Communicating in Battle

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The U.S. Army is rapidly approaching a time when almost every soldier will have access to a tactical FM radio. One proposed Division 86 TOE would place more than 100 FM radios in a mechanized infantry headquarters company. This is a symptom of our excessive reliance on radios as our primary controller of soldiers in combat. As a result, the competition for the use of the electromagnetic spectrum on any future battlefield, on both sides, will be staggering.

In addition to deliberate jamming, unintentional interference between friendly and enemy emitters using the same frequencies will present a very real problem to the tactical communicator. A multitude of other communication disrupters — such as power generators, electrical power lines, and automotive spark noise — will contribute to the problem. To make matters worse, Mother Nature will also conspire to deny effective communications with dead spots, the terrain, and atmospheric anomalies.

But the real problem may be that few of our radios will survive to face these interference problems. Assuming that the next war will begin in Europe from a "standing start," we can also assume that, if we face Warsaw Pact forces, those forces will fire the first shots. In that hypothetical battle, these first shots undoubtedly will be directed against NATO command and control communications (C3), because Soviet doctrine places command posts at the very top of its targeting priorities.

Commanders who believe that they will have effective command and control over their combat forces through the use of electronic communications after the start of such a battle are in for a shock. They need to reorient their thinking now so that they will have a more realistic idea of what is going to happen on that battlefield.

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For example, NATO's intelligence community should be able to give at least a 24-hour warning of an impending attack. As NATO forces deploy to their defensive positions, they will come under keen observation by Soviet human and electronic intelligence surveillance. Soviet radio-electronic combat elements should have little trouble in rapidly compiling an electronic order of battle, given the confusion such a rapid deployment would cause for NATO forces and the subsequent reliance of these forces on electronic communications to sort out that confusion

It is not beyond the realm of possibility that Warsaw Pact battle plans include a preemptive nuclear blast at high altitudes over their own territory for the sole purpose of damaging and disrupting NATO's electronic equipment through the effects of an electromagnetic pulse (EMP). (A nuclear armed anti-satellite destroyer could produce similar results.) EMP from beyond the atmosphere would damage or disrupt electronic communications and computer equipment for hundreds, possibly thousands, of miles. Because it is most effective against semiconductor and transistor technology, upon which NATO's forces rely almost exclusively, EMP would have disastrous effects on NATO's communications equipment. (Of course, the later use of tactical offensive weapons by the Warsaw Pact nations could produce the same EMP effects, in addition to their traditionally recognized destructive capabilities.) The equipment that may escape destruction by fire and EMP will then be subjected to massive jamming and to artful deception.

At this point, there are several questions we must ask ourselves. Assuming that such a catastrophe occurs on that hypothetical battlefield, will NATO's forces be able to cope with it? How effectively can commanders control a battle if they have lost half of their communication assets before they even begin to fight? How can an already unwieldy logistics system, without effective communications, resupply the units? Unfortunately, the overall answer may be that NATO forces will be reduced to independently operational battalion-sized units, fighting until

they run out of both bullets and fuel.

Units whose soldiers have routinely abused communication security procedures and ignored the electronic warfare threat during their training are not going to undergo a miraculous cure when the battle standard is raised. If we expect to survive the first hours of this battle, we must learn how to protect our communication means before the battle starts so that we will stand a better chance of communicating and succeeding in the battles that will follow.

There are no secret formulas for protecting our communications. All we have to work with is what we have failed to emphasize from the start — training!

Without exception, our current tactics for engaging an enemy who is superior in firepower and in numbers require instantaneous and survivable communications. Yet at almost every level of tactical command, our planning and training are conducted without due consideration for the EW threat. We must, therefore, train our forces to use the equipment, the EW doctrine, and the combat tactics that we have in such a way as to reduce the enemy's ability to use our own radios and radars against us.

We must incorporate planning and training for the electronic battle into the programs of instruction of our service schools, into each doctrinal publication, and into all tactical unit training. We must develop a consciousness of EW in all echelons of command, and we must see that it becomes ingrained, right down to the infantry squad leader.

Here are some of the specific steps we can take toward that end:

- Study current EW doctrine. Every communication or radar user should be an expert in the philosophy and tactics of current electronic counter countermeasures (ECCM).
- Push for the immediate fielding of the directional antennas now under development. Train with and use field expedient directional antennas and antenna employment techniques.
- Reduce the amount of "on the air time" required by doctrine, such as artillery fire direction center (FDC) readback of calls for fire.
- Rely on alternate means of communication for pre-attack message traffic; a tactical FM radio should not be used until contact is made with the enemy.
- Recognize that it is highly unlikely that the research and development effort of the past 10 or 15 years can be turned around to come to our collective rescue in the nick of time with cost effective, survivable communication equipment and weapon systems.
- Incorporate EW training into every phase of training and at every level every time electronic communications and non-communications (radar) equipment is used.
- Penalize units that abuse electronic communication means during training.

The answer to immediate EW survivability does not rest with equipment black boxes and tricks. The answer lies in constant training and in overcoming a 30-year history of communication abuse. Until we make a firm commitment to correct these deficiencies, we will continue to abuse our electronic assets, and we will face the possibility of committing electronic suicide on tomorrow's battlefield.

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