for the JTF-SWA commander. The ADA LNO section uses three eight-hour shifts to man the ADA desk. ADA LNOs represent the 11th ADA Brigade commander at JTF-SWA and coordinate Patriot operations with the JTF-SWA staff. The ADA LNO section falls under the JTF-SWA J-3 and works for the J-3 and deputy J-3. Currently, the J-3 is an Air Force colonel and the deputy is a Navy captain. Working in the air operations center, the LNO reports the Patriot units' status to the director of combat operations, a lieutenant colonel or major who controls the current operations.

In addition to monitoring status, LNOs have several recurring activities to accomplish each day that they divide throughout the shifts. The

0400Z to 1200Z shift's primary duty is to brief the JTF-SWA commander on the Patriot battalion's current status during the daily 0500Z situation brief. The JTF staff briefs significant activities of the past 24 hours, including friendly sorties flown, operational status and Iraqi ground and air activity. The LNO briefs the current status of each of the firing batteries. The LNO also briefs the commander on any degradation of the battalion's ability to perform its on-order air-breathing threat mission. After the briefing, the LNO prepares the significant activities report (a consolidation of recent activities having ADA value) for the Patriot battalion commander and 11th ADA Brigade commander. The sources for this report are the Central Command intelligence summary and the J-2 daily intelligence update. One copy of the report is faxed to Fort Bliss later in the afternoon; the other is delivered to the Patriot battalion's operations center at the end of the first shift.

The LNO on duty for the second shift faxes the significant activities report to the S-3, 11th ADA Brigade, at Fort Bliss, Texas — the only additional task during this shift. Consequently, the second shift LNO uses this time to analyze the day's intelligence reports and, if necessary, to prepare requests for information. The J-2 maintains a cell that processes requests for information from the different staff sections.

The third shift LNO is responsible for receiving the 0300Z status report from the Patriot battalion. The battalion passes the report by voice on the STU III secure telephone at 0300Z and follows up with a faxed 

copy at 0400Z. The LNO uses this information to prepare the ADA status slide used in the 0500Z briefing to the JTF-SWA commander.

During an actual or exercise TBM alert, the LNO's primary functions are to ensure that Patriot units in the area of responsibility have received the alert over the Central Command execution net and to inform the director of combat operations when each of the batteries reaches the appropriate state of readiness. It is not the LNO's responsibility to pass the TBM alert to the fire units since both Patriot operations centers monitor Central Command's execution net.

The Patriot battalion deployed in the area of responsibility performs TBM defense of critical assets. The battalion is under the command of ARCENT and comes under the operational control of JTF-SWA. The battalion operates two information and coordination centrals, each of which controls three firing batteries. The battalion uses the organic UHF radio system for internal voice and data communications. A tactical telephone system operated by the U.S. Air Force using KY-68 secure telephones provides additional voice circuits. This phone system allows secure communications between anyone in the phone system. Since the tactical phone system provides for conference calls, it is the most efficient way for the LNO to simultaneously verify that both Patriot operations centers have received a TBM alert message (or any other flash traffic). STU III telephones provide backup secure communications within the Patriot battalion.

E-3A airborne warning and control system aircraft provide the remote air picture to the information and coordination central using the joint tactical data information link-A (TADIL-A) distribution system, a



generic group of off-the-shelf data link systems purchased for selected Army ADA units to provide them the capability to participate in a TADIL-A link with the airborne warning and control system. The systems generally consist of a TADIL-A data terminal set, a UHF or HF radio, a display set and a central processing unit with display set. Frequent unannounced TBM alert exercises have shown that Patriot fire units can rapidly respond to a TBM alert and that their actions are integrated with those of the air assets assigned to the joint task force thanks to efforts of the LNO section.

The Patriot units in the area of responsibility are providing defense of critical assets. The 1993 edition of FM 100-5 states, "Air defense operations are key when generating combat power. . . . The potential for catastrophic loss of soldiers, time or initiative, forcing a change to operational objectives, requires a greater

role for theater missile defense when generating combat power at the operational level." Air Defense Artillery is today executing the new FM 100-5. The Patriot battalion executes national military strategy by protecting critical assets in the area of responsibility. As a strategic asset and deterrence force, it demonstrates support of the U.S. Army's new emphasis on contingency operations, deployments to crises areas and operations other than war. Patriot forces are demonstrating Air Defense Artillery's ability to perform the missions outlined in FM 100-5. Through defense of friendly bases, lodgment areas and other critical assets, Patriot units ensure a decisive military force can be brought into the area of responsibility without the threat of a TBM or air-breathing attack.

CAPT. ED MANNING

## JRTC TRENDS

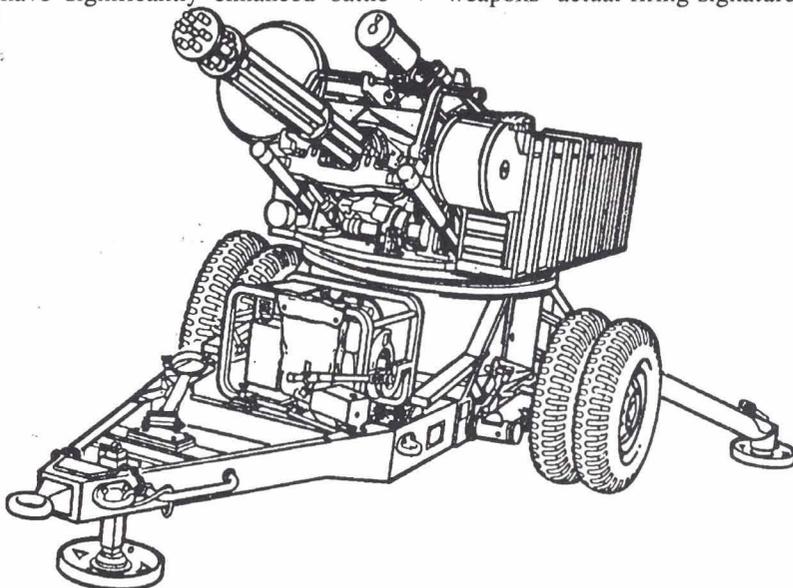
The Joint Readiness Training Center is now fully operational at Fort Polk, La., and concluded its first rotation here in September. Units participating in rotations will continue to receive exciting, challenging force-on-force training on a highly demanding, realistic battlefield.

Air defenders will find the Fort Polk maneuver area especially challenging. Ground reconnaissance is a must to confirm potential firing positions and to verify trafficability to and from these positions. The limited numbers of readily identifiable key terrain, combined with little relief, will test everyone's land navigation skills. These challenges can be successfully met by flexible, well-trained soldiers; simple, timely orders; an understanding of the commander's intent; and a willingness to learn.

Newly purchased Vulcan and Stinger replication devices have significantly enhanced battle-



field portrayal of ADA weapon system firings. These devices have replaced the green star cluster. The Stinger replication device, which we also use for SA-14 firings, is an 11-inch tube that discharges a smoking, disintegrating pellet to an altitude of 300 to 350 feet. The Vulcan replication device is a plywood board with 15 tubes firing two tracers per tube, with a tracer burn time of three to five seconds. Both the Stinger and Vulcan devices closely mirror the weapons' actual firing signatures.



These devices will provide immediate training benefits to the rotational units. The realistic battlefield signature these devices produce will cause manportable air defense system teams or Vulcan squads to shoot and displace to an alternate firing position, or become a target. The smoke from the Stinger device and the Vulcan tracer signature provide targets for Aviation assets to react to or attack. The Vulcan device also provides a direct fire, surface-to-surface capability never before available. This feature will also cause Vulcan squads to displace to alternate firing positions, as well as provide the opposing force with a signature to react to or attack.

Ongoing coordination and planning with corps Avenger units will result in the introduction of these assets onto the battlefield, although they will not serve in a support relationship to the deployed brigade. The brigade air defense officer (ADO) will find that, while Avengers may improve his defense design, his coordination and deconfliction requirements will most certainly multiply.

One area frequently discussed during the D-180 planning conference is the ADA troop list. U.S. Forces Command Regulation 350-50-2 (currently being updated) provides detailed guidance on the maximum number of personnel and weapon systems that may deploy for a rotation. The update reflects the ongoing ADA force modernization. Since force modernization will not be complete for the JRTC client units until the second quarter of fiscal year 1995, I've shown the current ceilings in the tables on the following pages.

Forces Command developed these troop lists based upon what the lead brigade of the lead division conducting a contingency operation would reasonably expect to deploy with in

ADA manpower and equipment. Properly employed, these ADA assets are more than sufficient to defeat the enemy air threat. Ask questions concerning ADA troop lists at the D-180 conference. Units wishing

to deviate from the troop list must request, in writing, approval from the JRTC Operations Group commander.

These revisions, combined with the realism improvements already discussed, will ensure that your unit

faces its toughest fight at the JRTC. The opportunities and challenges at the JRTC will help you fight and win in any potential conflict.

MAJ. JAMES R. OMAN

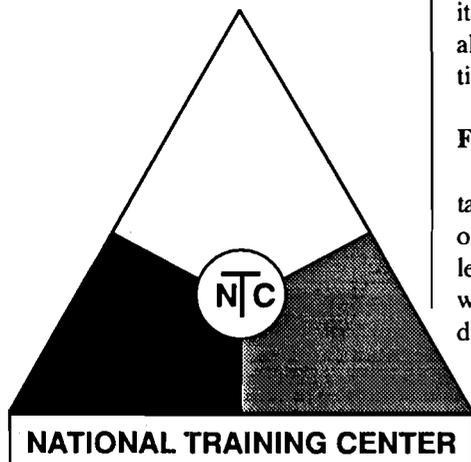
## Rotation Ceilings

<u>Unit/Element</u>	<u>Auth</u>	<u>Notes</u>
<b>Light Infantry Division (before modernization)</b>		
ADA Section - Brigade Command Post	4	
Air Defense Artillery Battery (-)		
* Stinger Platoon		
* Headquarters, Platoon	2	
** Stinger Section (Headquarters and 5 Teams)	12	(x2 ea) 10 Stinger systems max
*** Vulcan Platoon	13	(x2 ea) 6 Vulcan systems max
Base System Maintenance Section	6	
Maintenance Contact Team	2	(x2 ea)
**** ADA Scout Section (Headquarters and 2 Teams)	8	Requires augmentation: 2xE6 (16J)
ADA Total	70	
<b>Light Infantry Division (after modernization)</b>		
* Delete		
** Stinger Section (Headquarters and 6 Teams)	14	6 Stinger teams max
*** Avenger Platoon	16	6 Avenger systems max
**** LSDIS Section	3	Requires augmentation: 1xE6 (14J)
ADA Total	43	
<hr/>		
<b>Air Assault Division/Brigade (before modernization)</b>		
ADA Section - Brigade Command Post	4	
Air Defense Artillery Battery (-)		
* Stinger Platoon		
* Headquarters, Platoon	2	
** Stinger Section (Headquarters and 5 Teams)	12	(x2 ea) 10 Stinger systems max
*** Vulcan Platoon	13	(x2 ea) 6 Vulcan systems max
Base System Maintenance Section	6	
Maintenance Contact Team	2	(x2 ea)
**** ADA Scout Section (Headquarters and 2 Teams)	8	Requires augmentation: 2xE6 (16J)
ADA Total	70	
<b>Air Assault Division/Brigade (after modernization)</b>		
* Avenger Platoon	16	6 Avenger systems max
** LSDIS Section	3	Requires augmentation: 1xE6 (14J)
ADA Total	55	

## Rotation Ceilings (continued)

<u>Unit/Element</u>	<u>Auth</u>	<u>Notes</u>
<b>Airborne Division/Brigade (before modernization)</b>		
ADA Section - Brigade Command Post	4	
Air Defense Artillery Battery (-)		
Stinger Platoon		
Headquarters, Platoon	2	
Stinger Section (Headquarters and 5 Teams)	12	(x2 ea) 10 Stinger systems max
* Vulcan Platoon	13	(x2 ea) 6 Vulcan systems max
Base System Maintenance Section	6	
Maintenance Contact Team	2	(x2 ea)
** TDAR Section	3	Requires augmentation: 1xE6 (16J)
ADA Total	65	
<b>Airborne Division/Brigade (after modernization)</b>		
* Avenger Platoon	16	6 Avenger systems max
** LSDIS Section	3	Requires augmentation: 1xE6 (14J)
ADA Total	55	
<hr/>		
<b>Heavy Team</b>		
ADA Bradley Stinger Fighting Vehicle Section		
Section Headquarters	3	
BSFV	5	(x2 ea) 2 Stinger teams max
ADA Total	13	

## NTC TRENDS



Rotations at the National Training Center, Fort Irwin, Calif., during the past quarter have reflected some positive trends. However, the rotations also revealed areas that reflect negative trends or that need improvement.

