Missed Opportunities: How Stryker Brigade Combat Teams are Misusing Organic Signals Intelligence, Electronic-Warfare Capabilities

by CPT Elena Cherepanova

The ***Universal Brigade Combat Team (BCT) Cavalry Squadron Organizational and Operational Concept*** defines the cavalry squadron as "a combined-arms formation which employs movement, direct and indirect fires, information-collection capabilities [and] joint enablers, and reports using mission-command systems to develop the situation."[1] But do BCTs employ all their organic capabilities to their maximum potential and enable squadrons to do all the preceding?

Squadrons must continuously develop situational understanding for the entire Stryker brigade combat team (SBCT) while protecting the main body to prevent it from fighting at a disadvantage and, overall, to facilitate winning the war. The BCT has an incredible set of capabilities – electronic attack (EA), electronic support (ES) and direction-finding – to help the mission. Moreover, better integration of electronic warfare (EW) and signals intelligence (SIGINT) capabilities into the squadron will enhance the cavalry's ability to develop situational understanding for the brigade commander.

This article identifies the problem with current integration of organic SIGINT and EW assets, proposes a solution for the squadron to better develop situational understanding and recommends tactics, techniques and procedures (TTP) for optimal employment.

Problem

SBCTs misuse and underuse EW personnel and assets. Currently, the SBCT controls the EW plan and execution at the operational level, so electronic-warfare officers (EWOs) at lower echelons become message carriers rather than implementers and advisers to their commanders. In many cases, they are viewed only as another person to carry out unrelated details such as ammunition pick-up, radio-transmission operation, entry-control-point duties, etc. Unfortunately, battalion and squadron EWOs do not possess the equipment to train on or enough personnel to push down to platoon and squad levels; squadrons possess only one staff sergeant (E-6) and one sergeant (E-5) to plan and implement all EW operations.

When it comes to SIGINT, most company and troop commanders do not understand how to use low-level voice intercept (LLVI) teams effectively, or they neglect them entirely. With a high operational tempo, administrative tasks, planning operations and time constraints, it is difficult for the commander to include additional assets. In the same way, squadron staffs fail to properly integrate SIGINT capabilities into maneuver plans. Planners do not understand the capabilities and restrictions and, as a result, fail to implement this significant asset. After all, it is human nature to ignore things we do not understand.

Furthermore, commanders are task-organizing teams to infantry battalions even though there is no immediate need for EWOs or LLVI teams in their mission set. The infantry's primary job is to close with and engage the enemy; their movement has to be rapid and forceful. Unfortunately, LLVI and EW equipment is limited when it comes to freedom of maneuver because Soldiers can't effectively collect and engage with it on the move. By the time they are able to engage, it is too late. For this reason, cavalry squadrons must be the primary implementers of LLVI and EW systems.

Solution

The cavalry squadron's focus is to gain and maintain contact with the enemy; they are the eyes and ears of the battlefield. Scouts are trusted not only to find the enemy but also with the employment of direct fires at the squad and platoon levels. The BCT commander relies on scouts to shape a tactical and operational response so he can optimally deploy the infantry. EW and LLVI technology add to the reconnaissance fundamental to maintain contact before, during and after operations, facilitating the targeting process.

The inherent limitation of EW and LLVI capabilities (limited operational range and terrain restrictions) fits ideally with squadron missions. The squadron is the first to deploy and the last to leave. Scouts naturally find the terrain that is the most advantageous, which is the perfect placement for the EW and LLVI teams. All systems are able to collect on the move and will not interfere with squadron operations. Teams can be embedded with the mounted and dismounted elements, and they can operate out of Strykers. Electronic reconnaissance will enable the troops on the ground and the squadron commander to maximize their collection efforts while maintaining freedom of maneuver.

To win the war, we must maximize assets rather than rely on higher-echelon assets that will be task-organized only for limited periods. To do so, leaders must pull all EWOs out of the battalions and create tactical EW teams in the same manner as LLVI teams. LLVI teams are comprised of two- to three-Soldier sections that can be task-organized when the mission requires it. These teams belong to the military-intelligence company (MICO). The MICO's mission-essential task list (METL) includes performing intelligence, surveillance and reconnaissance, and providing intelligence support to targeting. In the same way, EW teams have to belong to the MICO to fulfill the same METL requirements and to maximize their capabilities. Teams will be under a noncommissioned officer in charge (NCOIC), who will be positioned at the squadron and act as the link between the teams and the brigade EWO. Separated from the battalion, the teams and NCOIC can focus on continuous training to maintain their skills. Furthermore, LLVI and EW teams can train together to conduct offensive, defensive and collection tasks.

Finally, squadron S-2s should attend a school to certify as military-occupation specialty 35G, a SIGINT/EWO. Most S-2s are young, with limited intelligence experience and understanding; some of them are branch-detailed. Squadron S-2s must be the subject-matter expert (SME) during the planning and execution process to deploy assets and continuously educate commanders on the capabilities of EW and LLVI.

