

GPS Software Receiver Toolkits

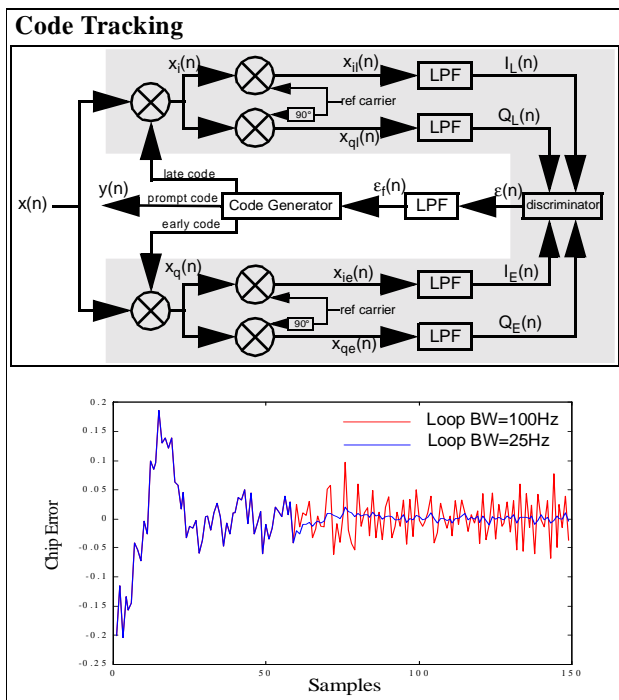
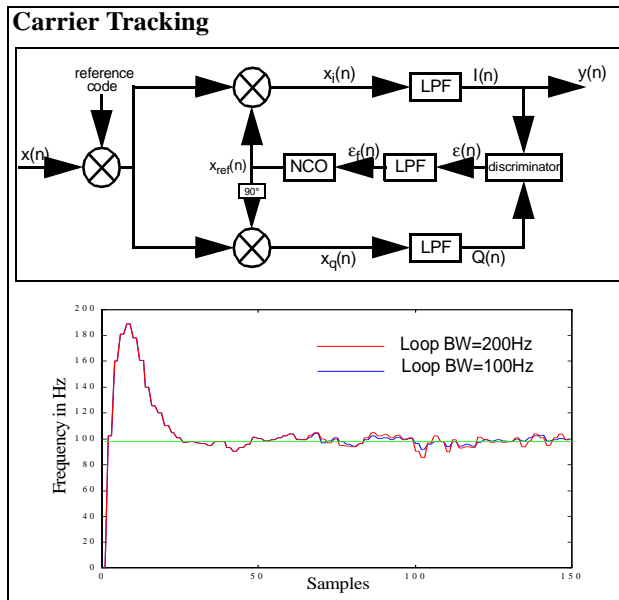
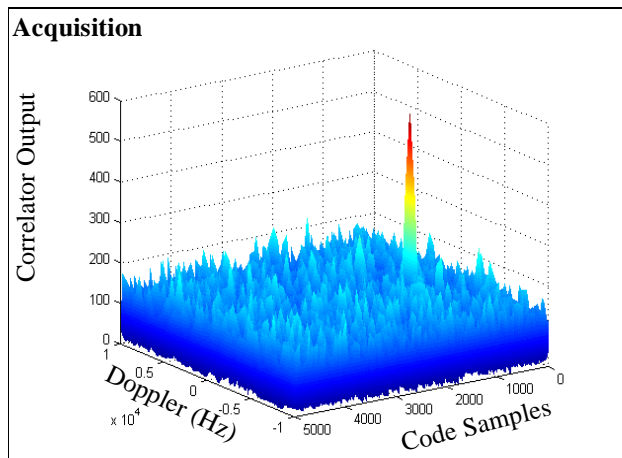
Data Fusion Corporation provides Intermediate Frequency Global Positioning System (GPS) Software Receiver Toolkits in MATLAB, C and C/DSP configurations. Each toolkit consists of a library of files and programs used to implement our IF GPS Baseline receiver. These toolkits will enable users to simulate specific GPS scenarios without the need to code and test the generic GPS algorithms. Furthermore, these toolkits are an excellent starting point to perform additional research and development in the field of GPS.

Highlights include:

- linear and non-linear adaptive analog-to-digital conversion;
- acquisition using coherent and non-coherent integration;
- Tong and Vernier search techniques performed in both the time domain and the frequency domain;
- tracking utilizing FLLs, PLLs and DLLs;
- lock detectors
- bit synchronization and navigation data recovery;
- frame synchronization and parity decoding;
- calculation of the navigation solution

Description

The Data Fusion Corporation Intermediate Frequency GPS Software Receiver Architecture is designed to handle 'n' channels in parallel. Once a minimum of four channels have finished Frame Synchronization and have read some data, the navigation solution may be computed. The receiver requires that the input data be at a user defined Intermediate Frequency and converted to digital representation at some user defined sampling rate.



Platforms: Windows, UNIX

Requires: MathWorks' MATLAB, MS Visual C++.

Support: E-mail, Telephone & Training

Application Areas:

- Aerospace
- Communications
- Data analysis/modeling
- General R&D
- Global Position Systems
- Simulation
- Visualization