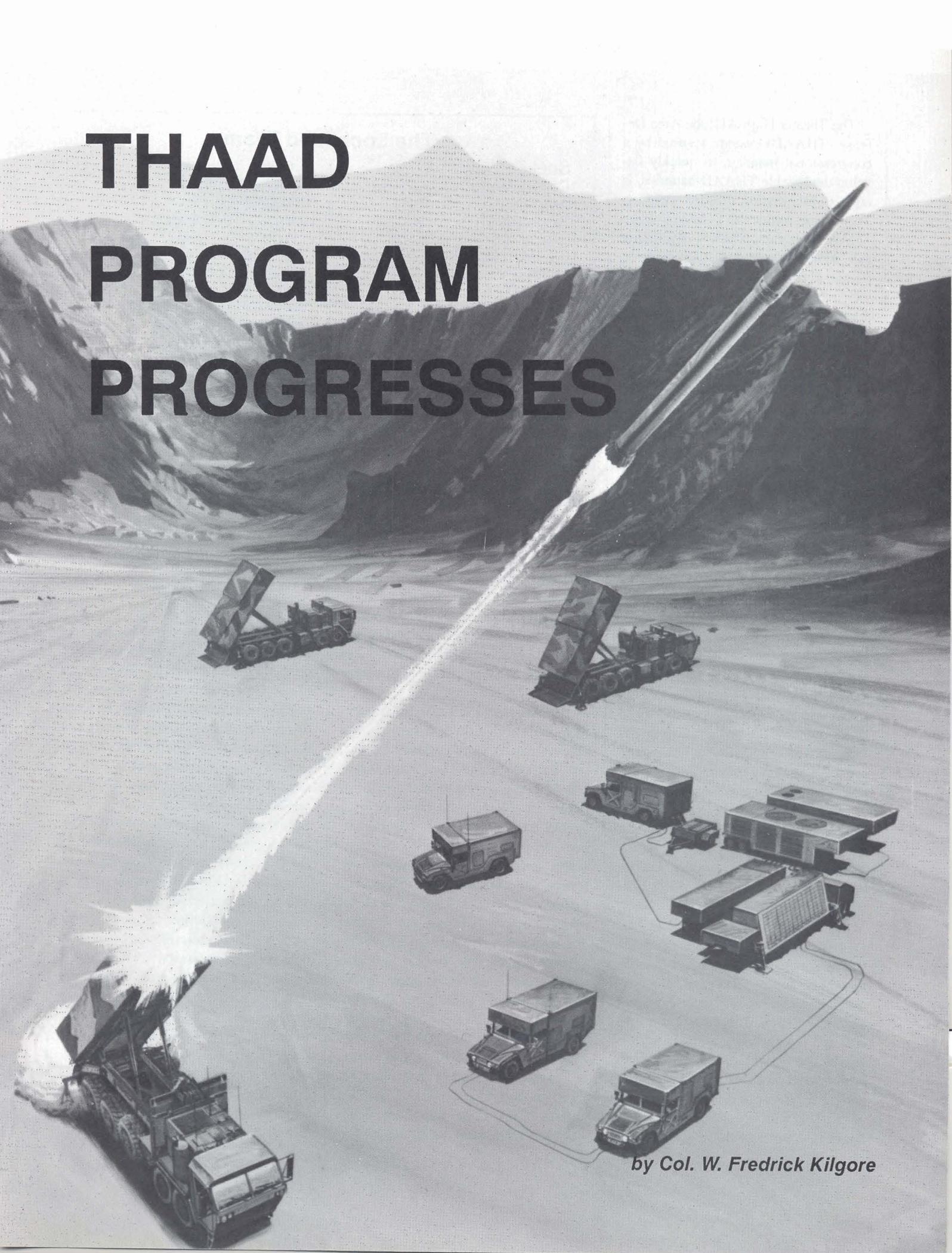
### FM Communications

ADA units have been able to maintain effective FM communications over extended distances. At battery level, units have identified during the wargaming process when terrain and distance will cause FM communications problems. Once these problems are identified, fixes can be found. The most common solution is the use of a relay between

the ADA tactical operations center (located at the brigade main) and forward ADA platoons. Often the relay is the battery commander positioned behind the lead platoons. During one offensive mission the relay linked the advancing ADA units with the battery commander, who was linked to the battery executive officer at an intermediate site, who was linked to the ADA liaison officer at the brigade tactical operations center.

The key to maintaining communications was advance planning. When leaders knew the capabilities of the FM systems and antennas, then matched them against the scheme of (continued on page 31)

# THAAD PROGRAM PROGRESSES



*by Col. W. Fredrick Kilgore*

The Theater High-Altitude Area Defense (THAAD) system, spurred by a congressional mandate to quickly develop deployable THAAD batteries, is rapidly progressing toward fielding. This paper provides an overview of the THAAD program, which is developing and demonstrating a tactical ballistic missile (TBM) defense system that will yield broad coverage and provide for high-altitude intercepts of threatening TBMs. To provide this capability while supporting a high degree of transportability and operational flexibility, the system is employing technologies developed in various Ballistic Missile Defense Organization programs. The THAAD system is being developed in a demonstration/validation (dem/val) program that will include an extensive flight and system test program and the production of a User Operational Evaluation System for user testing and use in the event of a national emergency. This paper describes the evolution of the program, its acquisition strategy, the current system design and key program challenges.

### Background

The threat that TBMs pose to U.S. forces and assets throughout the world has grown steadily over the past decade. Missile capability is now widespread, with many nations now possessing medium-range weapons capable of targeting U.S. forces and allies. Efforts are underway by several nations to enhance their missile forces by developing longer range missiles, indigenous missile production capability, accurate delivery systems and warheads of mass destruction (i.e., chemical, biological and nuclear). This growing threat, coupled with the unpredictability and hostility of potential adversaries, represents a serious threat to our national security. Theater ballistic missiles are rapidly becoming the "terrorist" weapon of the '90s to be used to inflict widespread damage without regard to the threat of retaliation by a superior U.S. military. Within a decade, the United States could be held hostage

### The Lockheed Team

Seeker  
Divert system  
Avionics  
Booster

ILS/MANPRINT  
Training

Radar integration  
Support

TOC

Canister  
Transporter/Erector

Flight test  
Post-deployment support

Loral  
Rocketdyne  
Honeywell  
United Technologies

Lockheed  
Lockheed Sanders

Lockheed  
Phase IV

Litton  
Lockheed Austin Division

Westinghouse  
Lockheed/Oshkosh

Lockheed Engineering  
& Sciences Company

by the threatened use of these weapons. Presently, the Patriot system represents the only defense against this rapidly evolving threat. Although effective in its intended mission, the limitations of Patriot in a stand-alone role against this increasingly sophisticated threat has become a key concern for future conflicts.

The Army has identified a requirement for a high-altitude theater missile defense capability to augment the current Patriot system. The THAAD system will provide this critical overlay to ensure an effective and viable defense against the TBM threat. THAAD's upper tier intercept capability will increase the effectiveness of current defenses. In addition, the upper tier system will provide for the defense of a large region, reducing the materiel and manpower required to defend distributed assets. The system will also provide increased effectiveness by destroying targets farther away from defended assets and minimizing the likelihood of damage due to debris fallout. Finally, the system will decrease overall warhead leakage by providing for multiple shot opportunities at each incoming TBM. These important benefits have resulted in strong support for

the THAAD program within the Army, Office of the Secretary of Defense and Congress.

### Program History

THAAD system development was initiated in 1987 with concept studies performed by the High Endoatmospheric Defense Interceptor Project Office at the U.S. Army Strategic Defense Command. These studies investigated the application of key strategic defense technologies (infrared seeker, fast response control system and advanced cooled seeker window designs) to the theater missile defense problem. A separate program was established within the U.S. Army Strategic Defense Command to develop the THAAD concept and an acquisition strategy to demonstrate its capabilities. Early concept studies indicated significant benefits in cost and performance and garnered support for the program within the Army. A technology development strategy, involving a system concept definition phase followed by a missile dem/val flight test program, was approved and initiated. Three THAAD concept definition contracts were awarded in 1990 to teams headed by Sparta Inc., McDonnell Douglas Space

Systems Company and Lockheed Missile and Space Corporation. In response to the Desert Storm experience and the Missile Defense Act of 1991, these contracts were modified in early 1992 to address the complete THAAD system, including the launcher, ground support equipment, and battle management/command, control, communications and intelligence (BM/C<sup>3</sup>I). The acquisition strategy and performance requirements for the THAAD system were approved by the Defense Acquisition Board in a Milestone I review in early 1992. This led to the solicitation of proposals for the dem/val phase contract that was awarded to Lockheed Missiles and Space Corporation in September 1992.

The THAAD Project Office, located in Huntsville, Ala., manages the program. The Program Executive Office for Missile Defense provides overall oversight.

### Operational Concept

THAAD will operate as an autonomous weapon system, but will perform

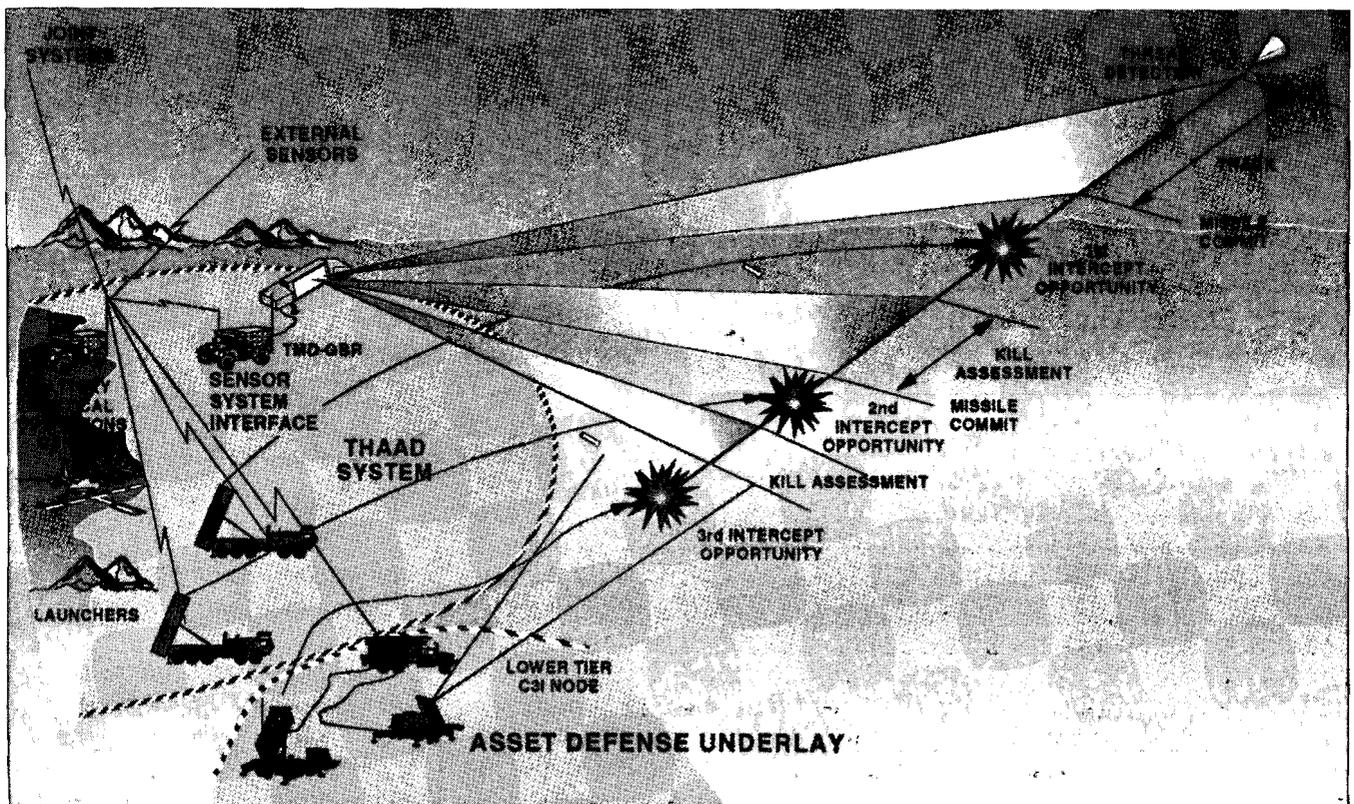
in concert with external sensors and lower tier defenses (i.e., Patriot and Corps SAM) to engage and neutralize incoming missiles. The THAAD operational concept is shown below. The THAAD battery will provide sufficient range and performance to engage the incoming missiles at large distances from the defended asset. Because of THAAD's high single-shot kill probability, most incoming missiles will be destroyed in this first engagement attempt. Following the engagement, a kill assessment will be performed using data from its radar. A second intercept attempt may be initiated if the first proves unsuccessful. The lower tier weapon system may also attempt an engagement if a battery is in position to do so. This layered defense will provide high confidence of missile kill and complies with the Army's requirements for a near-leakproof defense.

