

DMT, LLC has developed a security/surveillance system for homeland defense. This superheterodyne radar lightweight and should have a range for human detection of about 1 Km. This system was designed to replace the broad use of high-power marine radar systems for security applications.

Being known for radar and signal processing expertise and having manufacturing capability, the following groups contacted DMT over the course of a 3 month period beginning in October 2002:

- * US Navy (ship and port security),
- * CENTCOM (mobile command security),
- * MidAmerican Energy Company (Liquid Natural Gas Facility and pipeline security).

Based on these requests, DMT decided to develop the AIMS radar system.

The AIMS Fast-Scan:

- * spins at 48 deg/sec;
- * has a pulse width of 50 nanoseconds;
- * has an IF frequency of 30 MHz;
- * has a RF frequency of 9.23 MHz;
- * has a PRF of 5 kHz (very precise due to divide down from a 1.2 MHz clock);
- * has a 11 degree beamwidth with 20 dB down first sidelobes;
- * has a power output to the antenna port of 0.63 Watts peak in our prototype.

Range is achieved through substantial advanced signal processing, which is run on a commercially available EBX (embedded CPU board) running Windows XP. The radar relays detections to a standard PC over Ethernet cable running through the radar slip ring or via unmodified, standard (FCC approved) commercial 802.11b or 802.11g or Bluetooth transceivers.

DMT would like to begin testing and demonstrating the system. AIMS will be submitted for formal licensing as well.