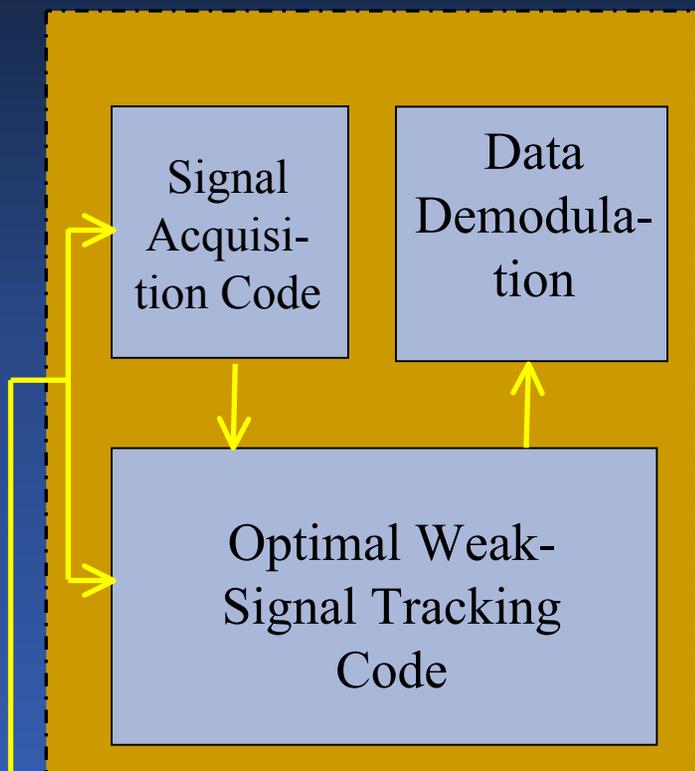
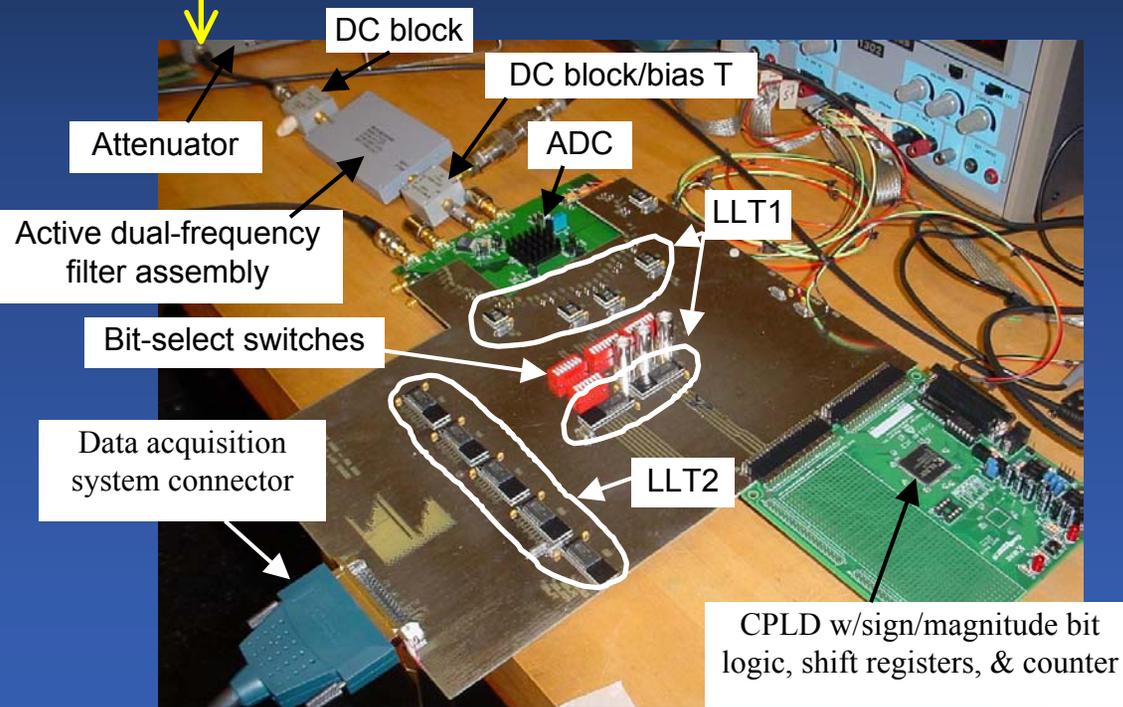


RF Front End & Weak Signal Tracking Software Receiver for Dual-Frequency GPS Signals

GPS Antenna

Dual-Frequency GPS RF Front End

Software Receiver





Dual Frequency GPS Software Receiver Development for Ionospheric Scintillation Measurement

- Problem:

Civilian dual-frequency GPS receivers lose lock on weak signals due to signal processing limitations

- Solution:

Implement optimal Kalman-filter-based semi-codeless tracking in a software signal processing environment

- Applications:

→ Atmospheric limb scans

→ Ionospheric scintillation measurements

→ Look-down TEC measurements via GPS ocean reflections

- Possible Missions:

→ Ionosphere/Thermosphere Storm Probes

→ Ionospheric Mapper