



CAST Navigation, LLC
 900 Technology Park Drive
 Billerica, Massachusetts 01821 USA

THE F-16/CAST-3000

When the need arises for a system to support H764G/LN100G integration and test or perform dynamic testing of JDAM equipped F-16 aircraft — CAST has the solution. CAST Navigation has developed the CAST-3000 to provide the tool to support all your integration and test requirements.

With a proven track record of :

- ◆ **Decreasing Navigation Systems Integration Costs**
- ◆ **Improving H764G/LN100G Integration Success**
- ◆ **Supporting Flight Test Planning**
- ◆ **Reproducing Flight Results**
- ◆ **Providing JDAM Integration & Test Support**

...The *CAST-3000* is the solution.

◆ THE F-16/CAST-3000 LEGACY

Over 20 countries incorporate the F-16 as an integral part of their Air Force. The newest F-16 navigation system includes an inertial navigation sensor integrated with a Global Positioning System (GPS) receiver. Most aircraft already have or there are plans to integrate either a Honeywell H764G or a Northrop Grumman LN100G. These are GPS/INS hybrid systems with core functions applicable to multiple types of aircraft with missionized functions that are specific to the F-16.



NORTHROP GRUMMAN
 Electronic Systems

Honeywell



© U.S. AIR FORCE

Over 20 countries incorporate the F-16 as an integral part of their Air Force.

The requirement to characterize and understand the performance of the GPS/INS system is common to every user country or integrator. Insight is often achieved through flight testing alone which is very expensive. While some flight testing will always be necessary, integration and test tools can significantly reduce the number of flights and thereby reduce costs.

◆ HOW THE CAST-3000 REDUCED FLIGHT TEST COSTS AT HILL AFB

Hill AFB, responsible for the F-16 logistics management, provides one the best examples of how the CAST-3000 can reduce flight test costs. From the outset of EGI integration into the F-16, it was clear that the sheer magnitude of costs associated with instrumented flight tests demanded that dynamic ground testing augment flight testing. CAST hardware-in-the-loop systems provide coherent dynamic GPS and INS data to the F-16 H764G EGI. The EGI provides the Flight Data System (FDS) the navigation inputs as it would on an actual flight. This approach enables total systems integration test and evaluation while providing real navigation inputs for performing mission planning and mission replay.

Software test teams at Hill also focused on the cost advantage of error detection and isolation as early as possible in the software development process. A CAST-3000 is used to identify software problems very early in the process enabling rapid turnaround of the software. This capability has also proven valuable in isolating reported software anomalies from the field.

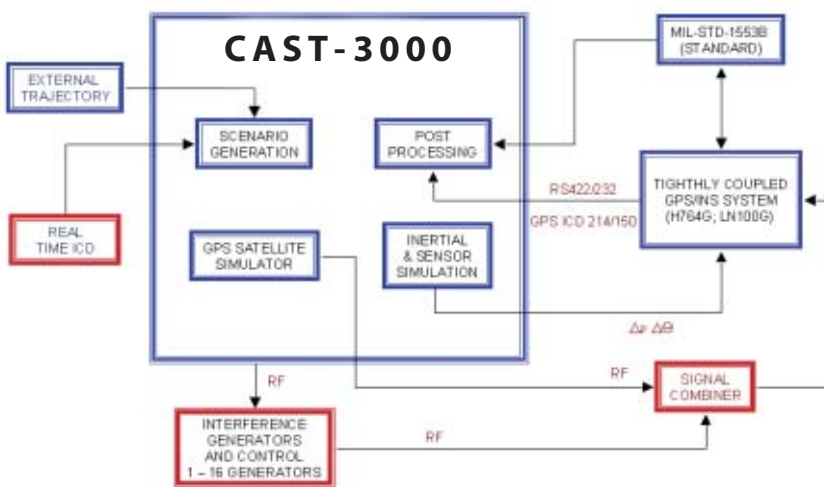
◆ CAST PROVIDES F-16 SUPPORT FOR MUNITIONS INTERFACE

CAST systems are being used to provide support for interfacing new munitions into the F-16 avionics suite by emulating flight scenarios for both the F-16 and the current and next generation of guided weapons that use GPS/INS systems. Hill AFB, for example, is using an enhanced CAST-3000 in a Hardware-In-The-Loop configuration to support integration and testing of the Joint Direct Attack Munitions (JDAM). CAST equipment is supporting ground dynamics testing for the JDAM-equipped F-16 by providing simultaneous coordinated inertial dynamics to the H764G and the integrated JDAM emulator. The CAST-3000 verifies the JDAM OFP performance and the performance of the F-16 OFP which are both key to providing the required navigation and targeting data to the weapon.



CAST equipment is supporting ground dynamics testing for the JDAM-equipped F-16.

◆ CAST-3000 & OPTIONS



The CAST-3000

This diagram shows an integrated approach of the CAST-3000 to support tests of a coupled GPS/INS navigation subsystem. Features provided are comprehensive, including support for internal flight scenario definition, external flight scenarios, jamming, and coordination of GPS and INS data.



Phone: (978) 667-8720
 Fax: (978) 670-1883
 E-mail: sales@castnav.com
www.castnav.com