

# GPS Satellite Almanac Data Samples

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## GPS Satellite Almanac Parameters

### Decoded from Subframes 4 and 5 of GPS Data Bit Frames

**Gathered 4/18/95 21:36:00**

**Austron 2201A GPS Satellite Receiver**

**Courtesy of:**

**Austron, Inc. a Datum Company**

**P. O. Box 14766**

**Austin, Texas 78761**

**(512) 251-2313**

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ALMANAC FOR SATELLITE 1 :

PRN number for data ..... 1

Health of SV ..... 0

Reference Week of Almanac ..... 797

Eccentricity ..... 0.00346661

Corr: inclination angle (rad) ... 0.00388718

Mean Anomaly @ ref time (rad) ... 2.79387

Argument of Perigee (rad) ..... -1.31888

Rate right ascension (rad/sec) .. -8.01176E-09

Right ascension @ ref time (rad) -0.296182

Sqrt semi-major axis ( $m^{1/2}$ ) .... 5153.58

Clock correction term 1 ..... 0.000148773

Clock correction term 2 ..... 7.63976E-11

Reference time almanac ..... 466944

Semi-Major Axis (meters) ..... 2.65594E+07

Corrected Mean Motion (rad/sec) . 0.000145862

Inclination angle (rad) ..... 0.95469

ALMANAC FOR SATELLITE 2 :

PRN number for data ..... 2

Health of SV ..... 0

Reference Week of Almanac ..... 797

Eccentricity ..... 0.0139475

Corr: inclination angle (rad) ... 0.00254631

Mean Anomaly @ ref time (rad) ... -1.04289

Argument of Perigee (rad) ..... -2.56822

Rate right ascension (rad/sec) .. -8.08034E-09

Right ascension @ ref time (rad) 1.74861

Sqrt semi-major axis ( $m^{1/2}$ ) .... 5153.62

Clock correction term 1 ..... -0.00015831

Clock correction term 2 ..... -3.63798E-12

Reference time almanac ..... 466944

Semi-Major Axis (meters) ..... 2.65598E+07

Corrected Mean Motion (rad/sec) . 0.000145858

Inclination angle (rad) ..... 0.950477

ALMANAC FOR SATELLITE 4 :

PRN number for data ..... 4

Health of SV ..... 0

Reference Week of Almanac ..... 797

Eccentricity ..... 0.00354528

Corr: inclination angle (rad) ... 0.00776291

Mean Anomaly @ ref time (rad) ... 1.37038

Argument of Perigee (rad) ..... -1.14913

Rate right ascension (rad/sec) .. -7.77175E-09

Right ascension @ ref time (rad) -2.40032

Sqrt semi-major axis ( $m^{1/2}$ ) .... 5153.74

Clock correction term 1 ..... 2.19345E-05

Clock correction term 2 ..... 0

Reference time almanac ..... 380928

Semi-Major Axis (meters) ..... 2.65611E+07

Corrected Mean Motion (rad/sec) . 0.000145848

Inclination angle (rad) ..... 0.966866

ALMANAC FOR SATELLITE 5 :

PRN number for data ..... 5

Health of SV ..... 0

Reference Week of Almanac ..... 797

Eccentricity ..... 0.00170946

Corr: inclination angle (rad) ... 0.00336075

Mean Anomaly @ ref time (rad) ... 2.90604

Argument of Perigee (rad) ..... -2.05141

Rate right ascension (rad/sec) .. -8.06891E-09

Right ascension @ ref time (rad) 1.7632

Sqrt semi-major axis ( $m^{1/2}$ ) .... 5153.61

Clock correction term 1 ..... 0.000102043

Clock correction term 2 ..... 3.63798E-12

Reference time almanac ..... 466944

Semi-Major Axis (meters) ..... 2.65597E+07

Corrected Mean Motion (rad/sec) . 0.00014586

Inclination angle (rad) ..... 0.953036

ALMANAC FOR SATELLITE 6 :

PRN number for data ..... 6

Health of SV ..... 0

Reference Week of Almanac ..... 797

Eccentricity ..... 0.00613737

Corr: inclination angle (rad) ... 0.00591469

Mean Anomaly @ ref time (rad) ... 2.14179

Argument of Perigee (rad) ..... -2.88119

Rate right ascension (rad/sec) .. -8.20606E-09

Right ascension @ ref time (rad) 2.85216

Sqrt semi-major axis ( $m^{1/2}$ ) .... 5153.71

Clock correction term 1 ..... 0.000407219

Clock correction term 2 ..... 4.00178E-11

Reference time almanac ..... 380928

Semi-Major Axis (meters) ..... 2.65608E+07

Corrected Mean Motion (rad/sec) . 0.00014585

Inclination angle (rad) ..... 0.961059

ALMANAC FOR SATELLITE 7 :

