

GPS and GLONASS timing receivers

Draft Recommendation

Contribution by the CCTF sub-group on GPS and GLONASS Time Transfer Standards (CGGTTS)

The Consultative Committee for Time and Frequency

considering that

- the common-view method for observing satellites in the Global Positioning System (GPS) and the Global Navigation Satellite System (GLONASS) provides one of most precise and accurate methods of time comparison between remote clocks on and close to the Earth,
- the uncertainty of this method due to space factors, such as satellite ephemerides and ionospheric delay, and other sources of uncertainty, with the exception of receiver hardware, is close to 1 ns,
- the main source of uncertainty of this method is instability of receiver hardware, being frequently of several nanoseconds for short periods (several days) and in extreme cases reaching up to tens of nanoseconds,
- the technical directives for standard software produced by the CCTF sub-group on GPS and GLONASS Time Transfer Standards (CGGTTS) are now widely implemented by timing receiver manufacturers,

recommends that

- the manufacturers of GPS and GLONASS timing receivers implement the CGGTTS technical guidelines for receiver hardware for use in GPS and GLONASS common-view time transfer.
- timing laboratories pay particular attention to the environmental conditions under which their timing receivers operate.