

Figure 1. Typical target reference points — the variety seems unlimited, but usefulness is another question.

Marking the Battlefield

by Major Mike Prevou

Until recently, marking an engagement area with target reference points (TRPs) was a catch-as-catch-can proposition. Anything from burning fuel in ammo cans to spray painted bed sheets to numbers on sheets of plywood have appeared at the CTCs and in the deserts of Saudi Arabia (Figure 1). Each requires maintenance and usually only satisfies the need of one visual spectrum (day, night passive, thermal). Remember the days of sending the tank crew out to relight the TRP at 0200, only to have them fall victim to their own minefield? At last, technology has caught up with our needs in the development of the Bat-

tlefield Reference Marking Systems (BRMS).

BRMS (pronounced "brims") (Figure 2) are 4 foot-by-4 foot command and control panels that provide a daytime (dayglow orange), night passive (chemical light), and thermal (no-power thermal paper) signature, all in one neat package that is large enough to be seen well beyond effective weapons ranges. BRMS are currently in use by a number of U.S. Army units purchased as a non-developmental item and are currently available through local procurement. According to members of the 3d Brigade, 4ID,

who have used the panels at home station and the NTC, the BRMS panels are easy to set up, require no maintenance and are clearly visible both through the GPS and TIS. They are most helpful to the leaders as they divide the engagement area and assign sectors of fire. BRMS panels have many additional uses in addition to TRPs.

While each unit is using BRMS panels for the same functions, no unit is using them the same way. As BRMS panels become more widely used, a need for standardization will be critical if units expect to work together

side by side, conduct relief in place, or follow and support. This article is an attempt to suggest various techniques for the employment of BRMS panels, to stimulate discussion, and in the future, provide a framework for written doctrine in our tactical manuals.

First a little background. What is a Battlefield Reference Marking System panel? BRMS panels provide a solution to our need for a highly visible object in all vision spectrums to enhance the command and control of our heavy and, in some cases, light forces.

BRMS panels come in three types (Figure 3), each with a distinctive no-power thermal signature which shows up in the thermal sights as the reverse

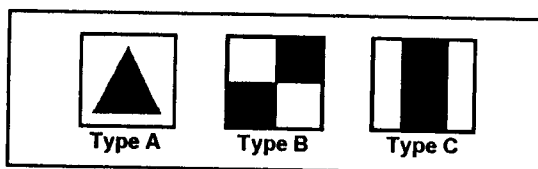


Figure 3. The three types of BRMS panels.

of the polarity selected. If you are in white hot, the panel shows up black. This prevents you from mistaking it as another vehicle and eliminates much confusion on a dirty battlefield (Figure 4).

Each panel has elastic loops in which up to four chemical lights can be affixed to provide passive recognition. The dayglow orange surface surrounding the dark green no-power thermal paper makes the panel easy to see with the naked eye out to about 3500 meters. With binoculars and vehicle sights, I have seen it used out to 6 km, however, the no-power signature is reduced beyond 3500 meters using tank and Bradley sights. I am told that an Apache helicopter can acquire the no-power thermal signature at about 7 km.

These panels are made of nylon rip-stop and are designed to be suspended between two engineer pickets. The

