

Joint Handheld/Manpack Radio Allows Soldiers To Pierce The Fog Of War

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Date: Wednesday, May 5, 2010

Source: <http://www.lexingtoninstitute.org/joint-handheldmanpack-radio-allows-soldiers-to-pierce-the-fog-of-war?a=1&c=1171>



The greatest technological achievement on the modern battlefield has been the introduction of wireless communications devices that can pierce the fog of war. The confusion once thought to be an inevitable companion of combat is gradually dissipating as new ways of exchanging information become available to warfighters. One particularly promising innovation is the Joint Tactical Radio System (JTRS), a family of software-programmable radios that enable all members of the U.S. military to communicate across organizational and geographic boundaries using a dynamic, multi-purpose network. I've written before about the JTRS systems designed for use in armored vehicles, aircraft and warships, but I haven't discussed the radio designed with the individual soldier in the mind -- the Handheld, Manpack and Small Form Fit (HMS) radio.

Individual soldiers are usually the last people in the force to get the latest technology, but the JTRS program was structured to bring all parts of the force up to a common standard in a relatively brief period of time, so from the start there was a cluster of radios configured for riflemen and other "dismounted" warriors. HMS is that radio, an amazingly compact system that in some versions weighs barely two pounds and can be easily carried by just about anyone on the battlefield. The basic idea behind HMS is to equip soldiers with a lightweight, secure device that can network with all friendly forces in the battle area even if they are out of sight behind buildings or hills. Most radios can't communicate well around obstacles, but each HMS radio acts as a relay for the whole network, so if a soldier can talk to just one radio in a unit, he or she can potentially talk to all of them. The network continuously rearranges itself to assure maximum connectivity.

The virtue of software-programmable radios in this setting is that new types of signals can be downloaded as they are developed, continuously improving system versatility and performance. The baseline version of HMS will be able to communicate with legacy ground radios, satellites and a new soldier network from day one, and the intrinsic flexibility of the system will permit other features to be added as they become available. That means the Army won't have to buy a lot of new hardware to keep up with technological breakthroughs, and it also won't have to get rid of serviceable radios it previously purchased, because HMS uses agile software to keep the whole network connected even in the midst of combat. It's really quite an achievement, and it is available for fielding today.

The feature of HMS that differentiates it from other members of the Joint Tactical Radio System family is its diminutive dimensions, which allow it to be carried places other radios can't go. The virtues of small size, weight and power requirements are amplified -- no pun intended -- by a modular design that lends itself to mission tailoring and adaptation. Modularity bolsters the future growth potential of the HMS system, enabling it to host the highest-capacity signals planned for the future battlefield network. What that means in principle is that a very small package will be able to quickly transmit and receive all sorts of data from a diverse array of sources. In effect, each soldier will have access to the full information resources of the joint force, a capability that will greatly increase that soldier's ability to survive and prevail in the fluid battlespaces of tomorrow.

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Mr. Thompson holds doctoral and masters degrees in government from Georgetown University and a bachelor of science degree in political science from Northeastern University. He was born in 1951 and currently resides in McLean, Virginia and Plymouth, Massachusetts with his wife Carla and two children -- Matthew and Ariel, twins born in 1997.