PROPOSED INTERFACE REVISION NOTICE (PIRN)

Note: This Cover Page is not intended for signature. It is to be used during the document update (pre-ICWG) process.

Affected ICD/IS: IS-GPS-800D	**PIRN Number:** PIRN-IS-800D-004
Authority: RFC-00318	**PIRN Date:** 17-JUN-2016

CLASSIFIED BY: NA

DECLASSIFY ON: NA

Document Title: Navstar GPS Space Segment/User Segment L1C Interfaces

Reason For Change (Driver):

Modify public documents to clarify extraneous, ambiguous, redundant, or missing editorial and/or administrative information to enhance the public document quality (clear and concise communication) as suggested by Public Interface Control Working Group (ICWG) participants, stakeholders and key members.

Description of Change: Process the administrative and editorial changes as requested by stakeholders and update IS-GPS-800D.

Prepared By: Drew Sapp/Huey Nguyenhuu **Checked By: Perry Chang**

IS800-159 :

WAS :

Table 3.5-1. Subframe 2 Parameters (1 of 3)

Parameter		No. of Bits**	Scale Factor (LSB)	Effective Range***	Units
WN	Week No.	13	1		weeks
ITOW	Interval time of week	8		83	(see text)
t_{op}	Data predict time of week	11	300	604,500	seconds
L1C health		1			(see text)
URA_{ED} Index	ED accuracy index	5*			(see text)
t_{oe}	Ephemeris/clock data reference time of week	11	300	604,500	seconds
ΔA ****	Semi-major axis difference at reference time	26*	2^{-9}		meters
$\dot{A}$	Change rate in semi-major axis	25*	2^{-21}		meters/sec
Δn_0	Mean Motion difference from computed value at reference time	17*	2^{-44}		semi-circles/sec
$\Delta \dot{n}_0$	Rate of mean motion difference from computed value	23*	2^{-57}		semi-circles/sec^2
$M_{0\text{-}n}$	Mean anomaly at reference time	33*	2^{-32}		semi-circles
e_n	Eccentricity	33	2^{-34}		dimensionless
ω_n	Argument of perigee	33*	2^{-32}		semi-circles

* Parameters so indicated are in two's complement notation;
** See Figure 3.5-1 for complete bit allocation in Subframe 2;
*** Unless otherwise indicated in this column, effective range is the maximum range attainable with indicated bit allocation and scale factor.
**** Relative to A_{REF} = 26,559,710 meters.

IS :

Table 3.5-1. Subframe 2 Parameters (1 of 3)

Parameter		No. of Bits**	Scale Factor (LSB)	Valid Range***	Units
WN	Week No.	13	1		weeks
ITOW	Interval time of week	8		83	(see text)
t_{op}	Data predict time of week	11	300	604,500	seconds
L1C health		1			(see text)
URA_{ED} Index	ED accuracy index	5*			(see text)
t_{oe}	Ephemeris/clock data reference time of week	11	300	0 to 604,500	seconds
ΔA ****	Semi-major axis difference at reference time	26*	2^{-9}		meters
$\dot{A}$	Change rate in semi-major axis	25*	2^{-21}		meters/sec
Δn_0	Mean Motion difference from computed value at reference time	17*	2^{-44}		semi-circles/sec
$\Delta \dot{n}_0$	Rate of mean motion difference from computed value	23*	2^{-57}		semi-circles/sec^2
$M_{0\text{-}n}$	Mean anomaly at reference time	33*	2^{-32}		semi-circles
e_n	Eccentricity	33	2^{-34}	0.0 to 0.03	dimensionless
ω_n	Argument of perigee	33*	2^{-32}		semi-circles

* Parameters so indicated are in two's complement notation;
** See Figure 3.5-1 for complete bit allocation in Subframe 2;
*** Unless otherwise indicated in this column, valid range is the maximum range attainable with indicated bit allocation and scale factor.
**** Relative to A_{REF} = 26,559,710 meters.