Recommended TTPs

To optimally integrate LLVI and EW capabilities within the SBCT at squadron level, commanders must embed teams with the S-2 during the military decision-making process (MDMP), deploy LLVIs with scout observation posts (OPs), integrate EW with dismounted or mounted teams and invest in new technology (Figure 1).

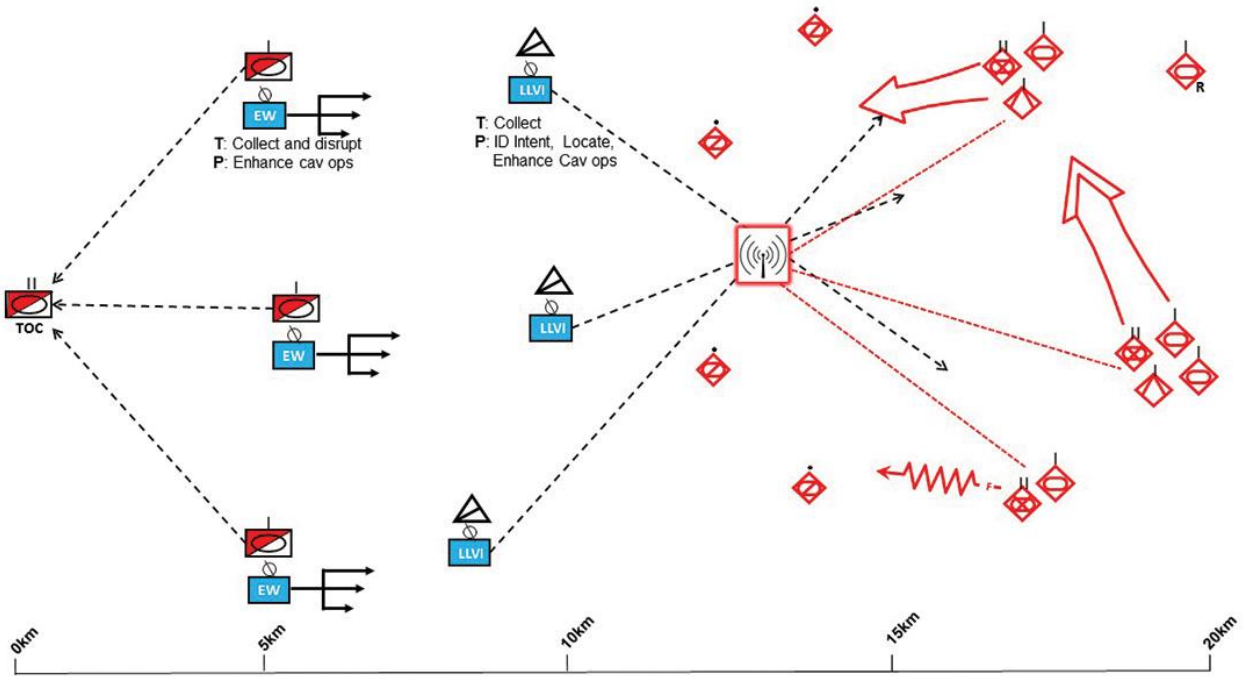

Figure 1. LLVI and EW doctrinal template.

During the planning process, squadrons must imbed EW and LLVI teams with the S-2 section. This maximizes the output of Step 3 of MDMP, where the S-2 and S-3 join forces in course-of-action (CoA) development. What is

better than the SMEs having a voice in the mission plan? Also, those EW and LLVI teams gain full awareness of what the elements on their right and left are doing, not to mention putting faces to the people on the ground to build trust within a team.

LLVI systems are sensitive in nature and have to be imbedded with dismounts at OPs. LLVI provides commanders with force protection, early warning and target acquisition. During mission analysis, the S-2 team conducts a detailed terrain analysis by surveying for ideal OPs. They also provide line-of-sight products that identify the equipment capabilities and limitations of the squadron and LLVIs. To provide detailed and accurate collection, LLVI teams require less than 10 minutes to set up. With the set OP, they observe enemy locations, intercept communications, analyze traffic and disseminate intelligence.

One of the most exclusive tasks LLVI teams provide is communications intelligence (COMINT). COMINT gathers any communication from enemy emits to identify and further define the enemy's intent. The teams set up in the same manner as OPs and can sustain and secure themselves.

To maximize their effectiveness, squadrons must imbed EW teams with mounted or dismounted elements. These teams do not require a specific setup. Mounted EW teams place their antenna on a Stryker and conduct operations, while dismounted EW teams conduct missions independently without need for additional platforms. Tactical EW provides EA and ES to include early warning, collection and direction-finding.

