Enhanced Space Integrated GPS/INS

Inertial Navigation System with Embedded GPS Receiver

FLEXIBLE HARDWARE AND SOFTWARE SYSTEM ARCHITECTURE
Enhanced Space Integrated GPS/INS (E-SIGI)

System Characteristics
Form factor ................................................. 7 x 7 x 9.8 inches
Weight ........................................................... <21 lbs
Power Requirements*
+28 Vdc Operation ........................................ 34 to 45 Watts
Thermal Operating Range*
Ambient Air .................................................. -54°C to +71°C
(+95°C 30 minutes)
Space Vacuum, cold plate interface .......................... -54°C to +55°C
MTBF* ........................................................... 20,000 hours

Navigation Performance
Overall Performance ......................................... better than 0.01 deg/hr
GPS and GPS/INS Blended Performance (SA off)*
Position Accuracy .......................................... (SEP) better than 50m
Velocity Accuracy (RMS) .................................... better than 0.3 m/sec
Alignment Time*
Gyrocompass ................................................... 4 minutes
Operating Ranges
Altitude ...................................................... 600 nautical miles
Angular Rate ................................................. ±360 deg/sec
>±600 deg/sec* ..............................................
Linear Velocity ............................................ ±12000 meters/sec
Angular Acceleration ....................................... ±171 deg/sec²
Linear Acceleration ....................................... ±10g > ±100g*
Jerk ............................................................. ±100 meters/sec³
Interfaces ....................................................... Nav 1553B (RT or BC)
RS422 Serial Data Bus

Mission Computer Performance
Processor
Motorola MPC 824
>100 MIPS
Memory
32MB SDRAM memory (4M x 64)
8MB Flash memory (2M x 32)
128K x 8 EEPROM history memory
Operating System
VxWorks
Tornado Development Environment
Interfaces
MC 1553B (BC or RT)
7 RS422 Serial Data Bus
8 discrete inputs
8 discrete outputs

* Mission Specific
PowerPC is a registered trademark of Motorola.
VxWorks is a registered trademark of Wind River Systems, Inc.

Find out more
For more information regarding the E-SIGI, contact us at:
http://www.honeywell.com/sites/aero/Space.htm

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