IS800-160 :

WAS :

Table 3.5-1. Subframe 2 Parameters (2 of 3)

Parameter		No. of Bits**	Scale Factor (LSB)	Effective Range***	Units
$\Omega_{0\text{-}n}$	Longitude of Ascending Node of Orbit Plane at Weekly Epoch	33*	2^{-32}		semi-circles
$\Delta\dot{\Omega}$****	Rate of right ascension difference	17*	2^{-44}		semi-circles/sec
$i_{0\text{-}n}$	Inclination angle at reference time	33*	2^{-32}		semi-circles
$i_{0\text{-}n}$ –DOT	Rate of inclination angle	15*	2^{-44}		semi-circles/sec
$C_{is\text{-}n}$	Amplitude of the sine harmonic correction term to the angle of inclination	16*	2^{-30}		radians
$C_{ic\text{-}n}$	Amplitude of the cosine harmonic correction term to the angle of inclination	16*	2^{-30}		radians
$C_{rs\text{-}n}$	Amplitude of the sine correction term to the orbit radius	24*	2^{-8}		meters
$C_{rc\text{-}n}$	Amplitude of the cosine correction term to the orbit radius	24*	2^{-8}		meters
$C_{us\text{-}n}$	Amplitude of the sine harmonic correction term to the argument of latitude	21*	2^{-30}		radians
$C_{uc\text{-}n}$	Amplitude of the cosine harmonic correction term to the argument of latitude	21*	2^{-30}		radians

* Parameters so indicated are in two's complement notation;
** See Figure 3.5-1 for complete bit allocation in Subframe 2;
*** Unless otherwise indicated in this column, effective range is the maximum range attainable with indicated bit allocation and scale factor.
**** Relative to $\dot{\Omega}_{REF} = -2.6 \times 10^{-9}$ semi-circles/second.

IS :

Table 3.5-1. Subframe 2 Parameters (2 of 3)

Parameter		No. of Bits**	Scale Factor (LSB)	Valid Range***	Units
$\Omega_{0\text{-}n}$	Longitude of Ascending Node of Orbit Plane at Weekly Epoch	33*	2^{-32}		semi-circles
$\Delta \dot{\Omega}$****	Rate of right ascension difference	17*	2^{-44}		semi-circles/sec
$i_{0\text{-}n}$	Inclination angle at reference time	33*	2^{-32}		semi-circles
$i_{0\text{-}n}$ –DOT	Rate of inclination angle	15*	2^{-44}		semi-circles/sec
$C_{is\text{-}n}$	Amplitude of the sine harmonic correction term to the angle of inclination	16*	2^{-30}		radians
$C_{ic\text{-}n}$	Amplitude of the cosine harmonic correction term to the angle of inclination	16*	2^{-30}		radians
$C_{rs\text{-}n}$	Amplitude of the sine correction term to the orbit radius	24*	2^{-8}		meters
$C_{rc\text{-}n}$	Amplitude of the cosine correction term to the orbit radius	24*	2^{-8}		meters
$C_{us\text{-}n}$	Amplitude of the sine harmonic correction term to the argument of latitude	21*	2^{-30}		radians
$C_{uc\text{-}n}$	Amplitude of the cosine harmonic correction term to the argument of latitude	21*	2^{-30}		radians

* Parameters so indicated are in two's complement notation;
** See Figure 3.5-1 for complete bit allocation in Subframe 2;
*** Unless otherwise indicated in this column, valid range is the maximum range attainable with indicated bit allocation and scale factor.
**** Relative to $\dot{\Omega}_{REF} = -2.6 \times 10^{-9}$ semi-circles/second.

IS800-161 :

WAS :

Table 3.5-1. Subframe 2 Parameters (3 of 3)

Parameter		No. of Bits**	Scale Factor (LSB)	Effective Range***	Units
URA_{NED0} Index	NED Accuracy Index	5*			(see text)
URA_{NED1} Index	NED Accuracy Change Index	3			(see text)
URA_{NED2} Index	NED Accuracy Change Rate Index	3			(see text)
$a_{f2\text{-}n}$	SV Clock Drift Rate Correction Coefficient	10*	2^{-60}		sec/sec^2
$a_{f1\text{-}n}$	SV Clock Drift Correction Coefficient	20*	2^{-48}		sec/sec
$a_{f0\text{-}n}$	SV Clock Bias Correction Coefficient	26*	2^{-35}		seconds
T_{GD}****	Inter-Signal Correction for L1 or L2 P(Y)	13*	2^{-35}		seconds
ISC_{L1CP}****	Inter-Signal Correction for $L1C_P$	13*	2^{-35}		seconds
ISC_{L1CD}****	Inter-Signal Correction for $L1C_D$	13*	2^{-35}		seconds
WN_{OP}	Data Predict Week Number	8	1		weeks

