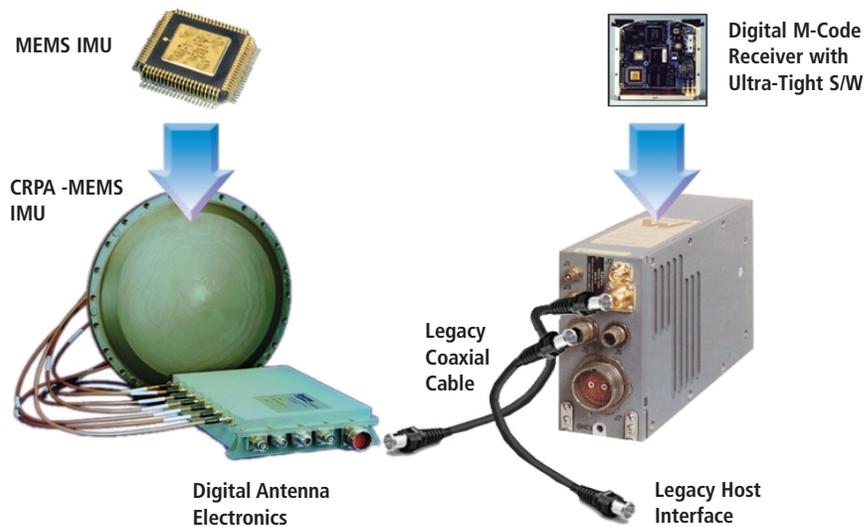




INTEGRATED MEMS IMU/CRPA

DESCRIPTION

The integrated Micro Electro-Mechanical Sensor (MEMS) Inertial Measurement Unit (IMU)/Control Reception Pattern Antenna (CRPA) incorporates a MEMS IMU into a CRPA to exploit the full synergy of GPS and IMUs. The GPS antenna and IMU are co-located to reduce lever arm effects to almost zero, thereby eliminating the need to perform error-prone lever arm compensation. The elimination of lever arm compensation errors enables a lower effective bandwidth in receivers implementing Ultra-Tight Coupling processing and an associated anti-jam improvement. The co-located MEMS IMU and CRPA also improves the performance of beamsteering antenna systems. The integrated unit provides the capability to maintain beams pointed towards desired satellites for optimal signal reception under high dynamic platform maneuvers.



FEATURES

- ▶ Backward compatible with CRPA installations
- ▶ No host vehicle integration impact
- ▶ Enables Ultra-Tight Coupling processing
- ▶ Increased beamsteering accuracy
- ▶ Independent of host IMU integration errors

FOR FURTHER INFORMATION CONTACT:

NAVSTAR, GPS Joint Program Office
DSN: 833-6507 or 310-363-6507



APPLICATIONS

- ▶ Used with Digital Antenna Electronics and Digital M-code Receivers
- ▶ Replaces legacy CRPA