PRN number for data ..... 7

Health of SV ..... 0

Reference Week of Almanac ..... 797

Eccentricity ..... 0.00693846

Corr: inclination angle (rad) ... 0.00688171

Mean Anomaly @ ref time (rad) ... -2.17981

Argument of Perigee (rad) ..... -2.56891

Rate right ascension (rad/sec) .. -8.17177E-09

Right ascension @ ref time (rad) 2.81654

Sqrt semi-major axis ( $m^{1/2}$ ) .... 5153.58

Clock correction term 1 ..... 0.000703812

Clock correction term 2 ..... 0

Reference time almanac ..... 380928

Semi-Major Axis (meters) ..... 2.65594E+07

Corrected Mean Motion (rad/sec) . 0.000145862

Inclination angle (rad) ..... 0.964097

ALMANAC FOR SATELLITE 9 :

PRN number for data ..... 9

Health of SV ..... 0

Reference Week of Almanac ..... 797

Eccentricity ..... 0.00355196

Corr: inclination angle (rad) ... 0.00205803

Mean Anomaly @ ref time (rad) ... 2.20861  
Argument of Perigee (rad) ..... -0.27217  
Rate right ascension (rad/sec) .. -7.97748E-09  
Right ascension @ ref time (rad) 0.732411  
Sqrt semi-major axis ( $m^{1/2}$ ) .... 5153.63  
Clock correction term 1 ..... -2.86102E-05  
Clock correction term 2 ..... 0  
Reference time almanac ..... 466944  
Semi-Major Axis (meters) ..... 2.65599E+07  
Corrected Mean Motion (rad/sec) . 0.000145858  
Inclination angle (rad) ..... 0.948943  
ALMANAC FOR SATELLITE 12 :  
PRN number for data ..... 12  
Health of SV ..... 0  
Reference Week of Almanac ..... 797  
Eccentricity ..... 0.01548  
Corr: inclination angle (rad) ... 0.0454903  
Mean Anomaly @ ref time (rad) ... 2.22933  
Argument of Perigee (rad) ..... -0.0993646  
Rate right ascension (rad/sec) .. -6.50313E-09  
Right ascension @ ref time (rad) 1.12671  
Sqrt semi-major axis ( $m^{1/2}$ ) .... 5153.39  
Clock correction term 1 ..... -0.000523567  
Clock correction term 2 ..... -3.63798E-11  
Reference time almanac ..... 380928

Semi-Major Axis (meters) ..... 2.65574E+07

Corrected Mean Motion (rad/sec) . 0.000145878

Inclination angle (rad) ..... 1.08539

ALMANAC FOR SATELLITE 14 :

PRN number for data ..... 14

Health of SV ..... 0

Reference Week of Almanac ..... 797

Eccentricity ..... 0.00268364

Corr: inclination angle (rad) ... 0.00641251

Mean Anomaly @ ref time (rad) ... -2.40411

Argument of Perigee (rad) ..... -3.13288

Rate right ascension (rad/sec) .. -7.89747E-09

Right ascension @ ref time (rad) -1.32852

Sqrt semi-major axis ( $m^{1/2}$ ) .... 5153.51

Clock correction term 1 ..... 8.58307E-06

Clock correction term 2 ..... 0

Reference time almanac ..... 380928

Semi-Major Axis (meters) ..... 2.65587E+07

Corrected Mean Motion (rad/sec) . 0.000145867

Inclination angle (rad) ..... 0.962623

ALMANAC FOR SATELLITE 15 :

PRN number for data ..... 15

Health of SV ..... 0

Reference Week of Almanac ..... 797

Eccentricity ..... 0.00672054

Corr: inclination angle (rad) ... 0.00924301

Mean Anomaly @ ref time (rad) ... 0.185843

Argument of Perigee (rad) ..... 1.74618

Rate right ascension (rad/sec) .. -7.70318E-09

Right ascension @ ref time (rad) -2.36637

Sqrt semi-major axis ( $m^{1/2}$ ) .... 5153.58

Clock correction term 1 ..... 0.000178337

Clock correction term 2 ..... 3.63798E-12

Reference time almanac ..... 380928

Semi-Major Axis (meters) ..... 2.65593E+07

Corrected Mean Motion (rad/sec) . 0.000145862

Inclination angle (rad) ..... 0.971516

ALMANAC FOR SATELLITE 16 :