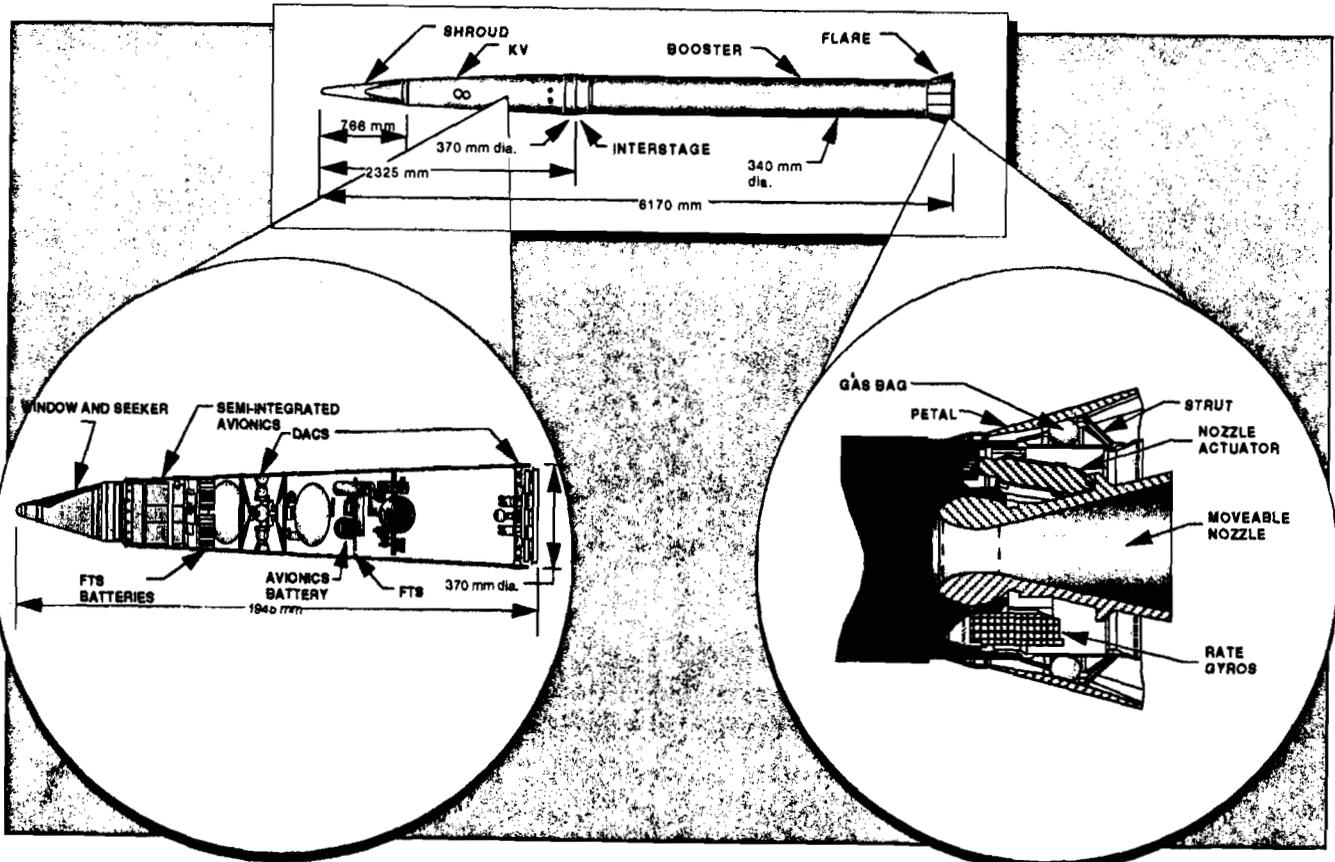
The Army has defined the organizational structure for the THAAD system in the High-Altitude Theater Missile Defense Operational Requirements Document. A THAAD battalion will

include four batteries. Each battery will consist of 150 missiles (including both ready to fire and reload missiles), nine launchers, one tactical operations center (TOC) and one radar. In addition, each battery will include communication relays that will facilitate remote basing of the radar, launchers and TOC to improve system effectiveness and survivability. The battalion will also include two additional TOCs and two additional radars to provide added flexibility and redundancy in the system.

### THAAD System Overview

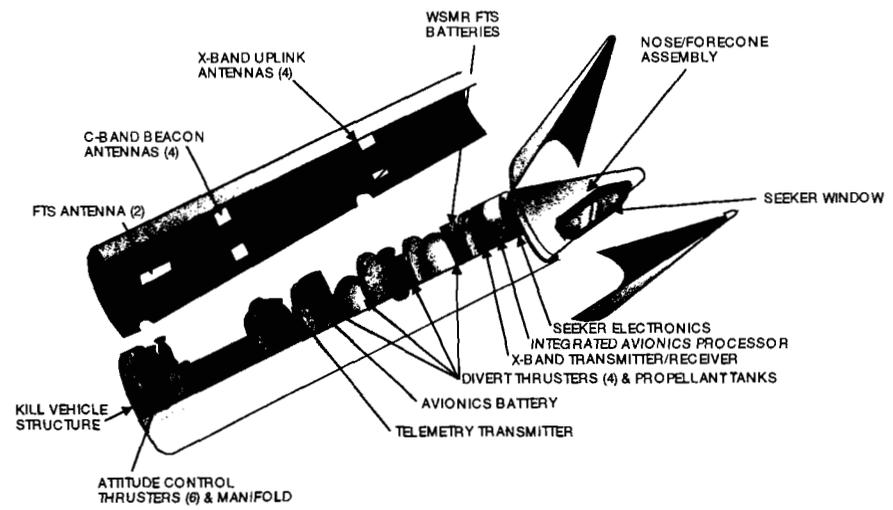
The THAAD program is developing a complete, integrated weapon system consisting of missiles, launchers, radars and a BM/C<sup>3</sup>I system. The radar to be used in the dem/val program will be the Theater Missile Defense Ground-Based Radar (TMD-GBR). This radar, currently being developed by the GBR Project Office, will be provided as government-furnished equipment to the THAAD prime contractor. THAAD is responsible for developing and demonstrating all of the other system com-





ponents, as well as integrating the radar with the system. These elements are currently being designed and developed in the THAAD dem/val program. The design status of each element is briefly described below.

**Missile.** The THAAD missile design uses various technologies developed in past Ballistic Missile Defense Organization programs to achieve hit-to-kill accuracy and yet maintain a small configuration well suited to the THAAD operational requirements. The missile, shown above, consists of a single-stage solid propellant rocket booster motor and a kill vehicle that separates from the booster prior to impact. The booster uses current state-of-the-art composite case construction to minimize inert weight. The case is cylindrical to maximize packaging efficiency in the launcher. A deployable flare at the aft end of the booster provides added stability in certain flight regimes. The flare's petals lay flat in the stowed position to reduce the canister cross section



and increase firepower. It is deployed by a metal gas bag upon command from the missile on-board computer. An electrically actuated cold ball and socket thrust vector control system provides attitude control during boost phase. The interstage at the forward end of the booster contains a separation motor

that ensures positive kill vehicle separation in both endo and exo environments.

The kill vehicle configuration is shown above. The kill vehicle is integrated into a biconic structure that mates to the booster interstage. The aft-cone structure is of composite construc-

tion. The forecone is constructed of stainless steel to minimize the likelihood of ablation products impacting the seeker window or seeker measurements during homing. During flyout, the seeker window is protected from the severe flight environments by a two-piece clamshell shroud. The shroud is ejected just prior to seeker acquisition by inflating metal bladders in the nose cone to impart the required separation velocity. The metal bladders remain attached to the ejected shroud to eliminate the possibility of debris impacting the window. The window itself is a rectangular sapphire plate mounted in the forecone. The midwave infrared seeker is mounted on a two-axis stabilized platform to isolate the seeker measurements from vibration and other disturbances. The seeker design includes an all-reflective Korsch optical system and platinum silicide staring focal plane array. A Honeywell 1308 ring-laser gyro is mounted on the platform to measure and stabilize the platform motion and serve as a reference for the seeker measurements. Aft of the seeker is the bi-propellant divert and attitude control system, which includes separate aluminum oxidizer, propellant, pressurant tanks and cruciform divert thrusters. Propellant and oxidizer lines

connect the tanks to the attitude control thrusters mounted at the rear of the kill vehicle. The integrated avionics package, mounted between the attitude control thrusters and the pressurant tank, contains four R3000 reduced instruction set computers to provide the processing speed required for hit-to-kill guidance. The missile is protected prior to launch by the missile canister. The canister has a composite shell to minimize weight and a compliant radial support group to reduce shock loads transmitted to the missile. Up to 12 missile canisters can be fastened together in a missile module assembly that is transported on C-130 and larger transport aircraft and can be easily handled in the field by standard ammunition re-supply vehicles.

*Launcher.* The current THAAD launcher concept, depicted below, uses the M-1075 palletized loading system (PLS) truck. Both the launcher and missile module can be transported on a single C-141 aircraft. Using its standard PLS load handling system, the launcher can load the complete missile module within minutes after arrival in theater. Once emplaced, the launcher is powered by a standard Army generator mounted on the vehicle. The launcher electronics package includes a SINC-

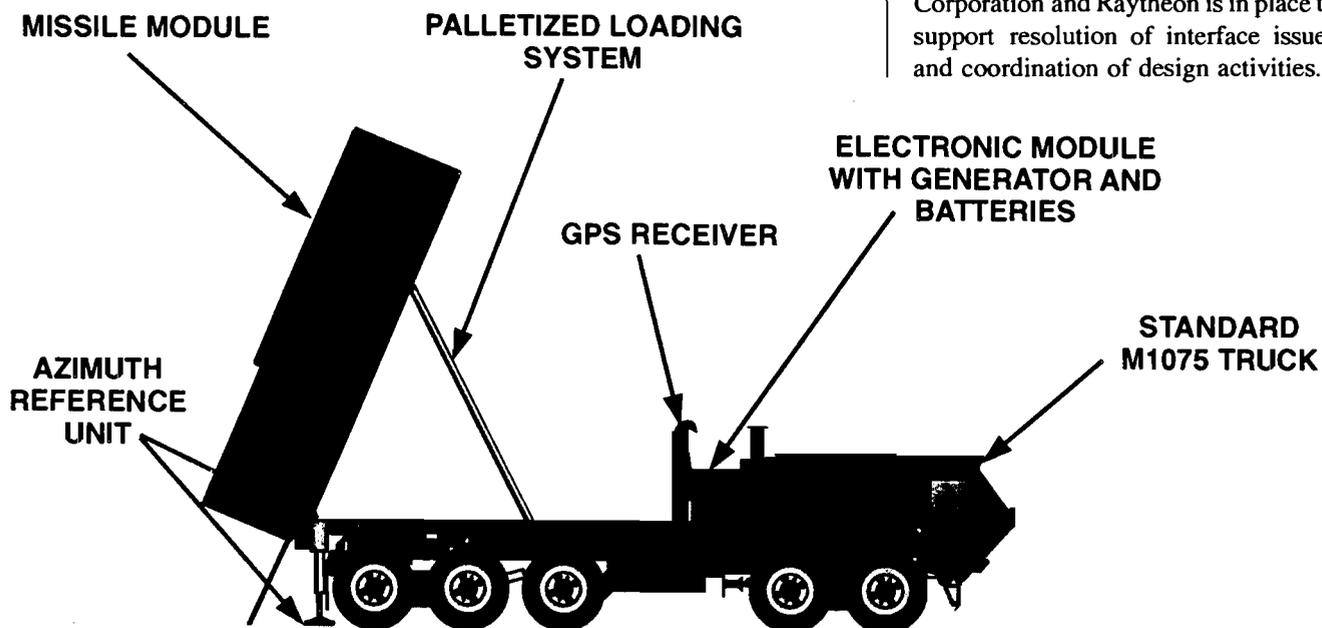
GARS radio for communication with the BM/C<sup>3</sup>I system. In addition, a Global Positioning System receiver and azimuth reference unit provide autonomous positional location determination.

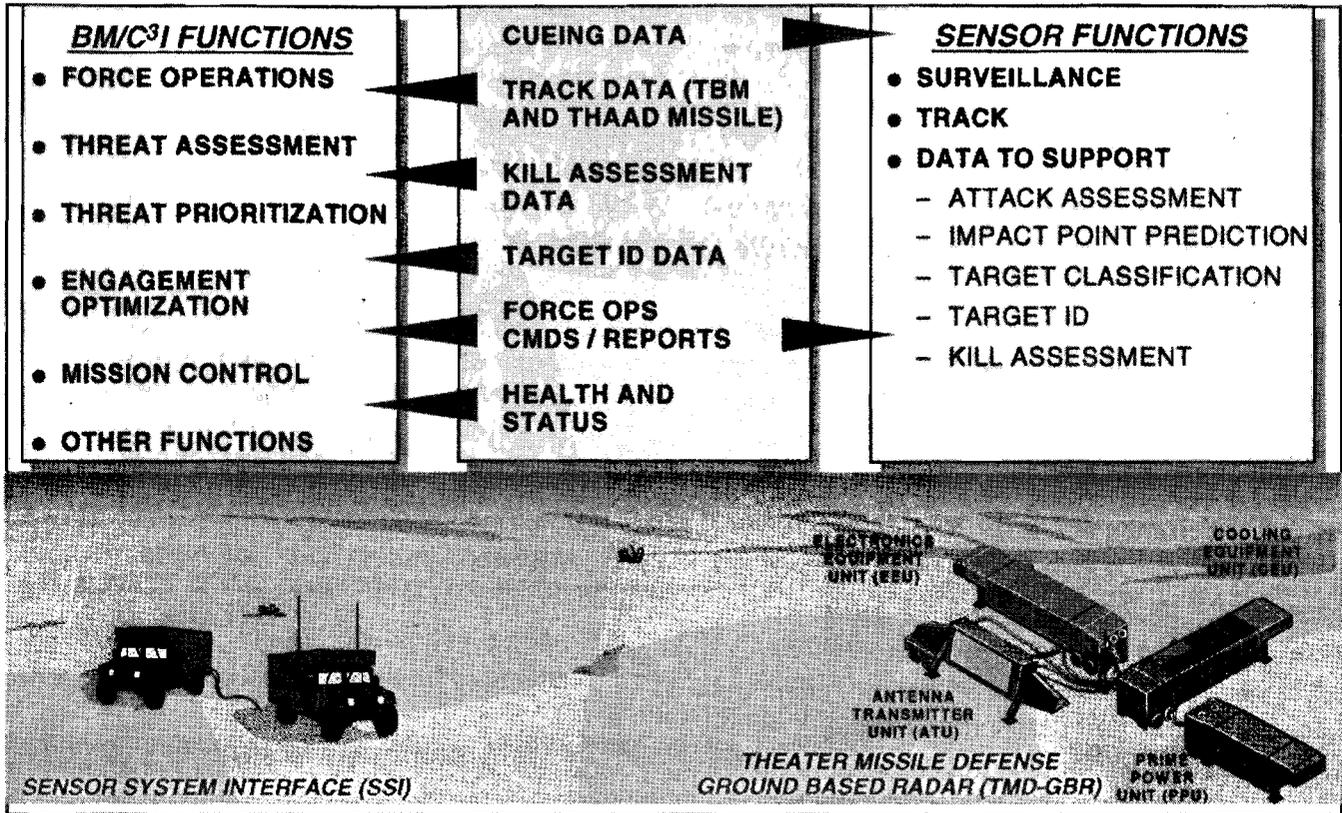
*Radar.* The THAAD radar is being developed by the GBR Project Office as part of a dem/val program for the family of radars concept. Raytheon was awarded the dem/val contract to develop the TMD-GBR in September 1992. The TMD-GBR is an X-Band, phased array, solid-state radar. The radar design delivers high power output and exceptional waveform agility to support the long-range functional requirements of the THAAD mission.