* Parameters so indicated are in two's complement notation;

** See Figure 3.5-1 for complete bit allocation in Subframe 2;

*** Unless otherwise indicated in this column, effective range is the maximum range attainable with indicated bit allocation and scale factor.

**** The bit string of "1000000000000" will indicate that the group delay value is not available.

IS :

Table 3.5-1. Subframe 2 Parameters (3 of 3)

Parameter		No. of Bits**	Scale Factor (LSB)	Valid Range***	Units
URA_{NED0} Index	NED Accuracy Index	5*			(see text)
URA_{NED1} Index	NED Accuracy Change Index	3			(see text)
URA_{NED2} Index	NED Accuracy Change Rate Index	3			(see text)
a_{f2-n}	SV Clock Drift Rate Correction Coefficient	10*	2^{-60}		sec/sec^2
a_{f1-n}	SV Clock Drift Correction Coefficient	20*	2^{-48}		sec/sec
a_{f0-n}	SV Clock Bias Correction Coefficient	26*	2^{-35}		seconds
T_{GD}****	Inter-Signal Correction for L1 or L2 P(Y)	13*	2^{-35}		seconds
ISC_{L1CP}****	Inter-Signal Correction for $L1C_P$	13*	2^{-35}		seconds
ISC_{L1CD}****	Inter-Signal Correction for $L1C_D$	13*	2^{-35}		seconds
WN_{OP}	Data Predict Week Number	8	1		weeks

* Parameters so indicated are in two's complement notation;

** See Figure 3.5-1 for complete bit allocation in Subframe 2;

*** Unless otherwise indicated in this column, valid range is the maximum range attainable with indicated bit allocation and scale factor.

**** The bit string of "1000000000000" will indicate that the group delay value is not available.

IS800-224 :

WAS :

Table 3.5-3. UTC Parameters

Parameter		No. of Bits**	Scale Factor (LSB)	Effective Range***	Units
A_{0-n}	Bias coefficient of GPS time scale relative to UTC time scale	16*	2^{-35}		seconds
A_{1-n}	Drift coefficient of GPS time scale relative to UTC time scale	13*	2^{-51}		sec/sec
A_{2-n}	Drift rate correction coefficient of GPS time scale relative to UTC time scale	7*	2^{-68}		sec/sec^2
Δt_{LS}	Current or past leap second count	8*	1		seconds
t_{ot}	Time data reference Time of Week	16	2^4	604,784	seconds
WN_{ot}	Time data reference Week Number	13	1		weeks
WN_{LSF}	Leap second reference Week Number	13	1		weeks
DN	Leap second reference Day Number	4****	1		days
Δt_{LSF}	Current or future leap second count	8*	1		seconds

* Parameters so indicated shall be in two's complement notation;

** See Figure 3.5-2 for complete bit allocation;

*** Unless otherwise indicated in this column, effective range is the maximum range attainable with indicated bit allocation and scale factor;

**** Right justified.

IS :

Table 3.5-3. UTC Parameters

Parameter		No. of Bits**	Scale Factor (LSB)	Valid Range***	Units
A_{0-n}	Bias coefficient of GPS time scale relative to UTC time scale	16*	2^{-35}		seconds
A_{1-n}	Drift coefficient of GPS time scale relative to UTC time scale	13*	2^{-51}		sec/sec
A_{2-n}	Drift rate correction coefficient of GPS time scale relative to UTC time scale	7*	2^{-68}		sec/sec^2
Δt_{LS}	Current or past leap second count	8*	1		seconds
t_{ot}	Time data reference Time of Week	16	2^4	0 to 604,784	seconds
WN_{ot}	Time data reference Week Number	13	1		weeks
WN_{LSF}	Leap second reference Week Number	13	1		weeks
DN	Leap second reference Day Number	4	1	1 to 7	days
Δt_{LSF}	Current or future leap second count	8*	1		seconds