Successful employment of EA allows the squadron to separate enemy formations and command-and-control elements through jamming, thus forcing the enemy to switch to targetable frequencies, deploy forces early, delay their movement or change its CoA. "Encouraging" the enemy on what frequencies to use reduces its ability to effectively use the electromagnetic spectrum (EMS) and focuses LLVI to determine the enemy commander's intent while continuously painting the enemy's common operating picture for commanders throughout the SBCT. Through EMS usage, the S-2 is able to cross-reference frequencies of interest to confirm/deny and identify the type of equipment the enemy is using. Moreover, the S-2 will be able to determine which elements are in the disruption, battle and support zones, and which CoA the enemy is employing.

ES operations identify the enemy's EM equipment's and systems' vulnerabilities. A single EW or LLVI team can provide a line of bearing, indicating the direction of the signal and emitters. Adding two more teams provides the accurate geolocation of the enemy and allows for the scouts to get "eyes on" the enemy to ultimately identify high-value target lists/high-payoff target lists and answer the commander's priority intelligence requirements. ES allows the squadron to detect frequencies at greater ranges, provide real time early warning of the enemy deployment status and increase our reaction time while augmenting the squadron's security tasks.

	Low-level voice intercept	Electronic warfare
Primary use	Collection asset	Weapon asset
Mission	Find and intercept enemy communications and determine enemy's intent	Identify and locate emitters to support communications jamming
Output	Collects all communications data to provide analysis	Collects data to determine enemy's equipment to conduct jamming
Capabilities	Early warning	Electronic attack
	Force protection	Electronic support
	Communications interception	Frequencies interception
Target acquisition		

Table 1. LLVI vs. EW.

The SBCT must invest in new EW and SIGINT technologies. Paul McLeary, a foreign-policy senior reporter covering the U.S. Department of Defense's and national security issues, once said, "American military officials are being forced to admit they're scrambling to catch up to [EW] capabilities that Russia possesses."[2] He is not wrong.

Currently, we have people, but where is the equipment? No one knows. The equipment that exists for the U.S. Army is extremely outdated and is sitting somewhere on shelves, just like the skills of our EWOs. Meanwhile, Russia has deployed powerful and sophisticated EW equipment into the countries of Georgia, Ukraine and Syria to disrupt those governments' means of communication and coalition operations.

Will it turn into another fight in which the U.S. Army is reactive and scrounges to find countermeasures? Or do we need to maximize our efforts to conduct active electronic collection and plan and train for electronic offensive operations?

The Army must invest in new technology. In Fiscal Year 2016, only $12.69 million of the U.S. Army's budget of $127 billion was requested to fund EW development.[3] "If you go to a unit today in the Army and you say, let me see your '[EW] equipment,' and you go to the EWO and he opens up his wall locker, it's empty,"[4] said COL Jeffrey Church, the Army's senior EW officer in 2015. If the Army wants to conduct offensive EW operations, it relies on borrowed assets from the Navy. An offensive jamming capability is not slated to enter the U.S. Army until 2023.[5]

Conclusion

In the end, EW and LLVI complement each other. Either one can find a frequency and pass it to the other while actively collecting intelligence. This facilitates the squadron's understanding of the operational environment during final planning and allows the employment of electronic fires to shape conditions for a successful fight. To facilitate EW and LLVI operations, BCT commanders must imbed teams at the squadron and troop level. The collection and scout teams must train together to synchronize and complement each other's operations and ultimately help the squadron's mission accomplishment. Without using our organic assets to their full capacity and training Soldiers in the proposed formation, it can negatively impact mission execution.

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Notes

[1] ***Universal BCT Cavalry Squadron Organizational and Operational Concept***, Feb. 29, 2016.

[2] Paul McLeary, "Russia's Winning the Electronic War," ***Foreign Policy***, Oct. 21, 2015; accessed April 1, 2017 at http://foreignpolicy.com/2015/10/21/russia-winning-the-electronic-war/.

[3] Exhibit R-2, RDT&E Budget: Electronic Warfare Development, ***Global Security***, February 2015; accessed April 01, 2017 at www.globa.security.org/military/library/budget/fy2016/army-peds/0304270a_5_pb_2016.pdf.

[4] Sydney J. Freedberg, "Army's Electronic Warfare Cupboard is Bare: No Jammer until 2023,"***Breaking Defense***, July 20, 2015; accessed April 1, 2017 at www.breakingdefense.com/2015/07/armys-electronic-warfare-cupboard-is-bare-no-jammer-until-2023/.

[5] Ibid.

Acronym Quick-Scan

BCT – brigade combat team
CoA – course of action
COMINT – communications intelligence
EA – electronic attack
EMS – electromagnetic spectrum
ES – electronic support
EW – electronic warfare
EWO – electronic-warfare officer
LLVI – low-level voice intercept

JBLM – Joint Base Lewis-McChord
MDMP – military decision-making process
METL – mission-essential task list
MICO – military-intelligence company
NCOIC – noncommissioned officer in charge
OP – observation post
SBCT – Stryker brigade combat team
SIGINT – signals intelligence
SME – subject-matter expert
TTP – tactics, techniques and procedures