The radar consists of five modules, each of which is transportable aboard C-130 aircraft. The modules are located in close proximity to the antenna unit.

The radar performs numerous functions, including surveillance, target tracks, missile track and in-flight uplink communication. The radar also provides data to the BM/C<sup>3</sup>I system to support target identification, discrimination, threat object map generation and kill assessment.

An associate contractor agreement between Lockheed Missile and Space Corporation and Raytheon is in place to support resolution of interface issues and coordination of design activities.





**BM/C<sup>3</sup>I System.** The THAAD system is coordinated and controlled by the BM/C<sup>3</sup>I system (depicted on the following page). The BM/C<sup>3</sup>I system also provides for interface with the theater air defense command and control system, interoperability with other Army and joint systems, and collection of data from external sensors. The BM/C<sup>3</sup>I system consists of modular units housed in standard Army shelters mounted on a high mobility multipurpose wheeled vehicle (HMMWV). These shelters are configured to form TOCs, launcher control stations (LCSs) and sensor segment interfaces (SSIs). Together, these elements form a distributed, replicated, non-nodal command and control system that adheres to the Army's philosophy for future air defense systems.

The TOC is the nerve center of the THAAD battery and battalion. A common hardware/software design is used for the TOC and SSI shelters. The TOC consists of two operations shelters (one designated for force operations and the

other for engagement operations) and two communication shelters. The operations shelters provide a dual redundant capability.

The SSI acts as a buffer between the radar and the BM/C<sup>3</sup>I system. It facilitates BM/C<sup>3</sup>I processing and filtering of the radar data before it is transmitted over the BM/C<sup>3</sup>I communications system. The SSI is always located near the THAAD radar to facilitate high bandwidth communications over a fiber-optic cable. Since the SSI is identical to the TOC shelter, it is capable of assuming the mission of a TOC shelter if required.

The LCS performs radio communications functions within the THAAD BM/C<sup>3</sup>I system. It provides communication links between remote TOCs, SSIs and launchers. The LCS is also used as a communications relay to extend communication range beyond line of sight.

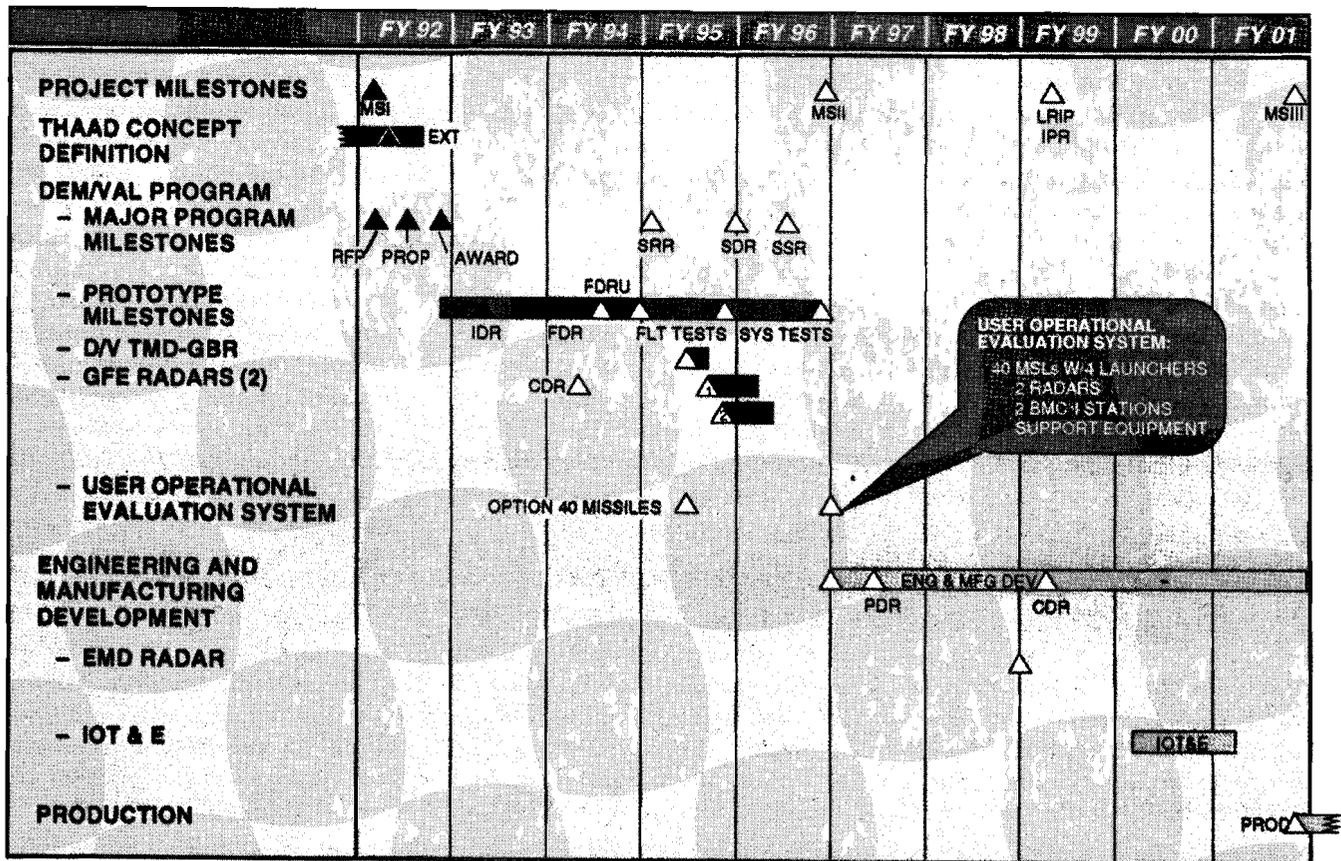
The THAAD BM/C<sup>3</sup>I system supports a wide variety of communication protocols to ensure interoperability

with Army and joint forces. The principal communication link between the BM/C<sup>3</sup>I system elements is the Joint Tactical Information Distribution System (JTIDS). SINCGARS is used for communications between the LCS and the launchers. The BM/C<sup>3</sup>I system elements form networks on which sensors and BM/C<sup>3</sup>I system elements report track data and other information. The objective THAAD system will be interoperable with other Army air defense, higher echelons and joint systems. The networks are designed so that loss of any BM/C<sup>3</sup>I element does not result in the loss of access to other system elements. This architecture greatly enhances system survivability and availability and minimizes the logistical burden associated with the BM/C<sup>3</sup>I elements.

### System Operation

The THAAD system elements work in concert to detect, identify, assign and destroy incoming TBMs. For each engagement, THAAD performs auto-





The THAAD dem/val program will satisfy congressional and Ballistic Missile Defense Organization guidance to develop a missile defense capability by the mid-1990s. The 6th ADA Brigade, Fort Bliss, Texas, will form two UOES batteries to conduct THAAD follow-on tests and operational evaluations. The three-launcher UOES batteries will have 27 personnel and will deploy in case of national emergency. The program schedule (above) shows parallel UOES and objective system design paths.

### Test Program

The dem/val flight test program (10 missile flight tests and 10 system tests over a 24-month period beginning in September 1994) will be conducted at White Sands Missile Range, N.M. The targets for the flight test program will be developed under the Tactical Missile Defense Targets contract managed by

the U.S. Army Space and Strategic Defense Command.

### Program Challenges

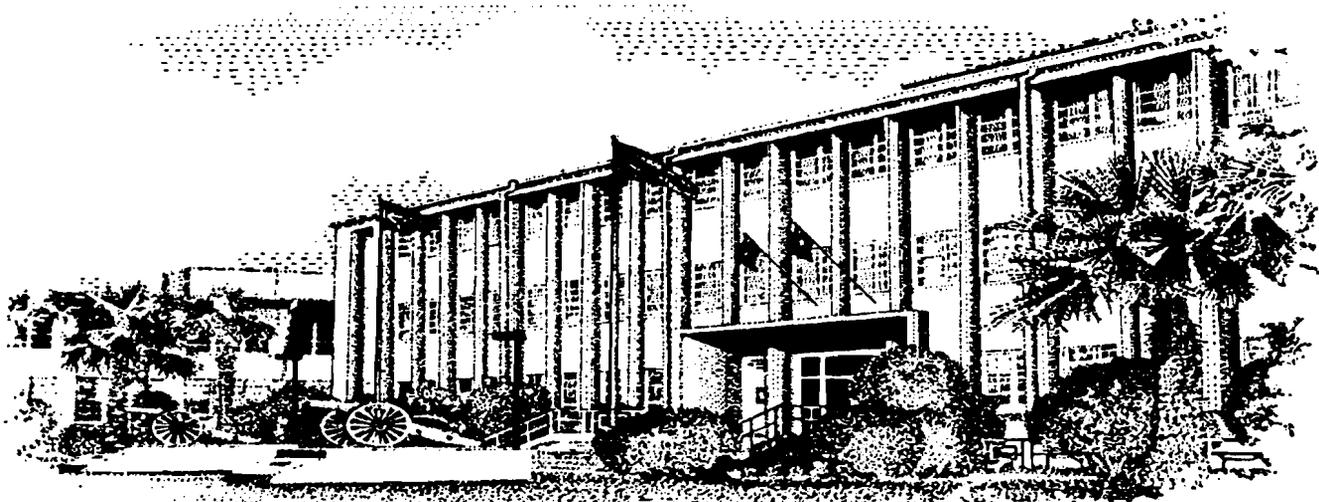
The THAAD Program continually monitors several technical and management areas critical to the success of the program. Most of the risks stem from the accelerated development schedule required to meet the mandate for mid-1990s capability. Close coordination with the TMD-GBR program will ensure that the radar meets the THAAD dem/val program technical and schedule requirements. Critical areas of schedule risk include development of the kill vehicle and BM/C<sup>3</sup>I software and integration and test of the kill vehicle components. Integration and coordination with White Sands Missile Range to facilitate flight tests is also a high priority. Finally, the program also emphasizes early assessment of interceptor lethality and effective-

ness. An aggressive and proactive risk management philosophy is being applied to avoid delays.

The THAAD program will greatly enhance defense of U.S. forces and interests from the burgeoning threat of ballistic missile attack. The system design applies current component technology to achieve a highly effective system that complies with Army requirements. Proactive management of key program risks will maintain the aggressive development and flight test schedule. Through the application of available technologies, the THAAD program addresses a national security need in the face of the escalating ballistic missile threat.

*Col. W. Fredrick Kilgore is the THAAD Project Manager, THAAD Project Office, Huntsville, Ala.*

## 1994 ADA COMMANDERS' CONFERENCE



*United States Army Air Defense Artillery School  
Fort Bliss, Texas*

# PROTECTING AMERICA'S ARMY

*The 1994 Air Defense Artillery Commanders' Conference concept will recognize Air Defense Artillery's historical past with a salute to the Anti-aircraft Artillery veterans of World War II, and will address the issues confronting the branch as we in Air Defense Artillery develop the means to provide future protection for the force. The tentative agenda below is subject to change, and events may force some speakers to reschedule or cancel their appearances, but it does offer an accurate preview of what is certain to be a most informative conference.*

# CONFERENCE GUEST SPEAKERS



*Army Chief of Staff  
Gen. Gordon R. Sullivan,  
shown here at the 1993  
ADA Commanders'  
Conference, is tentatively  
scheduled for a repeat  
performance as this year's  
keynote speaker.*

## June 13, 1994

Registration	N/A	C122, Bldg 2	0800-1700
Ice Breaker	MG Cravens	302 Sheridan	1800-UTC

## June 14, 1994

Conference Prelude	N/A	Hinman Hall	0845-0900
Opening Ceremony	DPTMS	Hinman Hall	0900-0915
Opening Remarks Chief of ADA/Branch CSM Status Reports	MG Cravens/ CSM Walthes	Hinman Hall	0915-1045
Break		C Wing, Bldg 2	1045-1100
Space Command & ADA Q&A Period	LTG Lionetti	Hinman Hall	1100-1200
Conference Photo	N/A	Front, Bldg 2	1200-1215
GO Luncheon	MG Cravens	O' Club	1215-1315
PERSCOM Update	MG Putman	Hinman Hall	1315-1415
Break		C Wing, Bldg 2	1415-1430
DAMO Force Develop Update	MG Garner	Hinman Hall	1430-1530
Break		C Wing, Bldg 2	1530-1545
ADA Association Meeting		Hinman Hall	1545-1645

**June 14, 1994 (continued)**

WW II Commemoration/ Retreat	MG Cravens	Memorial Circle	1645-1715
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**June 15, 1994**

Warm-up Period		Front, Bldg 2	0545-0600
CG's Run	MG Cravens	Fort Bliss	0600-0645
FM 100-5, Operations	LTG Miller (Tentative)	Hinman Hall	0900-1000
Break			1000-1015
FM 44-100	CATD	Hinman Hall	1015-1115
Keynote Address	GEN Sullivan (Tentative)	Hinman Hall	1115-1215
Lunch			1215-1330
Wkg Sessions Outline	COL Moeller	Hinman Hall	1330-1345
Working Sessions		Various Areas	1345-1700
Executive Planning	MG Cravens		
NCO/EM Sessions	CSM Walthes		
FAAD Bn Cdrs	CATD		
HIMAD Bn CDRS	CATD		
ADA Banquet	TBD	O' Club	1900-UTC

**June 16, 1994**

Contractor Brkfst	MG Cravens	O' Club	0630-0730
2/1 Inactivation	LTC Westwood	Noel Field	0830-0930
DCD Brief	COL Hasbrouck	Hinman Hall	1000-1045
32nd AADCOM	BG Garrett	Hinman Hall	1045-1130
Lunch		O' Club	1130-1230
Briefings	TBD	Hinman Hall	1230-1400
Break		C Wing, Bldg 2	1400-1415
CG's Closing Remarks	MG Cravens	Hinman Hall	1415-1445
Closing Ceremony	DPTMS	Hinman Hall	1445-1500
CG's Exec Session	MG Cravens	CG's Conf Rm	1500-UTC
CSM's Exec Session	CSM Walthes	CSM's Conf Rm	1500-UTC

**June 17, 1994**

**Travel Day**

11th Bde CofC	MG Cravens	Noel Field	TBD
NG Symposium	LTC Davis	Hinman Hall	0800-1700

As usual, this year's ADA Commanders' Conference will feature ADA weapon system displays and exhibits.  
The following air defense contractors have been invited to attend.