* Parameters so indicated shall be in two's complement notation;

** See Figure 3.5-2 for complete bit allocation;

*** Unless otherwise indicated in this column, valid range is the maximum range attainable with indicated bit allocation and scale factor;

IS800-655 :

WAS :
000 = no data available,
001 = Galileo,
010 = GLONASS,
011 through 111 = reserved for other systems.

IS :
000 = no data available,

001 = Galileo,

010 = GLONASS,

011 through 111 = ~~reserved~~Reserved ~~for~~in ~~other~~order ~~systems~~to preserve the use of these values in a future version of this IS. Until such a revision, the user segment developing to this version of this IS should interpret these values as indicating that the GPS/GNSS Time Offset Parameter data, to which the GNSS Type ID applies, is presently unusable.

IS800-236 :

WAS :

Table 3.5-4. GPS/GNSS Time Offset Parameters

Parameter		No. of Bits**	Scale Factor (LSB)	Effective Range***	Units
A_{0GGTO}	Bias coefficient of GPS time scale relative to GNSS time scale	16*	2^{-35}		seconds
A_{1GGTO}	Drift coefficient of GPS time scale relative to GNSS time scale	13*	2^{-51}		sec/sec
A_{2GGTO}	Drift rate correction coefficient of GPS time scale relative to GNSS time scale	7*	2^{-68}		sec/sec^2
t_{GGTO}	Time data reference Time of Week	16	2^4	604,784	seconds
WN_{GGTO}	Time data reference Week Number	13	2^0		weeks
GNSS ID	GNSS Type ID	3			see text

* Parameters so indicated shall be in two's complement notation;

** See Figure 3.5-3 for complete bit allocation;

*** Unless otherwise indicated in this column, effective range is the maximum range attainable with indicated bit allocation and scale factor.

IS :

Table 3.5-4. GPS/GNSS Time Offset Parameters

Parameter		No. of Bits**	Scale Factor (LSB)	Valid Range***	Units
A_{0GGTO}	Bias coefficient of GPS time scale relative to GNSS time scale	16*	2^{-35}		seconds
A_{1GGTO}	Drift coefficient of GPS time scale relative to GNSS time scale	13*	2^{-51}		sec/sec
A_{2GGTO}	Drift rate correction coefficient of GPS time scale relative to GNSS time scale	7*	2^{-68}		sec/sec^2
t_{GGTO}	Time data reference Time of Week	16	2^4	0 to 604,784	seconds
WN_{GGTO}	Time data reference Week Number	13	2^0		weeks
GNSS ID	GNSS Type ID	3			see text

* Parameters so indicated shall be in two's complement notation;

** See Figure 3.5-3 for complete bit allocation;

*** Unless otherwise indicated in this column, valid range is the maximum range attainable with indicated bit allocation and scale factor.

IS800-241 :

WAS :

Table 3.5-5. Earth Orientation Parameters

Parameter		No. of Bits**	Scale Factor (LSB)	Effective Range***	Units
t_{EOP}	EOP Data Reference Time	16	2^{4}	604,784	seconds
PM_X †	X-Axis Polar Motion Value at Reference Time.	21*	2^{-20}	1	arc-seconds
$\dot{PM}$_X	X-Axis Polar Motion Drift at Reference Time.	15*	2^{-21}	7.8125×10^{-3}	arc-seconds/day
PM_Y ††	Y-Axis Polar Motion Value at Reference Time.	21*	2^{-20}	1	arc-seconds
$\dot{PM}$_Y	Y-Axis Polar Motion Drift at Reference Time.	15*	2^{-21}	7.8125×10^{-3}	arc-seconds/day
ΔUT1 †††	UT1-UTC Difference at Reference Time.	31*	2^{-24}	64	seconds
$\dot{\Delta UT1}$ †††	Rate of UT1-UTC Difference at Reference Time	19*	2^{-25}	7.8125×10^{-3}	seconds/day

* Parameters so indicated are in two's complement notation;

** See Figure 3.5-3 for complete bit allocation in subframe 3, page 2;

*** Unless otherwise indicated in this column, effective range is the maximum range attainable with indicated bit allocation and scale factor.