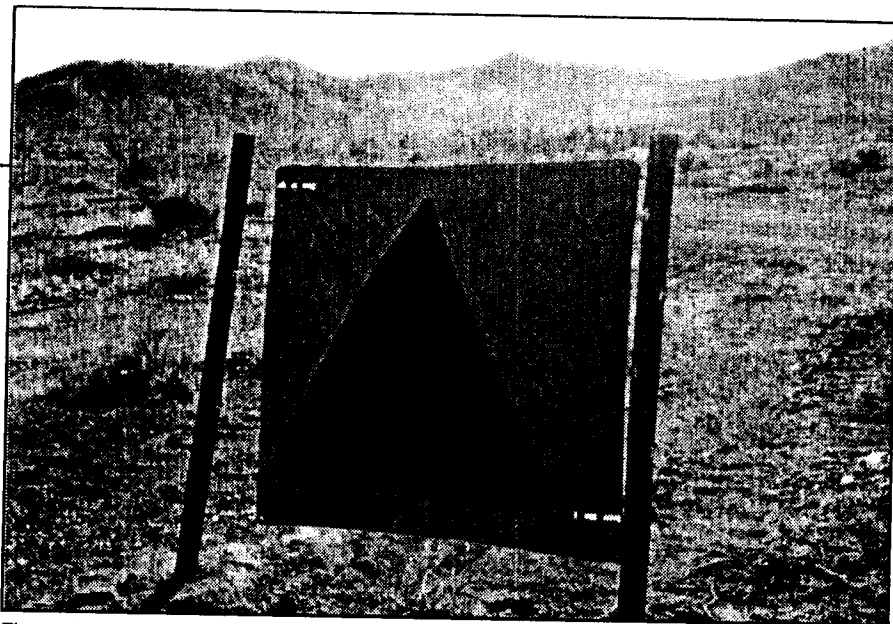


Figure 2. New BRMS panels have a daylight, night passive, and thermal signature.

back of the BRMS panel offers a unique flap system to change the camouflage pattern from desert to woodland in seconds. This makes the panel versatile for any unit and prevents the enemy from identifying the panel beyond about 300-400 meters, too late to help him. When folded into its attached storage pouch, it measures 23"x 17"x 4" and weighs just over 2 lb.

BRMS panels can be used as TRPs, field expedient boresighting devices, lane markers for obstacles, passage point markers, traffic control point markers, LZ, DZ or PZ markers, clear building markers in a MOUT environment and, most importantly, as a recognition signal, to reduce fratricide.

As a target reference point, BRMS panels offer our forces the first true TRP marker to assist commanders in controlling direct and indirect fires. In addition to TRPs they are effective as trigger lines, maximum engagement range markers and artillery target markers. The triangle on the Type A BRMS panel allows one panel to represent four distinct units simply by

rotating the panel 90 degrees and changing the point of the triangle. A unit SOP should be established using all three panels. A sample SOP is shown at Figure 5.

The TF commander decides where he wants to kill the enemy and emplaces a type B BRMS as TF TRP 1. He then positions TM A and C to fire into the engagement area using the TF TRP as the point on which to mass fires. TM A and C both place their own TRPs in the EA. Team C is responsible for initiation of indirect fires and places an artillery trigger line marker forward of the EA. (figure 6). Using an SOP similar to the one de-

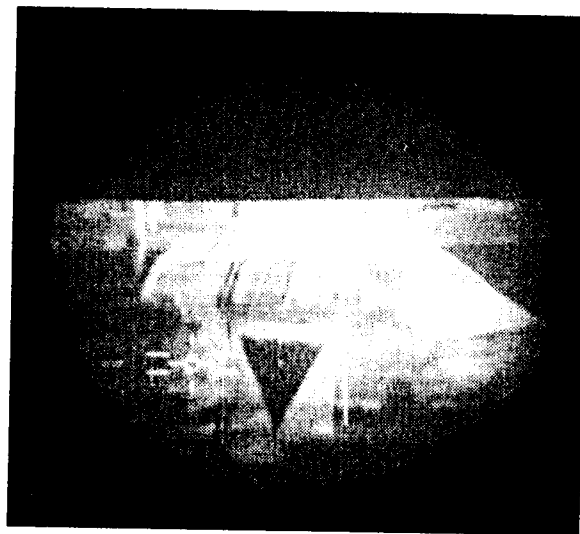


Figure 4. Type A panel as seen through thermal viewer.

