Table 1.

parameter	description
M_o	mean anomaly at reference time
Δn	mean motion difference
$\sqrt{a}$	square root of semi-major axis
Ω_o	longitude of ascending node at weekly epoch
i_o	inclination angle at reference time
ω	argument of perigee
$\dot{\Omega}$	rate of right ascension
e	eccentricity
$IDOT$	rate of inclination angle
C_{uc}	cosine term, argument of latitude
C_{rc}	cosine term, radius
C_{ic}	cosine term, inclination
C_{us}	sine term, argument of latitude
C_{rs}	sine term, radius
C_{is}	sine term, inclination
t_{oe}	ephemeris reference time

Table 2.

algorithm	description
$\mu = 3.986004418 \times 10^{14}$ meters^3/sec^2	WGS84 (GPS) gravitational parameter
$\dot{\Omega}_e = 7.2921151467 \times 10^{-5}$ rad/sec	WGS84 (GPS) earth rotation rate
$n_o = \sqrt{\mu/a^3}$	computed mean motion
$t_j = t - t_{oe}$	time from reference epoch
$n = n_o + \Delta n$	corrected mean motion
$M_j = M_o + nt_j$	mean anomaly
$M_j = E_j - e \sin E_j$	Kepler's equation
$\tan \nu_j = \sqrt{1 - e^2} \sin E_j / (cos E_j - e)$	true anomaly
$\phi_j = \nu_j + \omega$	argument of latitude
$\delta u_j = C_{us} \sin 2\phi_j + C_{uc} \cos 2\phi_j$	argument of latitude correction
$\delta r_j = C_{rs} \sin 2\phi_j + C_{rc} \cos 2\phi_j$	radius correction
$\delta i_j = C_{is} \sin 2\phi_j + C_{ic} \cos 2\phi_j$	inclination correction
$u_j = \phi_j + \delta u_j$	corrected argument of latitude
$r_j = a(1 - e \cos E_j) + \delta r_j$	corrected radius
$i_j = i_o + \delta i_j + IDOT t_j$	corrected inclination
$x'_j = r_j \cos u_j$	positions in orbital plane
$y'_j = r_j \sin u_j$	
$\Omega_j = \Omega_o + (\dot{\Omega} - \dot{\Omega}_e) t_j - \dot{\Omega}_e t_{oe}$	corrected longitude of ascending node
$x_j = x'_j \cos \Omega_j - y'_j \cos i_j \sin \Omega_j$	Earth-fixed
$y_j = x'_j \sin \Omega_j + y'_j \cos i_j \cos \Omega_j$	coordinates
$z_j = y'_j \sin i_j$	

If $t_j > 302,400$ s, subtract 604,800 s from t_j. If $t_j < -302,400$ s, add 604,800 s to t_j