NAVSTAR Global Positioning System (GPS)

MISSION
Provides real-time positioning, navigation, and timing data to tactical and strategic organizations.

DESCRIPTION
The NAVSTAR Global Positioning System (GPS) is a space-based, Joint-service program led by the Air Force, which distributes positioning, navigation and timing (PNT) data to tactical and strategic organizations. The GPS has three segments: a space segment (nominally 24 satellites), a ground control segment, and a user equipment segment. User equipment consists of receivers configured for handheld, ground, aircraft, and watercraft applications. Military GPS receivers use the Precise Positioning Service (PPS) signal to gain enhanced accuracy and signal protection not available to commercial equipment. GPS receivers in the Army today are: the Defense Advanced GPS Receiver (DAGR), with more than 168,000 as handheld receivers and 128,000 distributed for platform installations for a total of nearly 300,000 DAGRs fielded; the Precision Lightweight GPS Receiver (PLGR), with more than 40,000 in handheld, installed, and integrated applications. In addition, GPS user equipment includes a Ground-Based GPS Receiver Applications Module (GB-GRAM). Over 95,000 GB-GRAMs have been procured and provide embedded PPS capability to a variety of weapon systems. The Army represents more than 80 percent of the requirement for user equipment.

DAGR:
- **Size:** 6.37 x 3.4 x 1.56 inches
- **Weight:** 1 pound; fits in a two-clip carrying case that attaches to load-bearing equipment
- **Frequency:** Dual (L1/L2)
- **Battery Life:** 19 hours (4 AA batteries)
- **Security:** Selective availability anti-spoofing module
- **Satellites:** All-in-view

GB-GRAM:
- **Size:** 0.6 x 2.45 x 3.4 inches
- **Weight:** 3.5 ounces
- **Frequency:** Dual (L1/L2)
- **Security:** Selective availability anti-spoofing module
- **Satellites:** All-in-view

SYSTEM INTERDEPENDENCIES
In this Publication
PATRIOT PAC-3, Excalibur (M982), Paladin/Field Artillery Ammunition Support Vehicle (FAASV), Force XXI Battle Command Brigade and Below (FBCB2)

Other Major Interdependencies
Blue Force Tracking, mobile ballistic computers, laser rangefinders, movement tracking systems, and several unmanned aerial vehicle systems

PROGRAM STATUS
- **1QFY11-4QFY11:** Continue DAGR fieldings and training for Army components
- **1QFY11-4QFY11:** DAGR designated as an ACAT II program

PROJECTED ACTIVITIES
- **2QFY12-4QFY14:** Continue DAGR fieldings and training, including introduction of DAGR Selective Availability Anti-Spoofing Module (SAASM) version 3.7 and GB-GRAM SAASM version 3.7
- **2QFY12-4QFY14:** Continue Materiel Solution Analysis Phase for Tactical Assured Global Positioning System (GPS) Regional (TAGR) for GPS augmentation
- **2QFY12-4QFY14:** Military GPS User Equipment (MGUE) development
FOREIGN MILITARY SALES
PPS-capable GPS receivers have been sold to 41 authorized countries

CONTRACTORS
DAGR/GB-GRAM Acquisition and PLGR Support:
Rockwell Collins (Cedar Rapids, IA)