PRN number for data ..... 16

Health of SV ..... 0

Reference Week of Almanac ..... 797

Eccentricity ..... 0.00119495

Corr: inclination angle (rad) ... 0.00536537

Mean Anomaly @ ref time (rad) ... -0.501614

Argument of Perigee (rad) ..... -1.11801

Rate right ascension (rad/sec) .. -7.9089E-09

Right ascension @ ref time (rad) -1.3188

Sqrt semi-major axis ( $m^{1/2}$ ) .... 5153.76

Clock correction term 1 ..... -8.4877E-05

Clock correction term 2 ..... 0



Reference time almanac ..... 380928  
Semi-Major Axis (meters) ..... 2.65612E+07  
Corrected Mean Motion (rad/sec) . 0.000145847

Inclination angle (rad) ..... 0.959334

#### ALMANAC FOR SATELLITE 17 :

PRN number for data ..... 17  
Health of SV ..... 0  
Reference Week of Almanac ..... 797  
Eccentricity ..... 0.00785923  
Corr: inclination angle (rad) ... 0.00959206  
Mean Anomaly @ ref time (rad) ... 2.0558  
Argument of Perigee (rad) ..... 2.08654  
Rate right ascension (rad/sec) .. -7.79461E-09  
Right ascension @ ref time (rad) -2.33184  
Sqrt semi-major axis ( $m^{1/2}$ ) .... 5153.64  
Clock correction term 1 ..... -7.9155E-05  
Clock correction term 2 ..... 0

Reference time almanac ..... 466944  
Semi-Major Axis (meters) ..... 2.656E+07  
Corrected Mean Motion (rad/sec) . 0.000145856

Inclination angle (rad) ..... 0.972612

#### ALMANAC FOR SATELLITE 18 :

PRN number for data ..... 18  
Health of SV ..... 0  
Reference Week of Almanac ..... 797

Eccentricity ..... 0.00587702

Corr: inclination angle (rad) ... 0.000211716

Mean Anomaly @ ref time (rad) ... -2.26729

Argument of Perigee (rad) ..... 1.42077

Rate right ascension (rad/sec) .. -8.14891E-09

Right ascension @ ref time (rad) -0.342034

Sqrt semi-major axis ( $m^{1/2}$ ) .... 5153.54

Clock correction term 1 ..... -8.58307E-06

Clock correction term 2 ..... 0

Reference time almanac ..... 380928

Semi-Major Axis (meters) ..... 2.6559E+07

Corrected Mean Motion (rad/sec) . 0.000145865

Inclination angle (rad) ..... 0.943143

ALMANAC FOR SATELLITE 19 :

PRN number for data ..... 19

Health of SV ..... 0

Reference Week of Almanac ..... 797

Eccentricity ..... 0.000936508

Corr: inclination angle (rad) ... -0.00320053

Mean Anomaly @ ref time (rad) ... 1.26606

Argument of Perigee (rad) ..... 3.05982

Rate right ascension (rad/sec) .. -8.04605E-09

Right ascension @ ref time (rad) 0.703013

Sqrt semi-major axis ( $m^{1/2}$ ) .... 5153.69

Clock correction term 1 ..... 0.000347137

Clock correction term 2 ..... 1.45519E-11

Reference time almanac ..... 380928

Semi-Major Axis (meters) ..... 2.65605E+07

Corrected Mean Motion (rad/sec) . 0.000145853

Inclination angle (rad) ..... 0.932423

ALMANAC FOR SATELLITE 20 :

PRN number for data ..... 20

Health of SV ..... 0

Reference Week of Almanac ..... 797

Eccentricity ..... 0.00512171

Corr: inclination angle (rad) ... 0.00448227

Mean Anomaly @ ref time (rad) ... -1.098

Argument of Perigee (rad) ..... 1.3752

Rate right ascension (rad/sec) .. -8.16034E-09

Right ascension @ ref time (rad) 1.75989

Sqrt semi-major axis ( $m^{1/2}$ ) .... 5153.64

Clock correction term 1 ..... 0.000202179

Clock correction term 2 ..... 7.27596E-12

Reference time almanac ..... 380928

Semi-Major Axis (meters) ..... 2.656E+07

Corrected Mean Motion (rad/sec) . 0.000145857

Inclination angle (rad) ..... 0.956559

ALMANAC FOR SATELLITE 21 :