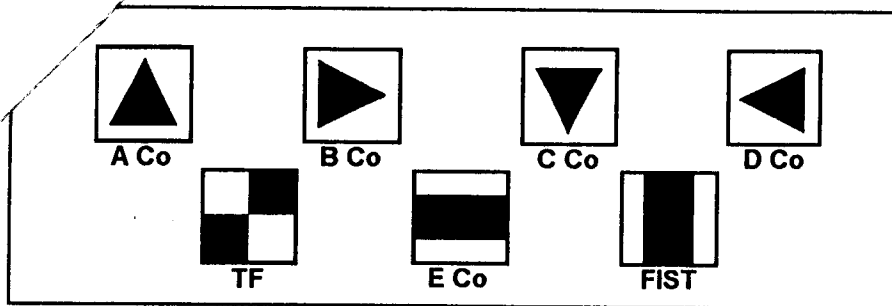


Figure 5. A unit SOP for designating subunits with BRMS panels.

scribed above the commanders can mass and shift fires using the reference points under any battlefield condition.

As a lane marker, BRMS type A panels can be placed along the approach to a cleared lane in an obstacle using the directional triangle to guide follow-on forces to the point of the breach (Figure 7). A similar system can be used for marking passage lanes by adding a type B BRMS panel to designate the beginning or contact point and a type C to designate the end of the lane or passage point. On road marches BRMS type A panels can be used to point the direction of travel and mark SPs, RPs and TCPs if needed (Figure 8).

BRMS type B panels can be used for field boresighting in an assembly area or from the battle position. The folded size of the BRMS panels makes it much more convenient than carrying around a sheet of plywood and the visual acuity produced by the dark-green on dayglow orange is better than most black and white panels.

To assist in fratricide prevention, any BRMS panel designated in the operations order can be placed on lead and trail vehicles during passages of lines, atop vehicles during close air support missions to mark friendly positions, and on the rear of combat vehicles while in defensive positions to indicate friendly forces. The no-power thermal panel on each panel appears in the reverse of the polarity selected

on the sight, clearly distinguishing the panel from the vehicle upon which it is attached.

In a MOUT environment, during offensive operations, panels can be draped over window sills or tacked to buildings to indicate they are clear, or that they are occupied by friendly forces in a defensive situation (Figure 9).

BRMS panels can be used to mark anything the commander feels need be marked. Aside from those areas already discussed, BRMS panels can mark drop zones, landing zones, pickup zones, cleared bunkers, LOG-PAC sites, obstacles, checkpoints, contact points, vehicle collection points, and so on. The high-visibility dayglow orange makes them visible from twice the distance of a VS-17 panel and their thermal signature provides a capability the VS-17 never had. Once they are employed, there is no maintenance required to keep the thermal signature "lit."

