

NAVSTAR Global Positioning System (GPS)

INVESTMENT COMPONENT

Modernization

Recapitalization

Maintenance

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

ACQUISITION PHASE

Technology Development

Engineering and Manufacturing Development

Production and Deployment

Operations and Support

NAVSTAR Global Positioning System (GPS)

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)