PRN number for data ..... 21

Health of SV ..... 0

Reference Week of Almanac ..... 797

Eccentricity ..... 0.0117068

Corr: inclination angle (rad) ... 0.00441933

Mean Anomaly @ ref time (rad) ... -0.460082

Argument of Perigee (rad) ..... 2.98534

Rate right ascension (rad/sec) .. -7.89747E-09

Right ascension @ ref time (rad) -1.36031

Sqrt semi-major axis ( $m^{1/2}$ ) .... 5153.65

Clock correction term 1 ..... -1.62125E-05

Clock correction term 2 ..... 0

Reference time almanac ..... 380928

Semi-Major Axis (meters) ..... 2.65601E+07

Corrected Mean Motion (rad/sec) . 0.000145856

Inclination angle (rad) ..... 0.956362

ALMANAC FOR SATELLITE 22 :

PRN number for data ..... 22

Health of SV ..... 0

Reference Week of Almanac ..... 797

Eccentricity ..... 0.0080924

Corr: inclination angle (rad) ... 0.00259018

Mean Anomaly @ ref time (rad) ... -1.21972

Argument of Perigee (rad) ..... -0.0931931

Rate right ascension (rad/sec) .. -8.09177E-09

Right ascension @ ref time (rad) 1.7636

Sqrt semi-major axis ( $m^{1/2}$ ) .... 5153.76

Clock correction term 1 ..... 0.000210762

Clock correction term 2 ..... 3.63798E-12

Reference time almanac ..... 466944

Semi-Major Axis (meters) ..... 2.65612E+07

Corrected Mean Motion (rad/sec) . 0.000145847

Inclination angle (rad) ..... 0.950615

ALMANAC FOR SATELLITE 23 :

PRN number for data ..... 23

Health of SV ..... 0

Reference Week of Almanac ..... 797

Eccentricity ..... 0.00945902

Corr: inclination angle (rad) ... 0.00554276

Mean Anomaly @ ref time (rad) ... -0.912462

Argument of Perigee (rad) ..... -2.29214

Rate right ascension (rad/sec) .. -7.9089E-09

Right ascension @ ref time (rad) -1.32595

Sqrt semi-major axis ( $m^{1/2}$ ) .... 5153.69

Clock correction term 1 ..... 8.58307E-06

Clock correction term 2 ..... 0

Reference time almanac ..... 380928

Semi-Major Axis (meters) ..... 2.65605E+07

Corrected Mean Motion (rad/sec) . 0.000145853

Inclination angle (rad) ..... 0.959891

ALMANAC FOR SATELLITE 24 :

PRN number for data ..... 24

Health of SV ..... 0  
 Reference Week of Almanac ..... 797  
 Eccentricity ..... 0.00623512  
 Corr: inclination angle (rad) ... 0.0109119  
 Mean Anomaly @ ref time (rad) ... 1.73324  
 Argument of Perigee (rad) ..... -2.06516  
 Rate right ascension (rad/sec) .. -7.78318E-09  
 Right ascension @ ref time (rad) -2.40759  
 Sqrt semi-major axis ( $m^{1/2}$ ) .... 5153.58  
 Clock correction term 1 ..... 0.000700951  
 Clock correction term 2 ..... 3.27418E-11  
 Reference time almanac ..... 466944  
 Semi-Major Axis (meters) ..... 2.65594E+07  
 Corrected Mean Motion (rad/sec) . 0.000145862  
 Inclination angle (rad) ..... 0.976759

#### ALMANAC FOR SATELLITE 25 :

PRN number for data ..... 25  
 Health of SV ..... 0  
 Reference Week of Almanac ..... 797  
 Eccentricity ..... 0.00578976  
 Corr: inclination angle (rad) ... -0.000152588  
 Mean Anomaly @ ref time (rad) ... -2.98402  
 Argument of Perigee (rad) ..... 3.07478  
 Rate right ascension (rad/sec) .. -8.04605E-09  
 Right ascension @ ref time (rad) 0.705584

Sqrt semi-major axis ( $m^{1/2}$ ) .... 5153.77

Clock correction term 1 ..... 9.53674E-07

Clock correction term 2 ..... 0

Reference time almanac ..... 466944

Semi-Major Axis (meters) ..... 2.65613E+07

Corrected Mean Motion (rad/sec) . 0.000145846

Inclination angle (rad) ..... 0.941998

ALMANAC FOR SATELLITE 26 :