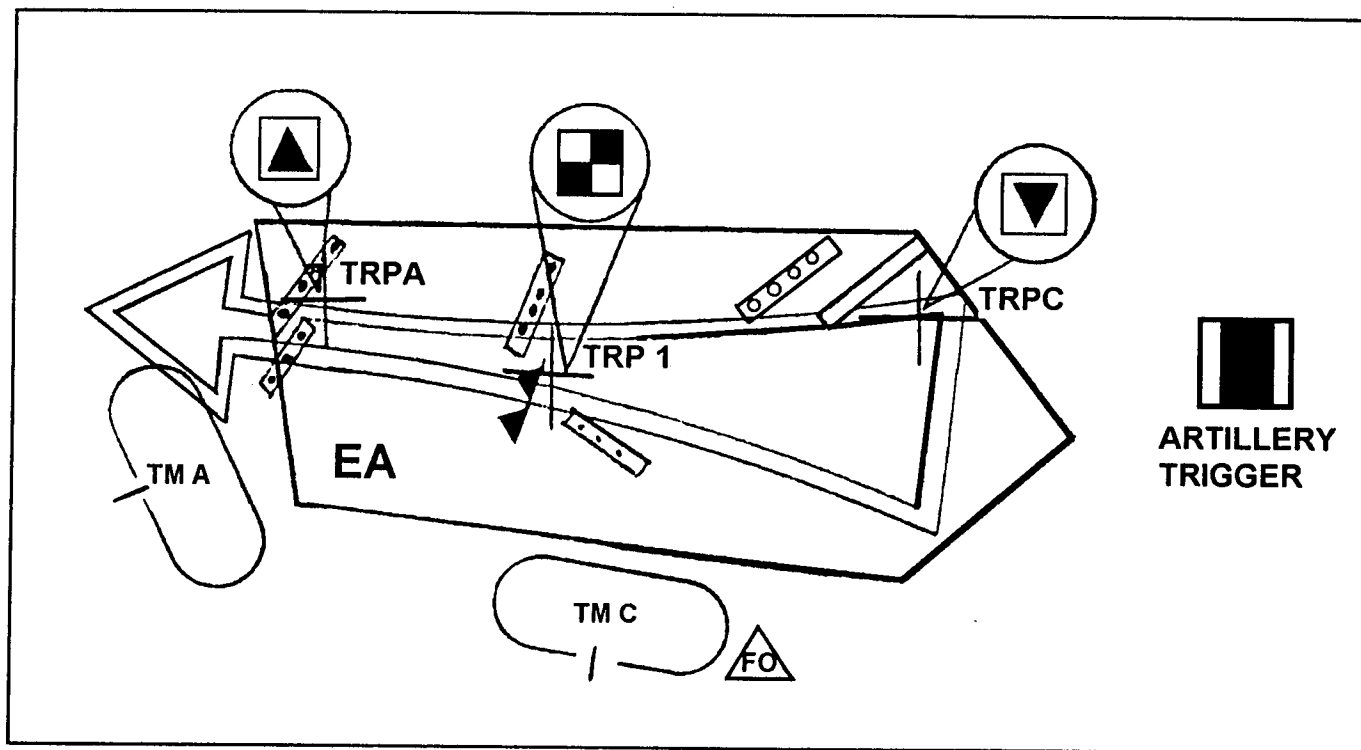


Figure 6. BRMS panel placement as TRPs.

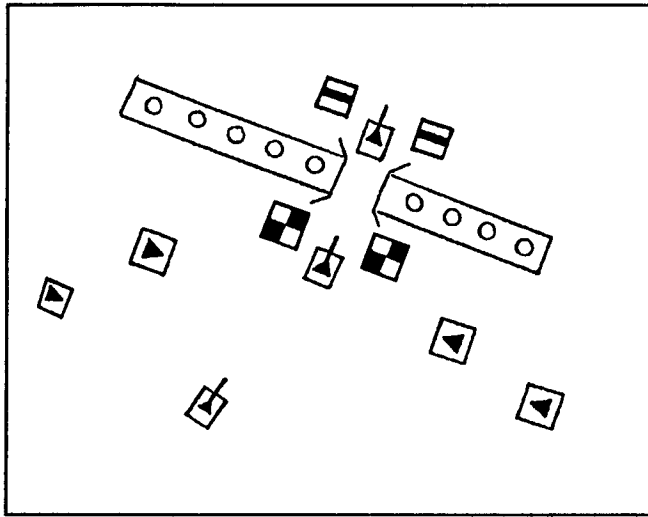


Figure 7. Panel placement to guide unit through a breach.

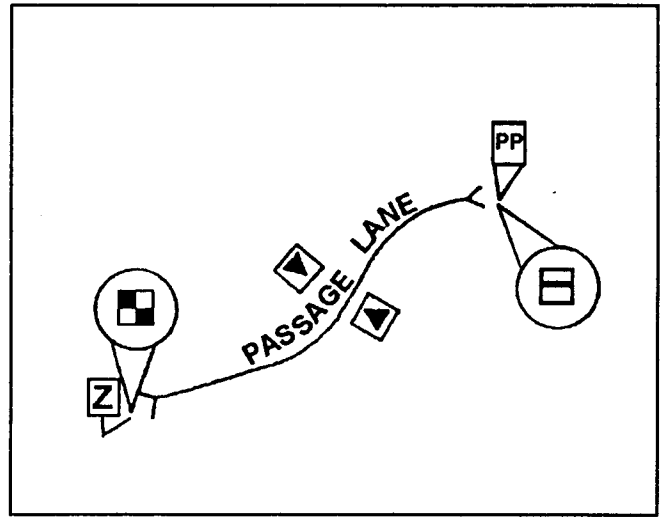


Figure 8. Marking a passage lane with BRMS panels.