Acquisition Logistics Engineering  
5959 Gateway West, Suite 242  
El Paso, TX 79925

Applied Learning Systems Inc.  
6425 Boeing, Suite B2  
El Paso, TX 79925

ARES Corporation  
6500 Boeing, Suite L215  
El Paso, TX 79925

Boeing Defense & Space Group  
7500 Viscount, Suite 296  
El Paso, TX 79925

CAS, Inc.  
5959 Gateway West, Suite 620  
El Paso, TX 79925

Coleman Research Corp.  
3 Butterfield Trail  
El Paso, TX 79906

COLSA Inc.  
1736 Larry Hinson  
El Paso, TX 79936

Cypress International  
240 Rosemount  
El Paso, TX 79922

EPA - El Paso Analytics  
7750 Alabama, Suite B  
El Paso, TX 79904

Farwest Technical Services  
6090 Surety Drive, Suite 101  
El Paso, TX 79905

FMC Defense Systems Group  
500 Montgomery Square, Suite 401  
Lawton, OK 73501

Hughes Aircraft Co.  
6044 Gateway East  
El Paso, TX 79905

IIT Research Institute  
New Mexico Technology Center  
2509 N. Telshor Blvd.  
Las Cruces, NM 88001-8222

IIT Research Institute  
10 West 35th Street  
Chicago, IL 60616-3799

Edmund Davis  
Independent Consultant  
1101 Terrel  
El Paso, TX 79936-1109

Litton Data Systems  
5704 Los Cerritos  
El Paso, TX 79912

Lockheed Sanders  
6090 Surety Drive, Suite 101  
El Paso, TX 79905

Loral Aeronutronic  
3 Butterfield Trail, Suite 105  
El Paso, TX 79906

Loral Vaught Systems  
3 Butterfield Trail, Suite 121  
El Paso, TX 79906

Magnavox EOS  
46 Industrial Avenue  
Mahwah, NJ 07430-2206

Magnavox  
P.O. Box 9245  
Lawton, OK 73505

Management Assistant Corp.  
of America  
8600 Boeing Drive  
El Paso, TX 79925

Management Works  
7500 Viscount, Suite 122E  
El Paso, TX 79925

Martin Marietta  
3 Butterfield Trail  
El Paso, TX 79906

McDonnell Douglas Aerospace  
7241 Emerson Avenue  
Westminster, CA 92683

Miltop Corporation  
Montgomery Square, Suite 301  
Lawton, OK 73501

Military Professional Resources Inc.  
P.O. Box 6786  
Fort Bliss, TX 79906

Northrop  
10235 Buckwood  
El Paso, TX 79906

Quantum Research  
3 Butterfield Trail, Suite 112  
El Paso, TX 79906

Research Analysis & Maintenance  
1790 Lee Trevino, Suite 600  
El Paso, TX 79936

Raytheon Company  
7500 Viscount, Suite 292  
El Paso, TX 79925

Raytheon Company  
7201 Montana  
El Paso, TX 79925

REM Associates  
744 Dahlia Court  
El Paso, TX 79925

SAIC  
7400 Viscount, Suite 220  
El Paso, TX 79925

SIGMATECH Inc.  
5959 Gateway West, Suite 520  
El Paso, TX 79925

Summa Technology  
10032 Fenway Drive  
El Paso, TX 79925

TRW  
213 Wynn Drive  
Huntsville, AL 35805

United International Engineering  
P.O. Box 16110  
Fort Bliss, TX 79906-1110

Vista Technology  
7700 Alabama, Suite C  
El Paso, TX 79904

Westinghouse  
11800 Rojas Drive, Suite C16  
El Paso, TX 79936

# Column Write

## MOS 14J undergoing restructure



Air Defense Artillery continues to reform and realign its military occupational specialty (MOS) structures to provide more equitable career paths for ADA soldiers. A case in point is MOS 14J, *Early Warning System Operator*.

MOS 14J will soon undergo some significant changes of particular benefit to ADA soldiers. When this MOS was created, it simply replaced MOS 16J, *Forward Area Alerting Radar Operator*. The MOS will now expand to include command and control and ground-based sensor operators as well. Personnel experts at the ADA School's Office, Chief of Air Defense Artillery, expect the MOS 14J force structure (authorizations) to grow by more than 37 percent by the end of fiscal year 1998.

The targeted positions (E-3 to E-7) will convert to MOS 14J as the units are fielded with the new command, control, communications and intelligence (C<sup>3</sup>I) system.

Restructuring MOS 14J will create a much more viable grade structure, which in turn will significantly improve these soldiers' promotion opportunities. A detailed breakdown of the new grade structure is not yet available.

Soldiers in MOS 14J can expect to work with state-of-the-art equipment. The auto-

mated C<sup>3</sup>I system is designed to provide real-time air threat alerting, cueing, position data and air battle management information necessary to support the forward area air defense battalion mission. Key elements of the system include the standard integrated command post shelter, processors, displays, communications equipment and software.

Soldiers in MOSs 14R and 14S with a Y2 additional skill identifier may apply for reclassification to this MOS; however, each reclassification request will be evaluated on a case-by-case basis.

**CSM James E. Walthes**  
Post Command Sergeant Major

### Affected Positions

#### Light Infantry Divisions

##### TACTICAL OPERATIONS SECTION

Operations Sergeant  
Assistant Operations Sergeant  
Chief Teller  
Plotter  
Teller

##### COORDINATION SECTION

Operations Sergeant  
Assistant Operations Sergeant  
Liaison Sergeant  
Assistant Liaison Sergeant  
ADA Coordination Specialist  
Vehicle Driver

#### Heavy and Special Divisions

##### TACTICAL OPERATIONS SECTION

Operations Sergeant  
Assistant Operations Sergeant  
ABMOC Chief Teller  
ADA Tactical Operations Teller  
ABMOC Plotter  
ABMOC Assistant Specialist

##### COORDINATION SECTION

Operations Sergeant  
Assistant Operations Sergeant  
Liaison Sergeant  
Assistant Liaison Sergeant  
Operations Assistant  
Track Vehicle Driver

#### Corps Avenger

##### TACTICAL OPERATIONS SECTION

Operations Sergeant  
Assistant Operations Sergeant  
ABMOC Chief Teller  
ADA Tactical Operations Teller  
ABMOC Plotter  
ABMOC Assistant Specialist

##### COORDINATION SECTION

Operations Sergeant  
Assistant Operations Sergeant  
ADA Coordination Specialist

# FROM THE TRENCHES

by SFC Alexander J. Hicks



When tasked to be an observer/controller (O/C) augmentee at the Joint Readiness Training Center, or JRTC, Fort Chaffee, Ark., I had mixed emotions — the strongest of which was dread. As a single parent preparing to retire, the last thing I needed was the aggravation of a trip to the field and all that it entailed. But no one ever said soldiering was an easy way of life, so my thoughts turned to “suck it up and drive on.”

My orders were cut, and I scrounged up an adequate (I thought) amount of field gear. I arranged for a babysitter. Then, on a Sunday, I arrived at the Fort Smith Municipal Airport, Fort Smith, Ark. I was met by SSgt. Clay Wilson, who had worked with me previously in Germany. Since we had crossed trails in the past, he did all he could to welcome me to the O/C team as an augmentee. I got settled in for the night, and everyone stopped by to say hi, shake hands and see if I needed anything. The O/Cs permanently assigned at the JRTC are really great about providing extra nice-to-have items for going out in the woods.

Monday and Tuesday passed in a blur of augmentee classes and briefings designed to give me an overview of the JRTC. At first, I had a preconceived notion that people went to the JRTC for a stubby pencil drill. But the more I listened to the briefings and soaked up information from the regular O/Cs, the more I wished I had gone through a place like JRTC 18 years ago when I first sewed on a set of stripes. Making my mistakes on a rotation as a player instead of out in the line might have saved me a lot of heartache later on as an NCO. Late on the second day I received word that I'd be going into the box, or exercise area, by air assault, and I'd be following a dismounted Stinger team.

Being realistic, the last thing I wanted to do at my age was hump a ruck up and down hills, following 18- and 19-year-old kids. I whined. I groaned. I believed that I was too old to hump a ruck and too close to retirement to be riding on a helicopter that just might park in the top of a tree. My whining and groaning was all in fun, though, and the regular O/Cs had a field day ribbing me. Of course, they all volunteered to be listed as my life insurance beneficiaries.

Wednesday morning I was transported along with several O/Cs to Davis Airfield in Muskogee, Okla. The first thing that really impressed me was the six inches of snow on the ground and the cold. I don't mean just cold. I mean *subarctic* cold. Bitter, mind-numbing, bone-breaking, tear-freezing cold. I was awestruck! The soldiers on rotation were suited up in Gortex and other high-tech wonder stuff, but I stood there in BDUs, a field jacket and the long johns I was issued in 1973!

We linked up with the teams we would follow and received some preliminary information from them: their initial position and mission, and what lift they would go out on. H-hour was set for 2000, but by sundown it was so cold and windy H-hour was pushed back to 0715 to preclude cold weather injuries.

Thursday, D-day, at 0530 I shouldered my ruck and linked up with my Stinger team. We moved out onto a snow-covered flight line. But our 0810 Chinook lift never materialized. We waited until 1330 on that barren, windswept, bitterly cold runway, occasionally taking turns in a warmup tent about 500 meters away.

At about 1330 we got word that our chalk would load on one of the Blackhawks along with another Stinger team and their O/C. As we loaded onto the Blackhawks, the team chief of the other team, carrying roughly 130 to 140 pounds of equipment, slipped on the ice and badly injured his knee. My team chief absorbed his gunner (he now had a three-man Stinger team) and loaded onto the Blackhawk to air assault into the maneuver box. We later heard the injured team chief was medically evacuated.

The loss of the team chief wasn't the only problem. During our move from the holding area to the flight line my Stinger team chief had been carrying two extra missiles. Apparently the weight was just too much for him — he abandoned one of the extras right there on the airfield before we loaded for the air assault.

We lifted off and hit Landing Zone Tiger at about 1420. We moved off the landing zone and into a tree line. While the team chief was trying to get his bearings, I got my first good look at JRTC. To my east was Hill 200, a relatively average hill that becomes Mount Everest when you're carrying your body weight in equipment. To my south was the defensive perimeter of the Field Artillery (FA) battery my Stinger team was to defend. The FA battery was emplaced, and its guns were oriented toward the east. To the north was a ridgeline, to the west and northwest was a larger ridgeline called White Oak Ridge. Directly to our west was an open area, and up in

the tree line was the brigade tactical operations center. The team chief called his platoon leader and told him about the injured team leader at Fort Davis, notified him that he had absorbed the extra gunner and received a change of position.

The team leader brought his map to me, pointed at a spot and asked if that's where we were. But as an O/C I was in an awkward position. I was not allowed to help; I also could not hinder. All I could do was watch, record and speak at the after action reviews (AARs). It was obvious to me that this guy had no clue as to where we were, so I just stood there and watched him try to figure it out. The O/C for the team with the injured team leader, call sign Bravo 4-8, stayed with me as we followed this team across the landing zone. They then set up a position where they could defend the FA battery they were supposed to support.

Red air, or hostile aircraft, came on station in less than an hour. The team fired two of their three missiles and were credited with two kills of high-performance aircraft. But now they had just one missile, and suddenly recognized that abandoning the other extra missile had been a serious mistake. About 1800 they pulled down to spend the night with the FA unit. Bravo 4-8 had been taken back to the JRTC base camp to pick up his vehicle, so I went in search of an O/C vehicle to warm up in. By this time I had been out in subarctic temperatures roughly all day. Now, after dark, the temperature was rapidly dropping. I saw an FA O/C vehicle and knocked on the window. One of the FA guys I had seen up at Davis Airfield answered my knock. He half-dragged me into his Humvee, poured me some Class I Charlie — their slang for coffee — and I commenced trying to warm up a little (changed my socks, dried my feet, etc.). About 2200 Bravo 4-8 showed up with his vehicle, and we crawled into it to camp out for the night.