PRN number for data ..... 26

Health of SV ..... 0

Reference Week of Almanac ..... 797

Eccentricity ..... 0.00854969

Corr: inclination angle (rad) ... 0.00482178

Mean Anomaly @ ref time (rad) ... -2.21001

Argument of Perigee (rad) ..... -0.827694

Rate right ascension (rad/sec) .. -7.97748E-09

Right ascension @ ref time (rad) -0.316436

Sqrt semi-major axis ( $m^{1/2}$ ) .... 5153.76

Clock correction term 1 ..... -8.2016E-05

Clock correction term 2 ..... -3.63798E-12

Reference time almanac ..... 380928

Semi-Major Axis (meters) ..... 2.65613E+07

Corrected Mean Motion (rad/sec) . 0.000145846

Inclination angle (rad) ..... 0.957626

ALMANAC FOR SATELLITE 27 :

PRN number for data ..... 27

Health of SV ..... 0

Reference Week of Almanac ..... 797

Eccentricity ..... 0.0112481

Corr: inclination angle (rad) ... 0.00109863

Mean Anomaly @ ref time (rad) ... 1.20883

Argument of Perigee (rad) ..... 2.57979

Rate right ascension (rad/sec) .. -7.96605E-09

Right ascension @ ref time (rad) 0.719073

Sqrt semi-major axis ( $m^{1/2}$ ) .... 5153.6

Clock correction term 1 ..... 2.76566E-05

Clock correction term 2 ..... 0

Reference time almanac ..... 466944

Semi-Major Axis (meters) ..... 2.65596E+07

Corrected Mean Motion (rad/sec) . 0.00014586

Inclination angle (rad) ..... 0.945929

ALMANAC FOR SATELLITE 28 :

PRN number for data ..... 28

Health of SV ..... 0

Reference Week of Almanac ..... 797

Eccentricity ..... 0.00402832

Corr: inclination angle (rad) ... 0.00945473

Mean Anomaly @ ref time (rad) ... 0.840799

Argument of Perigee (rad) ..... 2.97512

Rate right ascension (rad/sec) .. -8.09177E-09



Right ascension @ ref time (rad) 2.82565  
Sqrt semi-major axis ( $m^{1/2}$ ) .... 5153.61  
Clock correction term 1 ..... 8.58307E-06  
Clock correction term 2 ..... 3.63798E-12  
Reference time almanac ..... 466944  
Semi-Major Axis (meters) ..... 2.65597E+07  
Corrected Mean Motion (rad/sec) . 0.00014586  
Inclination angle (rad) ..... 0.972181  
ALMANAC FOR SATELLITE 29 :  
PRN number for data ..... 29  
Health of SV ..... 0  
Reference Week of Almanac ..... 797  
Eccentricity ..... 0.00504112  
Corr: inclination angle (rad) ... 0.00356674  
Mean Anomaly @ ref time (rad) ... 1.44634  
Argument of Perigee (rad) ..... -1.86152  
Rate right ascension (rad/sec) .. -8.03462E-09  
Right ascension @ ref time (rad) -0.339565  
Sqrt semi-major axis ( $m^{1/2}$ ) .... 5153.66  
Clock correction term 1 ..... 8.58307E-06  
Clock correction term 2 ..... 0  
Reference time almanac ..... 466944  
Semi-Major Axis (meters) ..... 2.65602E+07  
Corrected Mean Motion (rad/sec) . 0.000145855  
Inclination angle (rad) ..... 0.953683

## ALMANAC FOR SATELLITE 31 :

PRN number for data ..... 31

Health of SV ..... 0

Reference Week of Almanac ..... 797

Eccentricity ..... 0.0057826

Corr: inclination angle (rad) ... 0.00668907

Mean Anomaly @ ref time (rad) ... 2.52981

Argument of Perigee (rad) ..... 0.654399

Rate right ascension (rad/sec) .. -8.1832E-09

Right ascension @ ref time (rad) 2.81862

Sqrt semi-major axis ( $m^{1/2}$ ) .... 5153.73

Clock correction term 1 ..... 6.77109E-05

Clock correction term 2 ..... -1.09139E-11

Reference time almanac ..... 466944

Semi-Major Axis (meters) ..... 2.65609E+07

Corrected Mean Motion (rad/sec) . 0.000145849

Inclination angle (rad) ..... 0.963492