A basis of issue for BRMS panels should be one type A panel per combat vehicle, to include scouts. Each antitank M3, ITV, HMMWV or TOW vehicle should carry two type C panels. Battalion and company commanders should each carry a minimum of three type B panels in their HMMWVs (company commanders are often asked to establish or set up a battalion TRP), and fire support officers should have at least three type C panels on their FIST-V. Engineer squad carriers (M113s), Stinger fighting vehicles and

other combat support and CSS vehicles, like the first sergeant's, should also carry a complement of the panels to be used as previously discussed. During training, the panels would be recoverable, and since they appear to be rather durable, only few replacement panels would be needed. For actual combat operations, a war stock of an additional basic load would provide replacements to those not recovered.

According to SFC Ricardo Castillo of the Mounted Warfighting Battle Lab at Ft. Knox, who has proponenty for BRMS, the panels are currently going through a demonstration-of-use test and will be made available to units rotating through the NTC beginning in April 1994. COL David L. Porter, Director of the MWBL, said that these panels provide an inexpensive solution to a long existing problem and are an example of how the battlelabs are working with industry to develop solutions and put usable products in the hands of soldiers. As BRMS panels become more widely used, the next logical step will be to incorporate the various

panels into simulations like COFT and SIMNET.

BRMS panels appear to be a dramatic improvement over the items we currently use for marking the battlefield. Their high visibility in daylight and strong distinctive thermal signature gives the mechanized forces an inexpensive, no-maintenance battlefield reference marking system. I highly encourage our branch school doctrine writers to incorporate their use into future doctrine and standardize our operating procedures as their use becomes more widespread.

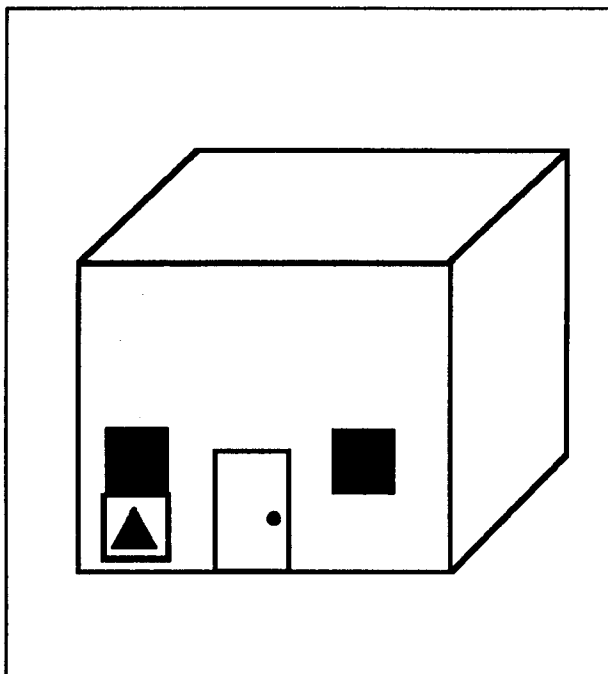


Figure 9. Using panel to mark a building in a MOUT situation.

Major Mike Prevou, a distinguished military graduate of the University of Tennessee - Chattanooga in 1981, served as a junior officer in the 40th Armor, Berlin Brigade, and later as an infantry antitank, motorized infantry, and tank company commander with the 9th ID and I Corps. He has also been an observer/controller at the NTC, a small group instructor at the Armor Advanced Course, and S3 of the 16th Cavalry, Fort Knox. He is currently attending CGSC.