† Represents the predicted angular displacement of instantaneous Celestial Ephemeris Pole with respect to semi-minor axis of the reference ellipsoid along Greenwich meridian.

†† Represents the predicted angular displacement of instantaneous Celestial Ephemeris Pole with respect to semi-minor axis of the reference ellipsoid on a line directed 90° west of Greenwich meridian.

††† With zonal tides restored.

IS :

Table 3.5-5. Earth Orientation Parameters

Parameter		No. of Bits**	Scale Factor (LSB)	Valid Range***	Units
t_{EOP}	EOP Data Reference Time	16	2^{4}	0 to 604,784	seconds
PM_X †	X-Axis Polar Motion Value at Reference Time.	21*	2^{-20}		arc-seconds
$\dot{PM}$_X	X-Axis Polar Motion Drift at Reference Time.	15*	2^{-21}		arc-seconds/day
PM_Y ††	Y-Axis Polar Motion Value at Reference Time.	21*	2^{-20}		arc-seconds
$\dot{PM}$_Y	Y-Axis Polar Motion Drift at Reference Time.	15*	2^{-21}		arc-seconds/day
ΔUT1 †††	UT1-UTC Difference at Reference Time.	31*	2^{-24}		seconds
$\Delta\dot{UT1}$ †††	Rate of UT1-UTC Difference at Reference Time	19*	2^{-25}		seconds/day

* Parameters so indicated are in two's complement notation;

** See Figure 3.5-3 for complete bit allocation in subframe 3, page 2;

*** Unless otherwise indicated in this column, valid range is the maximum range attainable with indicated bit allocation and scale factor.

† Represents the predicted angular displacement of instantaneous Celestial Ephemeris Pole with respect to semi-minor axis of the reference ellipsoid along Greenwich meridian.

†† Represents the predicted angular displacement of instantaneous Celestial Ephemeris Pole with respect to semi-minor axis of the reference ellipsoid on a line directed 90° west of Greenwich meridian.

††† With zonal tides restored.

IS800-894 :

WAS :
An 8-bit value of "00000000" in the PRN_a field shall indicate that no further Status Words are contained in the remainder of the data block. In this event, all subsequent bits in the data block field shall be filler bits, i.e., alternating ones and zeros beginning with one.

IS :
An 8-bit value of "00000000" in the PRNa field shall indicate that ~~no further Status~~there ~~Words~~is ~~are~~no ~~contained~~data in the~~ remainder of~~ ~~the~~reduced ~~data~~almanac ~~block~~packet. In this event, all subsequent bits ~~in~~to the ~~data~~end ~~block~~of ~~field~~the message that contains the packet shall be filler bits, i.e., alternating ones and zeros beginning with one.

IS800-260 :

WAS :

Table 3.5-6. Reduced Almanac Parameters *****

Parameter*****	No. of Bits	Scale Factor (LSB)	Effective Range **	Units
δ_A ***	8 *	2^{+9}	**	Meters
Ω_0	7 *	2^{-6}	**	semi-circles
Φ_0 ****	7 *	2^{-6}	**	semi-circles

* Parameters so indicated shall be in two's complement notation;

** Effective range is the maximum range attainable with indicated bit allocation and scale factor;

*** Relative to A_{ref} = 26,559,710 meters;

**** Φ_0 = Argument of Latitude at Reference Time = $M_0 + \omega$;

***** Relative to following reference values:

e = 0

δ_i = +0.0056 semi-circles (i = 55 degrees)

$\dot{\Omega}$ =-2.6 x 10^{-9} semi-circles/second

IS :

Table 3.5-6. Reduced Almanac Parameters *****

Parameter*****	No. of Bits	Scale Factor (LSB)	Valid Range **	Units
δ_A ***	8 *	2^{+9}	**	Meters
Ω_0	7 *	2^{-6}	**	semi-circles
Φ_0 ****	7 *	2^{-6}	**	semi-circles