Friday morning the sun rose, and it got colder with each passing minute. The gray skies held a promise of more rain or snow. At 0700 the team reoccupied their position with their one remaining missile. The team chief kept trying to get more missiles, but by 1200, he was still limited to only one.

By this time the team chief had me totally confused. The team's position was about 50 meters outside a woodline. They had marked a place, but had done nothing to improve the position. This team chief, for some reason, was not making his troops work, not making them dig in or provide any kind of local security. They dug no bunkers, they made no range cards, they did *none* of the standard things soldiers do when they pull into a position.

About 0900 the team chief finally had his soldiers scrape out a Ranger grave (a real shallow hole in the ground). It took all my self control to keep from screaming. It was bitterly cold, and they were out in the open! Finally I pulled the team chief to the side, and after asking a lot of questions, coached him into getting a small shelter built into the treeline in case it rained. It was a poor job, and I felt bad for the gunners, but all I could do was watch.

The team chief got word that the artillery was going to move, so they broke down their position. Then the fast movers came in again. The team fired its last missile and spent the remainder of the day cold and miserable in their Ranger grave. The Stinger team positioned on the south side of the artillery battery was killed by sniper fire that afternoon, and the artillery suffered about a dozen losses to snipers as well. Later that night, the artillery lost two guns, three trucks and some more troops to an 82mm mortar attack. We later found out the enemy who called in the mortar fire was on top of a small range building no more than 100 meters from the brigade tactical operations center. An opposing forces (OPFOR) soldier had crawled up there and called in the fire mission from virtually within the center's boundaries.

Saturday morning the FA battery and the Stinger team relocated about a klick [kilometer] to the west into a new position. Due to the lack of vehicles caused by the previous night's mortar attack, the battery had to shuttle troops and equipment to the new position. That included the Stinger guys. The shuttling process really slowed the move. Once they got to their new position, the Stinger guys moved uphill to the vicinity of the building where the forward observer had called in the previous night's mortar attack, and they began to set up a position. About noon the FA battery commander left with an advance party to prepare for a move to a new position. Because they were anticipating the move, the Stinger team didn't do much to prepare or improve their position. Then, just before 1300, the team chief was shot by a sniper.

When a person's MILES gear goes off, the O/C assesses the person who was hit based on what the casualty card says. According to the team chief's casualty card, he had been shot through the lower back, and the wound had caused his intestines to hang out of a large, gaping hole in his midsection. Just minutes after I assessed him, one of the team members ran down to the artillery battery to get the medic. The medic came up, and just minutes later, the team chief's section sergeant showed up to resupply the team with a missile. The section sergeant decided to evacuate the wounded team chief. Keep in mind this guy is supposed to have a gut wound. The section sergeant pulls the team chief across his shoulders in a fireman's carry and promptly drops him. I walked up and assessed the team chief as dying of wounds caused by improper handling. Then they loaded this guy in the back of a Humvee, cause if you're dead, that's it, you're dead.

This left a private first class (PFC) as the new team chief and a private second class as the gunner. As I said, the section sergeant resupplied them with one missile; he also gave them five MREs [meals ready to eat] between the two of them. The number of MREs could have been critical, because over the next few days some real serious supply problems cropped up, but these guys were lucky. Rumor control said some people out of this brigade were drinking pond water and hadn't eaten in 72 hours. The new team chief packed up his team and moved them back to the edge of the FA battery perimeter, in

anticipation of the move. Just after the team abandoned its position and moved to the artillery perimeter, a UH-60 Blackhawk landed on their abandoned position. OPFOR troops in the area had shot it down.

Early in the afternoon, some OPFOR fast movers came in, and the Stinger team successfully engaged them with their missile. The PFC called in for resupply, then coordinated with the FA first sergeant to help an M-60 machine gun crew in defense of the perimeter until his missiles arrived. While standing off to the side watching all of this, I heard on the O/C radio net that the artillery battery commander had been killed in an ambush, and that his unit didn't know. Within an hour, the section sergeant for this Stinger section was ambushed en route to resupply the team. The three missiles he had for the team were captured by the OPFOR. In short, everything was going to hell in a handbasket, and it was happening quickly.

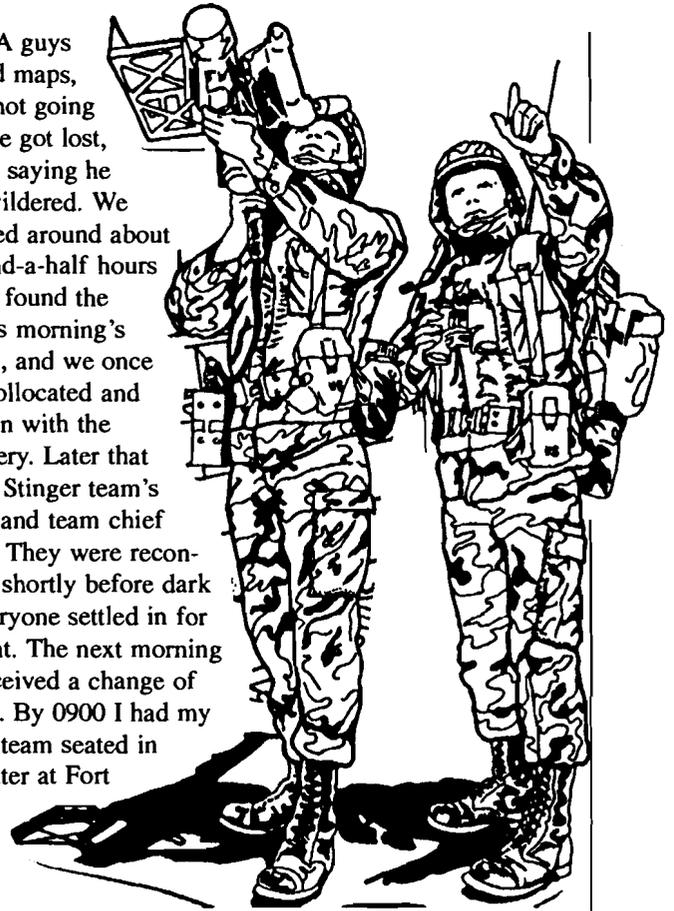
The artillery battery had just two guns left. They fired a couple of fire missions, and the executive officer was getting worried. He had two guns, one trailer and two trucks with which to make a move. He didn't have enough vehicles to make the move, so he did what anyone else would do — he called for help. About dusk a couple of Bradleys and a five-ton came to his rescue, and everyone loaded up. They made a night move to consolidate with another battery until they could replenish their equipment and reconstitute their personnel losses. My Stinger team loaded their gear into the five-ton, and at 0100 they were finally able to get some rest.

Sunday morning the team chief discovered he couldn't reach anyone on his radio. He also realized that his platoon leader had no idea where he was. Well, neither did he. Finally he walked over to an artillery guy and found out about where he was on the map (at least within a kilometer), then went back to his radio and kept trying to call his lieutenant. I used the O/C radio net to reach my counterpart, Bravo 2-4, who was with the lieutenant. He told me the lieutenant hadn't heard from the team since the day before and was listing them as missing in action. Bravo 2-4 and I sat back to watch things develop.

The artillery battery went on a live fire, and they elected to keep their Stinger team with them. I followed them to their next position and did a little coaching with the team chief to give him a better idea of where he was and how to coordinate with his first sergeant. Then I called in my location and found out I was released until 1100 the next morning. I could go to the rear for a hot shower and a decent night's sleep.

Monday morning marked the beginning of my second week at JRTC. I rejoined the team as the artillery was preparing to move. Just five minutes after they arrived, they were hit by another mortar attack. The battery had been reconstituted, up to and including the commander, the previous day. This mortar attack took out one more gun, the Humvee that was towing it, the people and, once again, the battery commander. I don't know who was left in charge of the main body of this artillery battery, but he apparently was bewildered. We all

know FA guys can read maps, so I'm not going to say he got lost, I'm just saying he got bewildered. We wandered around about three-and-a-half hours until he found the previous morning's position, and we once again collocated and settled in with the FA battery. Later that day the Stinger team's vehicle and team chief arrived. They were reconstituted shortly before dark and everyone settled in for the night. The next morning they received a change of mission. By 0900 I had my Stinger team seated in the theater at Fort



Chaffee for the low-intensity conflict portion of the rotation AAR.

We were back in the field by noon, waiting for the orders that would set the defense phase in motion. My Stinger team only had two missiles and their vehicle, but they were ready to Charlie-Mike [continue their mission]. By 1800 play started again, and the artillery moved to the site where they had lost the gun two days prior. The Stinger team chief selected — and even began improving — his position. He found an engineer vehicle with one of the C-shaped scoops to scoop out a bunker hole for him. Wednesday, as the team continued to watch for OPFOR aircraft and continued improving their position, high-performance aircraft came on station. They engaged one, but were credited with a miss. By evening the temperature had dropped, and even though they had gotten one missile through resupply, they had kind of a gloomy outlook. These guys were miserable, and were not having a good exercise at all.

Freezing rain fell all night, and by Thursday morning, everything was coated with a half-inch layer of ice (even stalks of grass). About 0900 OPFOR attacked a nearby position. The team did not take cover, and everything settled down quickly. Throughout the morning a heavy fog settled over the position, and all we could see was gray. Nothing much happened the rest of the day.

Just before dark the platoon leader's driver showed up and took the extra gunner to form a separate team. My team got resupplied about dusk and finally had a six-missile basic load. About dusk the two teams pulled into their night defensive positions and everyone settled down for a long, cold, wet, miserable night.

Just before daylight we were back at the Stinger team's position. About 0645 another O/C showed up with a video crew and, fortunately for me, a thermos of real hot Class I Charlie. About 0700 the early warning net announced weapons control status and air defense warning of RED/TIGHT. The team went to work. They got out there, searching and scanning, doing what they were supposed to do. About 0730 I heard an aircraft. I looked through the trees and saw an A-10 — a friendly — flying about a klick and a half away. I'm watching the team, the camera crew's filming the action, and the team chief directs the team to engage the A-10! The Stinger fired, so I launched a green star cluster, which indicates a Stinger missile launch. The team rearmed and fired again, so I launched another star cluster and got a third ready. The team chief again rearmed his gunner's Stinger, and the camera guy kept on filming. A little bit later the team picked up a helicopter. An actual Mi-8 Hip appeared out of the trees and the gunner fired. I launched a star cluster and the MILES light began flashing on the Hip. All right! My team finally killed an aircraft.

The brigade commander had promised any Stinger team with a confirmed kill on a hostile aircraft would get a four-day pass, so I felt good about that. But the O/C radio net was going berserk. My Stinger team had scored another kill — they had committed fratricide on the A-10.

That morning I filled out a fratricide report and called in all the information. Bravo 2-0, the air defense officer in charge of the O/Cs, sounded ecstatic when he realized that both the fratricide and the Mi-8 kill had been captured on film. This would make excellent AAR material.

This was change of mission day, and I just knew that the team chief was going to hear and see that event again at the AAR. Sure enough, the team chief was not a happy camper when he came out of the AAR. Even though the successful Hip engagement was also on the tape, the taped A-10 fratricide was up close, personal and expounded upon. The team chief was sweating blood over it.

My second Saturday at JRTC the weather finally warmed a little bit. No aircraft came into our area, and although we saw some A-10s aloft, they stayed well away from our grid square. I remember at the time looking at the team chief and saying, "I wonder why they won't come any closer."

Late that afternoon the artillery battery moved to a new position, and the next morning found the Stinger team getting ready for another round of battle with OPFOR aircraft. About midmorning, we had visitors in the box (OPFOR aircraft moving into the area). The gunner fired two missiles at an An-2 Colt. Neither engagement was successful, and this

brought the team down to one remaining missile. I really couldn't understand how they missed the Colt, because it was very, very close. So I had them clean the lenses and change the batteries in all the MILES equipment before they resumed digging in. They built a fighting position and a little bunker.

Later that afternoon word came over the early warning net that OPFOR helicopters were coming in. We all watched as an Mi-2 Hoplite busted out of the treeline. This had to be one of the prettiest and best engagements I've ever seen. The team fired their last missile and got a confirmed kill. It was beautiful. The gunner did everything he was supposed to do. As soon as the gunner fired you could see the MILES light go off on the helicopter. When the aircraft landed, it was classified as a catastrophic kill, which meant there wasn't enough wreckage to sift through for intelligence purposes.

