

except that the M16 reticle is used and the shot center of impact is nine centimeters down from and two centimeters left of the aiming point. In any event, the iron sights are fully functional with the AN/PVS-4 mounted. With a properly zeroed weapon, the scope can be referred to the iron sights.

Numerous comments are received about the inability of the M249 to record enough kills when using the MILES training device. Assuming that the device is aligned properly and the weapon is zeroed, the following is offered for thought: The M16A1 MILES transmitter is used on the M249, and the range of the transmitter is 460 meters. Therefore, the employment of the M249 beyond this range, which it is certainly capable of, will not produce any kills. In fact, few will be recorded beyond 300 meters. If a unit has the tunable transmitter, it should be set to the range capability of the weapon, which

is listed in the operator's manual.

The future is bright for the M249. A contract will be let by the end of this fiscal year to procure retrofit kits to upgrade the 8,000 M249s in the field, and the kits will be available in Fiscal Year 1989. A five-year contract is being negotiated to procure more than 20,000 weapons. If this goes through, the fielding of the production M249s should begin in Fiscal Year 1991.

Efforts are continuing to procure a traverse and elevation (T&E) adaptor to permit mounting the M249 on the M122 tripod. A new bore erosion gauge should appear in Fiscal Year 1989 and the 200-round container fixes should follow soon. The normal equipment improvement cycle will continue with efforts directed toward increasing the weapon's accuracy, refining its sights, and improving its reliability.

In its class, the M249 in its present configuration has no equal in terms of

firepower and reliability, and soon it will be even better. This is not a parochial opinion but one that is shared by the U.S. Marine Corps, the Canadians, and the Australians. Hopefully, any bad impressions and false rumors caused by its rocky beginning will pass.

While the future looks bright, the present does not. Since there will be no more M249s until Fiscal Year 1991, those on hand must be maintained so they can bridge the gap. If commanders and noncommissioned officers will emphasize the need for proper training, discipline, and maintenance, these weapons will perform when they must and will last until more are available.

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**Kenneth D. Martz**, the TRADOC project officer on the SAW, has been assigned to the Directorate of Combat Developments at the Infantry School since 1984. He is a retired Army major.

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# EPLRS

## Where Are You? I Am Here.

MAJOR DAVID A. PRIOR

In the fog of battle, on the fluid, lethal, modern battlefield, how does a maneuver commander keep his finger on the tempo of friendly and enemy actions? How does he synchronize the variety of lethal weapon systems at his disposal to meet the enemy and destroy him at the most convenient time and place? How does he—in the middle of the night, in the rain and the snow—bring together the speed and lethality of M1 tanks, M2 IFVs, multiple-launch rocket systems, and Apache helicopters in an orchestrated

and synchronized attack?

A requirement for moving this kind of information around the battlefield from "him who has it" to "him who needs it" has existed throughout the modern era. No current command and control system meets this requirement for the commander, but such a system is coming whose advantages are now being field tested by the U.S. Marine Corps. The system is the Position Location Reporting System (PLRS) or, for the Army, Enhanced PLRS (or EPLRS).

Of all the command and control systems that are being developed for or fielded in the Army today, EPLRS will make the most significant contribution to the successful employment of the tenets of AirLand Battle doctrine—more than SINCGARS, more than mobile subscriber equipment. EPLRS is scheduled to reach field units during Fiscal Year 1993.

EPLRS will tell a maneuver commander, or any user equipped with it—automatically, by an eight-digit grid coordinate—where everyone who

has an EPLRS unit is actually located. By programming a system net control station employed at brigade level, EPLRS will direct the user to pre-determined points on the ground within 15 meters. (The Marines' experience has been at one to two meters.) It will guide a unit through a pre-programmed lane so as to avoid minefields, impact areas, contaminated areas, or other units and arrive at the right objective at the right time and from the right direction. It will guide two elements to a link-up point, and it will guide aircraft through a corridor to avoid concurrent indirect fire and friendly anti-aircraft operations.

An EPLRS network contains one NCS-E (net control station, EPLRS) with about 200 user units. Each division will have four such networks—one supporting each brigade and one situated in the division rear. Eight networks will be dispersed throughout a corps area.

EPLRS operates under varying conditions of visibility, weather, and terrain. Its configuration ensures continuity of operation while the tactical headquarters is in transition and allows for survivability even if an NCS-E becomes inoperative. (An adjacent NCS-E picks up the users from the inoperative one and they automatically share each other's databases.)

Under normal conditions, an EPLRS network can cover a primary operating area 47 kilometers square. Because tactical units are frequently employed beyond the line-of-sight capability of the NCS-E, any user unit can serve as an automatic relay. When many units are deployed over a broad area, up to four relay levels are available to establish paths between remote users and the net control station. The NCS-E automatically selects the most favorably located user unit to perform as a relay. Those in direct contact with the NCS-E serve as A-level "nodes"; those connected to the NCS-E by an A-level relay are at the B level and so on (see accompanying figure).

The EPLRS interface with the Maneuver Control System (MCS) will

be critically important to the maneuver commander for two reasons: An MCS computer located at a command post will query the NCS-E for control measures and for the position location and identification of subordinate and adjacent units. The computer will then display a map of this information on a high-resolution screen. EPLRS will enable the MCS to distribute information quickly and efficiently.

All user units have the same type of transceiver, which is about the size of an AN/PRC-77. The major difference between the two is that the PRC-77 uses a handset while the user unit uses a data readout device. The exact device will depend on the user. The normal device for infantry

units will be the user readout device (URO), which is about the size of a pocket calculator and provides the user with an LED readout. A user unit can be manpacked or mounted on vehicles or aircraft.

The NCS-E, currently mounted in an S-280 shelter on a 5-ton truck, performs automated net management and control of the system. At the NCS-E, the system's operation can be monitored and modified or reconfigured as needed. This facility is an assemblage of general-purpose digital computers, a display control station, peripheral components, and integral transceiver systems to handle EPLRS communications. All NCS-Es are identical, and each can assume the functions of