* Parameters so indicated shall be in two's complement notation;

** Valid range is the maximum range attainable with indicated bit allocation and scale factor;

*** Relative to A_{ref} = 26,559,710 meters;

**** Φ_0 = Argument of Latitude at Reference Time = $M_0 + \omega$;

***** Relative to following reference values:

e = 0

δ_i = +0.0056 semi-circles (i = 55 degrees)

$\dot{\Omega}$ =-2.6 x 10^{-9} semi-circles/second

IS800-263 :

WAS :

Table 3.5-7. Midi Almanac Parameters

Parameter	No. of Bits**	Scale Factor (LSB)	Effective Range***	Units
t_{oa}	8	2^{12}	602,112	seconds
e	11	2^{-16}		dimensionless
δ_i****	11*	2^{-14}		semi-circles
$\dot{\Omega}$	11*	2^{-33}		semi-circles/sec
$\sqrt{A}$	17	2^{-4}		$\sqrt{\text{meters}}$
Ω_0	16*	2^{-15}		semi-circles
ω	16*	2^{-15}		semi-circles
M_0	16*	2^{-15}		semi-circles
a_{f0}	11*	2^{-20}		seconds
a_{f1}	10*	2^{-37}		sec/sec

* Parameters so indicated shall be in two's complement notation;

** See Figure 3.5-5 for complete bit allocation in subframe 3, page 4;

*** Unless otherwise indicated in this column, effective range is the maximum range attainable with indicated bit allocation and scale factor;

**** Relative to i_0 = 0.30 semi-circles.

IS :

Table 3.5-7. Midi Almanac Parameters

Parameter	No. of Bits**	Scale Factor (LSB)	Valid Range***	Units
t_{oa}	8	2^{12}	0 to 602,112	seconds
e	11	2^{-16}	0.0 to 0.03	dimensionless
δ_i****	11*	2^{-14}		semi-circles
$\dot{\Omega}$	11*	2^{-33}	-6.33E-07 to 0	semi-circles/sec
$\sqrt{A}$	17	2^{-4}	2530 to 8192	$\sqrt{\text{meters}}$
Ω_0	16*	2^{-15}		semi-circles
ω	16*	2^{-15}		semi-circles
M_0	16*	2^{-15}		semi-circles
a_{f0}	11*	2^{-20}		seconds
a_{f1}	10*	2^{-37}		sec/sec

* Parameters so indicated shall be in two's complement notation;

** See Figure 3.5-5 for complete bit allocation in subframe 3, page 4;

*** Unless otherwise indicated in this column, valid range is the maximum range attainable with indicated bit allocation and scale factor;

**** Relative to i_0 = 0.30 semi-circles.

IS800-280 :

WAS :

Table 3.5-8. Differential Correction Parameters

Parameter		No. of Bits**	Scale Factor (LSB)	Effective Range***	Units
PRN ID		8			see text
δa_{f0}	SV Clock Bias Correction	13*	2^{-35}		seconds
δa_{f1}	SV Clock Drift Correction	8*	2^{-51}		seconds/second
UDRA	User Differential Range Accuracy Index	5*			see text
$\Delta\alpha$	Alpha Correction to Ephemeris Parameters	14*	2^{-34}		dimensionless
$\Delta\beta$	Beta Correction to Ephemeris Parameters	14*	2^{-34}		dimensionless
$\Delta\gamma$	Gamma Correction to Ephemeris Parameters	15*	2^{-32}		semi-circles
Δi	Angle of Inclination Correction	12*	2^{-32}		semi-circles
$\Delta\Omega$	Angle of Right Ascension Correction	12*	2^{-32}		semi-circles
ΔA	Semi-Major Correction	12*	2^{-9}		meters
$\dot{U}DRA$	Change Rate of User Differential Range Accuracy Index.	5*			see text

* Parameters so indicated are in two's complement notation;
** See Figure 3.5-6 for complete bit allocation in subframe 3, page 5;
*** Unless otherwise indicated in this column, effective range is the maximum range attainable with indicated bit allocation and scale factor.