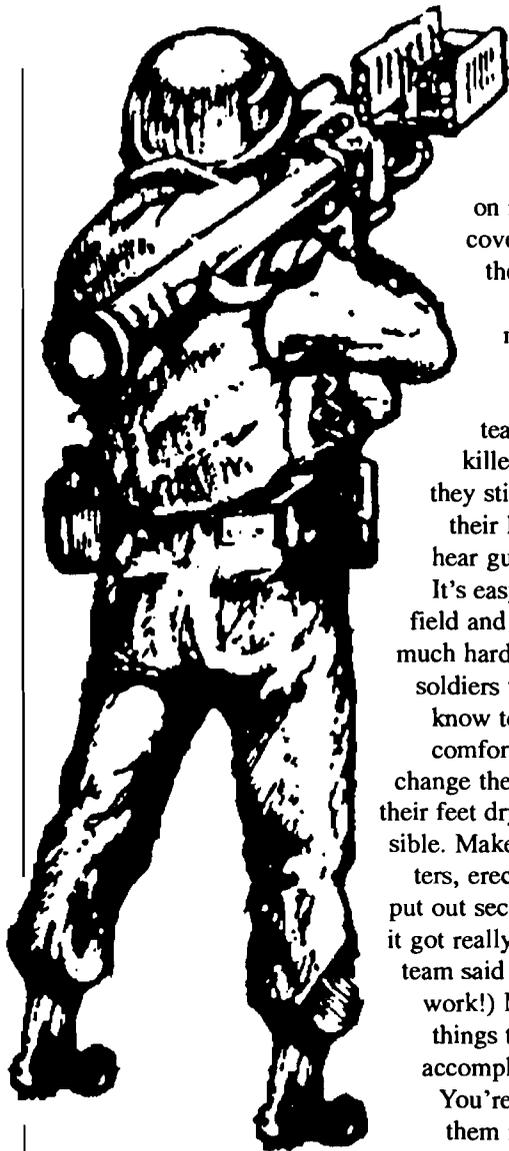
Because they had no missiles left, the team went to ground in their foxhole and called in for resupply. Listening over the O/C radio net, I found that although the team had gotten the Mi-2, nobody had gotten the Mi-8 that had landed 22 OPFOR soldiers about a klick and a half away. The target for this OPFOR team, according to the pilot of the downed Mi-2, was our artillery battery.

About an hour later, when the OPFOR soldiers broke out of the treeline, the Stinger team was in its fighting position. They killed the OPFOR radio telephone operator (who also happened to be one of the senior NCOs of that group) before they were killed at close range by the OPFOR troops. Once the confusion of the initial firefight settled down, the Stinger gunner looked at the RTO he had just killed with a flicker of recognition. The staff sergeant on the OPFOR team was the recruiter who had processed this Stinger gunner into the Army. How many people can say they killed their recruiter!

The OPFOR guys created a lot of havoc for the FA battery, even though the Stinger team, by engaging the ground troops, had provided warning of an imminent attack to the battery. It was too late to save most of it. More than 70 percent of the artillerymen were killed and some of their equipment was destroyed. The OPFOR was wiped out. That wound up the exercise for me and my Stinger team. I cleaned up my gear and turned it in so I could catch my return flight to Fort Bliss.

I have a number of comments. First, the O/Cs at the JRTC are some of the most professional, knowledgeable air defenders I've ever seen. You would be hard pressed to put together a finer group of NCOs to get the results and feedback these guys provide to units. Second, I wish, in retrospect, that I had been able to go through something like JRTC when I was a young NCO so I would have had the chance to make mistakes and learn from them. In my opinion, JRTC rotations confirm the importance of NCOs enforcing standards and conducting critical training: simple things like building field shelters, digging in and preparing a fighting position, arranging resupply and map reading (basic field craft).

Basic soldier survival skills. At one point, when a nearby unit was under attack, the Stinger team did not go tactical.



They stood up outside their hole trying to see what was going on rather than taking cover and waiting for the fight to come to them. This struck me as strange, because just several days before their team chief had been killed by a sniper. Yet they still had not learned their lesson. When you hear gunfire, take cover!

It's easy to get out in the field and be miserable. It's much harder to teach young soldiers what they need to know to stay much more comfortable. Make them change their socks and keep their feet dry as much as possible. Make them build shelters, erect camouflage and put out security. (Every time it got really cold, the Stinger team said it was too cold to work!) Make them do the things they need to do to accomplish their mission.

You're not looking after them if you don't make them dig in, a fact that becomes apparent when mortar rounds start falling.

Autonomous operations. In the confusion that characterizes JRTC, communications are often sporadic and more often nonexistent. The PFC who took charge of the Stinger team that I followed showed a lot of initiative. He tried to coordinate with the battery first sergeant and, in an effort to get word to his platoon leader that he was alive and kicking, called through the FA net to brigade so someone would tell the air defense cell the team was still alive. He tried to get the appropriate information to communicate with his platoon leader. He tried to get radio batteries, but who wants to support a PFC? It was difficult at best for them to get fed and get shelter. No one taught them what they needed to know to make themselves reasonably self-sufficient or comfortable.

Battlefield survival skills are NCO business. They follow along with MOS training. A manportable air defense system crewman needs to know how to live outdoors, how to find shelter and eat, and how to manufacture what he cannot find. The soldiers who air assaulted in carried approximately their

own body weight in equipment, a lot of it "snivel" gear. This excess was counterproductive, because they were either carrying the wrong equipment or didn't have the equipment they really needed. Had these guys reconfigured their rucks, they might have been able to build shelters out of their ponchos. If they had had shelter halves, they could have been a little more comfortable. They spent roughly four days without a vehicle or their A bags! The private wore vapor barrier boots the whole time, boots that are not good for walking or sitting still, and generally contribute significantly to cold weather injuries. I don't believe the team chief was very knowledgeable about the consequences of allowing his soldier to wear those boots. Fortunately, the kid wasn't injured, but there was a very real potential for that.

Battle confusion and battle stress are well duplicated at the JRTC. Soldiers *must* make decisions — be they right or wrong. People can get hurt. My trip to the JRTC was a very enlightening experience, and I would recommend all senior NCOs get the opportunity to go through the JRTC as an O/C augmentee. I also think the JRTC lessons learned should be more widely disseminated. It's very easy for a unit to go to the JRTC, play out the scenario, and say they did great. I'm sure there are units that do great. But what I saw, in my opinion, bordered on criminal. The neglect these soldiers suffered! Not just a lack of food and shelter, even the rudiments of information. The team chief I followed never received an operations order after he left Davis Airfield in Oklahoma. What was his mission? Just to hook up with the FA guys and follow them around?

Had the leadership taken the time to give these people an adequate amount of information — even so much as an operations order — things may have turned out differently. I know that a fratricide would not have taken place had an operations order been put out to reinforce hostile criteria. In my opinion, the team, and the section overall, were poorly trained. They should never have had the command and control problems or resupply problems that they experienced. There was a distinct lack of coordination and command and control, and by the end of the rotation everyone was so tired they were almost apathetic. We can ill afford these setbacks should we deploy to a truly hostile environment.

Senior NCOs must take the time to teach junior officers what they need to know: the importance of command and control, how to conduct autonomous operations, how to coordinate at each level of support and, above all, how to take care of themselves.

These have been viewpoints from the trenches. If senior leaders continue to practically apply these lessons, then Air Defense Artillery will most certainly continue to be First to Fire.

**SFC Alexander J. Hicks**, a 20-year Army veteran with 17 years in Air Defense Artillery, is now retired and lives in Houston, Texas.

maneuver and the terrain, they developed an effective communications plan.

One problem with communications is that units are not bringing all of their authorized equipment, especially equipment required to remote (i.e., AN/GRC-39s and TA-312s).

#### Counterair Assault Planning

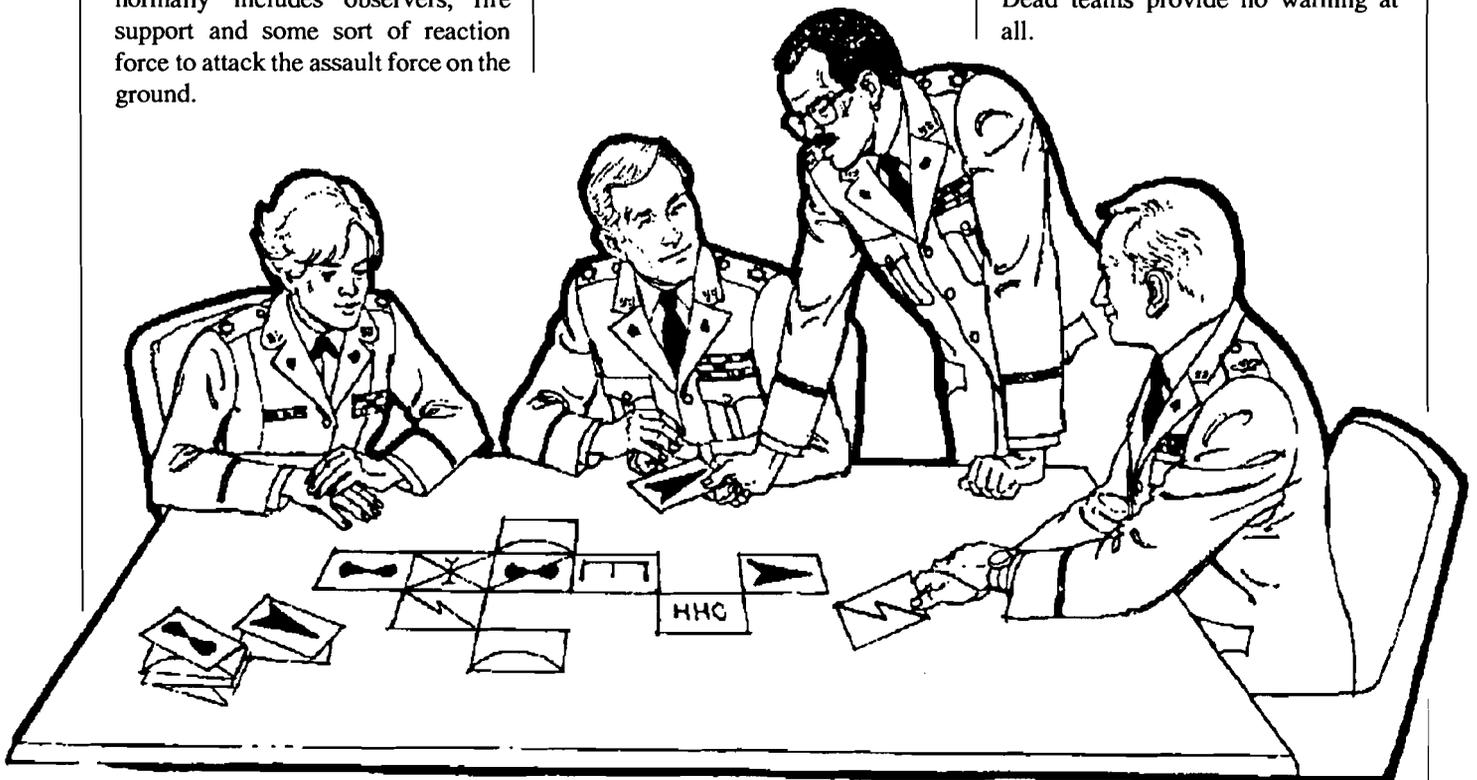
Staffs and ADA units are starting to develop specific plans to counter enemy air assaults, rather than having it as a subtask of the basic ADA plan. ADA leaders and S-2s are identifying doctrinally supportable air assault objectives, time windows and air avenues of approach. The ADA plan then masses ADA units on the most likely air avenues of approach at the appropriate time, not on the templated landing zones. ADA liaison officers then coach the staffs into a combined arms approach to counterair assault planning, which normally includes observers, fire support and some sort of reaction force to attack the assault force on the ground.

#### Knowing the Air Threat

ADA leaders, particularly at the platoon leader level, have demonstrated sound knowledge of the air threat. They concentrate on the essential information needed most by ADA fire units and the supported commander, specifically the when and where of enemy air. Few commanders pay attention or care about sortie rates or the type of ordnance unless it is a "warstopper." Maneuver commanders want to know when or during what phase of the battle they should expect air. Where will they be? Where will they come from? ADA platoon leaders, more so than the task force S-2s, are called upon to brief the air threat and have been effective in alerting commanders to the danger posed by enemy air.

#### ADA Early Warning Teams (Scouts)

The employment of ADA early warning teams at the NTC has been a disappointment. Brigades have viewed them as more of a reconnaissance and surveillance asset than as an air attack early warning source. One brigade even took positioning and control authority away from the ADA commander and gave it to the S-2. The S-2 then used the scouts to cover his maneuver-related named areas of interest. The teams are often air-inserted deep beyond the range of their FM manpack radios, without an extraction plan or withdrawal criteria. In most cases, they are assigned sectors already covered by other units or systems. Rarely are they used to cover flank avenues of approach. The perception is that the scouts' only mission is to go forward and deep to obtain early warning. What units fail to consider is survivability. Dead teams provide no warning at all.



### Planning ADA Coverage

Many maneuver commanders and S-3s dictate the positioning of their direct support ADA assets over the advice of their air defense officer with adverse results. Often the ADA battery commander will develop an integrated air defense plan using both general and direct support ADA units. The plan typically includes moving Avengers forward to overwatch task force rear areas, allowing the direct support platoon leader to push his air defense forward to obtain mass and early engagement while the task force rear is under the Avenger coverage. A plan might have a direct support platoon leader identify an air avenue of approach on a flank and try to mass his fires on that flank. But all too often, maneuver commanders or S-3s will not approve such plans, and instead insist that each company, team, the tactical operations center and trains have a Stinger team. This results in the platoon leader or section sergeant losing the ability to fight the air battle. Air defense is piecemealed across the battlefield and Stinger teams end up following companies or teams with no consideration given to sound ADA coverage. The company or team that is moving along the air avenue of approach and needs more air defense doesn't get it because the task force tactical operations center and trains — already under the Avenger umbrella — each have their own Stinger team.

### Air Defense Warnings and States of Readiness

ADA units do not understand the doctrinal use and meanings of air defense warnings, local air defense warnings and states of readiness as explained in FMs 44-1 and 44-53. The warning systems have lost credibility because units use them rather

than a state of readiness to maintain their readiness. ADA units often establish a warning based not on enemy air activity, but rather as a means of maintaining a certain level of readiness. For example, one unit kept all of its systems at air defense warning YELLOW all day, when the actual air defense warning was WHITE. They did not use local air defense warnings. Their intent was to be ready if an air attack did occur, but the impact was that linkups and rehearsals did not take place because crews were in an active ADA mission, and they were not prepared when the battle began. If units understood the warning systems and linked them to a state of readiness, they could maintain the right balance between sustainment, mission preparation and active air defense.

