



# USSOCOM SBIR Transition Success Story



## Innovative Technology

**Topic Number** | SOCOM03-005

**Topic Title** | Antenna Enhancements for SOF Applications

Warfighters execute many and varied missions including Reconnaissance. That mission requires a suite of reconnaissance tactical antennas that can meet the needs of a variety of different reconnaissance missions. Antennas supplied with radio systems are often fixed mounted and do not have high signal gain characteristics. This limits surveillance and reconnaissance (SR) missions in that signal transmissions cannot be manipulated to enhance communications and capabilities. As such, a need exists for tactical line of sight (LOS) antennas capable of operating in Very High Frequency (VHF)/Ultra High Frequency (UHF) and Frequency Modulation (FM) / Amplitude Modulation (AM), while being compatible with current legacy radio systems, as well as increasing transmission gain and reducing size and weight. To meet this need, Syntonics was funded to develop and deliver lightweight, rugged, high gain prototype antennas: (1) An LOS antenna designed to operate in the VHF band (150-170 MHz) with greater than 5 dBi gain; (2) An LOS antenna designed to operate in the UHF band (404-440 MHz) with greater than 5 dBi gain; (3) A broadband "reconfigurable vee" antenna designed to operate from the VHF band to the UHF band with greater than 2 dBi gain; and (4) A circularly polarized UHF military satellite communications antenna (TACSAT, 240-320 MHz). These "pocket" antennas are compatible with handheld military tactical radios including Joint Tactical Radio System (JTRS), Multiband Inter/Intra Team Radio (MBITR), and Multi-Band Multi-Mission Radio (MBMMR).

## Company and Contact Information

**Company Name** | Syntonics LLC  
9160 Red Branch Rd  
Columbia, MD 21045

**Technical POC** |  
Bruce Montgomery  
410-884-0500  
Bruce.Montgomery@SyntonicsCorp.com

**Business POC** |  
Edward J. O'Malley  
410-884-0500  
Ed.OMalley@SyntonicsCorp.com

**Company URL** | <http://www.syntonicscorp.com/index.html>

**Government Contact** |  
USSOCOM Transition Agent: Bonny Heet  
bonny.heet@socom.mil  
(813) 826-9506



## Military and Commercial Significance

Syntonics has received Phase II Small Business Innovation Research (SBIR) funding of over \$1 million to develop its suite of enhanced antennas for the Department of Defense (DoD).

The antennas developed under this effort have generated over \$2.4 million in sales to DoD and Prime Contractors.

The technology has also generated \$427,990 in sales to foreign special operations communities including the Royal Marines and Polish Special Forces. In total, Syntonics has sales of nearly \$2.9 million for the antenna systems.

The antennas developed under this activity could find use in the military for tracking and tagging missions. In addition, the technology would benefit any mission where antenna gain and weight are a factor.

Last updated: 08/13/2013