

# Design for GPS-Galileo Common Civil Signal

On 26 July 2007 the United States and the European Union announced their agreement to jointly adopt and provide an improved design for their respective Global Navigation Satellite System (GNSS) signals. These signals will be implemented on the Galileo Open Service and the GPS IIIA new civil signal.

Building on the historic cooperative agreement on GPS and Galileo signed between the two parties in June 2004, a joint compatibility and interoperability working group overcame technical challenges to design interoperable optimised civil signals that will also protect common security interests.

The resulting GPS L1C signal and Galileo L1F signal have been optimised to use a multiplexed binary offset carrier (MBOC) waveform. Future receivers using the MBOC signal should be able to track the GPS and/or Galileo signals with higher accuracy in challenging environments that include multipath, noise, and interference.

The agreement to jointly use MBOC on these interoperable civil signals demonstrates the close U.S. and EU cooperation since 2004 to ensure GPS and Galileo are compatible and interoperable at the user level. Future civilian users will enjoy the benefits of multiple GNSS constellations providing greater signal availability and coverage around the world. Incorporating MBOC into both GPS and Galileo will enhance commercial opportunities for the development of new GNSS products and services. Manufacturers and product designers will have the benefit of adequate lead time to ensure products developed will meet the needs of users around the world.

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