### Missile Resupply

Units arrive with only a vague plan about how to conduct Stinger and Avenger missile resupply. Although the units have a good idea of what works and what doesn't by the end of the rotation, apparently these techniques are being lost once the unit

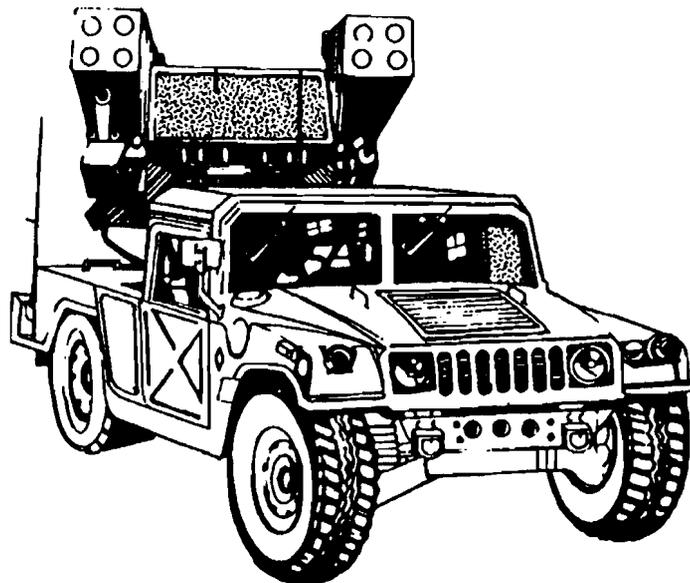
returns to the home station. The techniques are not being fielded or put into tactical standing operating procedures.

### Sketches

Leaders are using sketches to visually assist in communicating their intent or plan. Sketches included in the order have been more effective than even the most concise verbiage. Retention and understanding among subordinates is much stronger when they can visualize how the scheme of maneuver should look or how various ADA units fit into an integrated plan.

### Sheet Metal Map Boards

One unit used sheet metal backing on its operations and early warning map board. The metal allowed the use of magnets, which could be easily moved without creating a mess on the overlays. This technique was particularly useful on the 1:250,000 scale early warning map board, where aircraft progress was tracked using magnets.



MAJ. DALE C. EIKMEIER

## Association News



# SAINT BARBARA AWARD CHANGES

The Air Defense Artillery Association exists to promote and preserve the pride and history of the Air Defense Artillery branch. One of the charters of the association is to manage the Order of Saint Barbara and Order of Molly Pitcher awards programs. Recently, Chief of Air Defense Artillery Maj. Gen. James J. Cravens Jr. reviewed and revised the nomination, selection and approval criteria for the Honorable and Ancient Orders of Saint Barbara and the Order of Molly Pitcher. The new procedures for nominating an individual for one of these awards, as well as a copy of the new nomination order form, appear below.

### **Ancient Order of Saint Barbara**

The Ancient Order, the more distinguished of the two levels of award, recognizes those individuals who stand above their brethren of the Honorable Order. The specific criteria for accession into the Ancient Order is to have made extraordinary contributions through long-term service for or on behalf of the U.S. Army Air Defense Artillery. The Ancient Order is reserved for those whose careers have embodied the spirit, dignity and sense of sacrifice and commitment epitomized by Saint Barbara. Membership in the Honorable Order of Saint Barbara is not a prerequisite for membership in the Ancient Order. Normally, the Ancient Order of Saint Barbara is reserved for colonels, lieutenant colonels, majors (P), chief warrant officers 4, master warrant officers, command sergeants major, sergeants major, master sergeants and civilians who have made extraordinary contributions to the branch.

The nominating authority for the Ancient Order of Saint Barbara is the first ADA colonel in the chain of command. If no ADA colonel exists in the chain of command, this authority reverts to the first ADA lieutenant colonel or the highest ranking ADA officer in the chain of command. A nomination will be forwarded to the ADA Association at Fort Bliss, Texas, which will present the nomination to a board of three ADA colonels: the executive director of the ADA Association, the

deputy assistant commandant of the U.S. Army Air Defense Artillery School and the Fort Bliss chief of staff. Two of these three officers must approve the nomination. Following the board review, the nomination will be sent to the commanding general, U.S. Army Air Defense Artillery Center and Fort Bliss, for approval and signature. The commanding general reserves the right to sign all Ancient Order of Saint Barbara awards.

### **Honorable Order of Saint Barbara**

The Honorable Order recognizes those individuals who have demonstrated the highest standards of integrity and moral character, displayed an outstanding degree of competence, served the U.S. Army Air Defense Artillery with selflessness, and significantly contributed to the promotion of Air Defense Artillery in ways that stand out in the eyes of the recipient's seniors, subordinates and peers alike. Normally, the Honorable Order of Saint Barbara is reserved for the ranks of first lieutenant to colonel, staff sergeant through command sergeant major and chief warrant officer 2 to master warrant officer, and also for civilians who have made significant contributions to the branch.

The nominating and approving authority for the Honorable Order of Saint Barbara is the first ADA battalion or brigade commander in the chain of command. If no ADA battalion or brigade commander exists, the senior ADA commander in the organization will forward the nomination to the ADA Association at Fort Bliss. The packet will then be forwarded to the commanding general for review and final decision.

### **Order of Molly Pitcher**

The Order of Molly Pitcher recognizes ladies who have voluntarily contributed in a significant way to the improvement of the Air Defense Artillery community.

The nominating and approving authority for the Order of Molly Pitcher is the first ADA battalion or brigade command-

er in the chain of command. If no ADA battalion or brigade commander exists, the senior ADA commander in the organization will forward the nomination to the ADA Association at Fort Bliss. The packet will then be forwarded to the commanding general for review and final decision.

### Requesting Awards

To nominate a worthy air defender for the Honorable Order of Saint Barbara or Order of Molly Pitcher, tear out or photocopy and complete the nomination form that appears on the following page, including the full name and rank of the individual being nominated and desired presentation date. The approving authority must sign the packet to verify that the nominated individual meets all necessary award criteria. Finally, mail the application to the Air Defense Artillery Association (address shown on order form). Be sure to include payment for the awards and appropriate postal charges.

To enter a nomination for the Ancient Order of Saint Barbara, follow the procedures listed above, plus include a memorandum of justification with your submission. There is no special format for this memorandum; however, the memorandum must be signed by the nominating individual and contain sufficient details about the candidate to enable the board of colonels and the commanding general to make an informed decision.

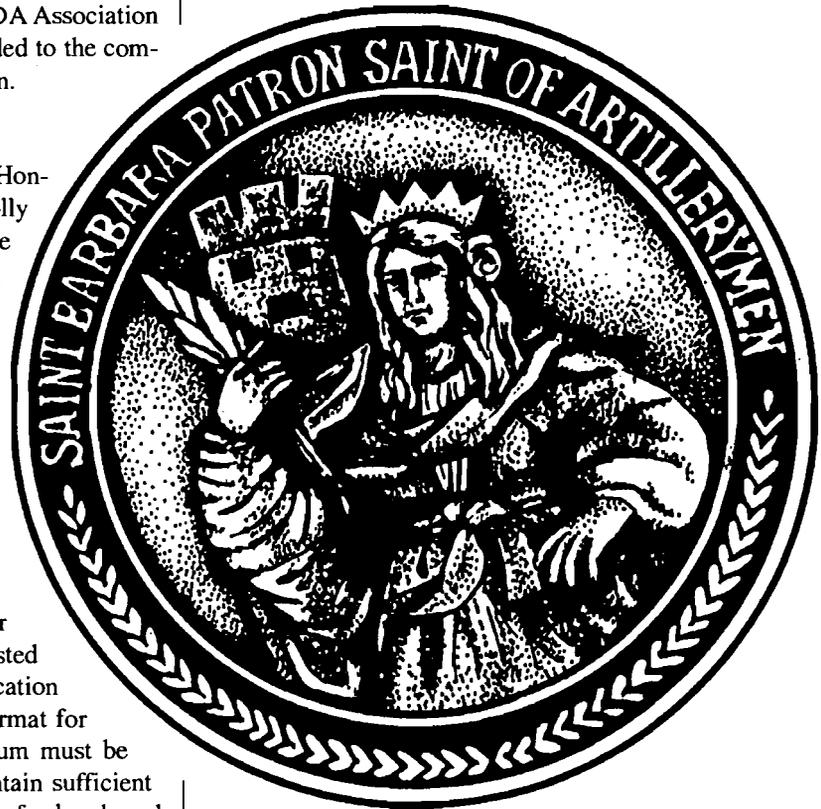
If, for some reason, the commanding general decides the justification does not merit the honor, then the Air Defense Artillery Association will refund full payment to the requestor. Send Ancient Order of Saint Barbara nominating packets to the same address as the one given for Honorable Order of Saint Barbara nominating packets.

### Wear Guidance for the Order of Saint Barbara Medallion

*Army Blue Mess or Army White Mess Uniform.* The Order of Saint Barbara medallion will be worn with the ribbon around the neck, outside the shirt collar and inside the coat collar. The medallion will hang at the full length of the ribbon.

*Army Blue, Army White or Army Green Uniform.* The Order of Saint Barbara medallion will hang with the ribbon around the neck, outside the shirt collar and inside the coat collar. The medallion will hang over the four-in-hand necktie near the collar and above the top button of the coat or just under the bow tie near the collar and above the top button of the coat. Proper positioning may necessitate pinning the ribbon together approximately three inches from the ribbon ends.

*Civilians.* Men will wear the Order of Saint Barbara medallion around the neck with the ribbon over the shirt collar and inside the coat collar. Whether worn with a bow tie or four-in-hand tie, the Saint Barbara medallion will hang at the full



length of the ribbon. When the four-in-hand tie is worn, the medallion will hang over the tie.

Ladies will wear the Order of Saint Barbara medallion around the neck with the medallion hanging at the full length of the ribbon.

The medallion will be worn with the cannon side facing the chest and the bust of Saint Barbara facing out and in view.

The Order of Saint Barbara medallion should be worn at Saint Barbara's Day celebrations, Air Defense Artillery balls, dinings-in and dinings-out, and to other formal occasions as the recipient deems appropriate.

*General Information.* The Order of Saint Barbara medallion will be worn with the cannon side facing the chest and the bust of Saint Barbara facing out and in view. The Order of Saint Barbara medallion will be worn only at Air Defense Artillery functions such as Saint Barbara's Day celebrations, Air Defense Artillery balls, or Air Defense Artillery dinings-in and dinings-out. Commanders, full colonels and above may designate other occasions for wear as appropriate.

### Wear Guidance for the Order of Molly Pitcher Medallion

The Order of Molly Pitcher may be worn as the recipient deems appropriate. The medallion may hang from either a ribbon or a chain.

# HONORABLE AND ANCIENT ORDERS OF SAINT BARBARA ORDER OF MOLLY PITCHER NOMINATIONS

\_\_\_\_\_  
*Date of request*

Mail requests to:  
**AIR DEFENSE ARTILLERY ASSOCIATION  
P.O. BOX 6101  
FORT BLISS, TX 79906**

1. Identify below the nominating authority for the award.

2. Identify below the approving authority for the award.

\_\_\_\_\_  
*Signature of nominating authority*

\_\_\_\_\_  
*Signature of approving authority*

\_\_\_\_\_  
*Signature block of nominating authority*

\_\_\_\_\_  
*Signature block of approving authority*

\_\_\_\_\_  
*Unit designation*

\_\_\_\_\_  
*Unit designation*

**NOTE: SIGNATURE BLOCK FOR CERTIFICATE WILL BE THE SAME AS THE APPROVING AUTHORITY UNLESS OTHERWISE SPECIFIED**

3. Identify below the awardee and provide all requested information.

\_\_\_\_\_  
*Rank and full name desired on certificate*

\_\_\_\_\_  
*Date of award ceremony shown on certificate*

4. Award desired: \_\_\_\_\_  
*Ancient*
*Honorable*
*Molly Pitcher*

**NOTE: FOR ANCIENT NOMINATIONS, REMEMBER TO INCLUDE REQUIRED MEMORANDUM**

5. Enclose \$8.50 for each award requested. Make all checks payable to the Air Defense Artillery Association. If requesting U.S. Postal Service Express Mail, enclose an additional \$2.90. If requesting U.S. Postal Service Overnight Mail, enclose an additional \$15.00.

Awards requested \_\_\_\_\_ @ \$8.50 = \_\_\_\_\_  
 Additional postage \_\_\_\_\_ = \_\_\_\_\_  
 Total Enclosed \_\_\_\_\_ = \_\_\_\_\_

# D EADLY ACCURATE... AN/MPQ-64 *The Army's New Battlefield Radar*

The U.S. Army's newest battlefield radar, the AN/MPQ-64 Ground Based Sensor, provided targeting information in recent exercises to weapon systems that shot down two unmanned helicopters and a one-half scale unmanned aerial vehicle. The AN/MPQ-64 Ground Based Sensor, developed and produced by Hughes Aircraft Company, provided three-dimensional acquisition, tracking and engagement data on highly lethal battlefield targets to the Bradley Stinger Fighting Vehicle, Roadrunner (Chapparral), Avenger and Stinger Manpads weapon systems. The reaction time against hovering helicopters was so short that, at times, the radar acquired the helicopter and provided cueing data prior to unmask.



For more information, contact:  
Marketing Department  
Sensors and Communications Systems Division  
Aerospace and Defense Sector  
Hughes Aircraft Company  
(714) 732-1141  
(714) 441-9657

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