IS :

Table 3.5-8. Differential Correction Parameters

Parameter		No. of Bits**	Scale Factor (LSB)	Valid Range***	Units
PRN ID		8			see text
t_{op-D}	DC Data Predict Time of Week	11	300	0 to 604,500	seconds
t_{OD}	Time of DC Data	11	300	0 to 604,500	seconds
δa_{f0}	SV Clock Bias Correction	13*	2^{-35}		seconds
δa_{f1}	SV Clock Drift Correction	8*	2^{-51}		seconds/second
UDRA	User Differential Range Accuracy Index	5*			see text
$\Delta\alpha$	Alpha Correction to Ephemeris Parameters	14*	2^{-34}		dimensionless
$\Delta\beta$	Beta Correction to Ephemeris Parameters	14*	2^{-34}		dimensionless
$\Delta\gamma$	Gamma Correction to Ephemeris Parameters	15*	2^{-32}		semi-circles
Δi	Angle of Inclination Correction	12*	2^{-32}		semi-circles
$\Delta\Omega$	Angle of Right Ascension Correction	12*	2^{-32}		semi-circles
ΔA	Semi-Major Correction	12*	2^{-9}		meters
$\dot{UDRA}$	Change Rate of User Differential Range Accuracy Index.	5*			see text

* Parameters so indicated are in two's complement notation;
** See Figure 3.5-6 for complete bit allocation in subframe 3, page 5;
*** Unless otherwise indicated in this column, valid range is the maximum range attainable with indicated bit allocation and scale factor.

IS800-871 :

WAS :
The t_{oe} shall be equal to the t_{oc} of the same CNAV data set. The following rules govern the transmission of t_{oe} and t_{oc} values in different data sets: (1) The transmitted t_{oc} will be different from any value transmitted by the SV during the preceding seven days; (2) The transmitted t_{oe} will be different from any value transmitted by the SV during the preceding six hours.

Cutovers to new data sets will occur only on hour boundaries except for the first data set of a new upload. The first data set may be cut-in (reference paragraph 3.5.5.1) at any time during the hour and therefore may be transmitted by the SV for less than one hour.

The start of the transmission interval for each data set corresponds to the beginning of the curve fit interval for the data set. Each data set remains valid for the duration of its transmission interval, and nominally also remains valid for the duration of its curve fit interval. A data set is rendered invalid before the end of its curve fit interval when it is superseded by the SV cutting over to the first data set of a new upload.

Normal Operations. The subframe 2 data sets are transmitted by the SV for periods of two hours. The corresponding curve fit interval is three hours.

IS :
The ~~toe shall be equal to the toc of the same CNAV data set. The~~ following ~~rules~~rule ~~govern~~governs the transmission of toe ~~and toc values~~ in different data sets: ~~(1)~~ The transmitted ~~toc~~toe will be different from any value transmitted by the SV during the preceding seven days~~; (2) The transmitted toc will be different from any value transmitted by the SV during the preceding six hours~~.

Cutovers to new data sets will occur only on hour boundaries except for the first data set of a new upload. The first data set may be cut-in (reference paragraph 3.5.5.1) at any time during the hour and therefore may be transmitted by the SV for less than one hour.

The start of the transmission interval for each data set corresponds to the beginning of the curve fit interval for the data set. Each data set remains valid for the duration of its transmission interval, and nominally also remains valid for the duration of its curve fit interval. A data set is rendered invalid before the end of its curve fit interval when it is superseded by the SV cutting over to the first data set of a new upload.

Normal Operations. The subframe 2 data sets are transmitted by the SV for periods of two hours. The corresponding curve fit interval is three hours.

IS800-907 :
Insertion after object IS800-308

WAS :
N/A

IS :
Reserved Data

See paragraph 6.2.6 of IS-GPS-200.

IS800-909 :
Insertion after object IS800-907

WAS :
N/A

IS :
Valid Range
See paragraph 6.2.7 of IS-GPS-200.

IS800-910 :
Insertion after object IS800-909

WAS :
N/A

IS :
Invalid Range
See paragraph 6.2.8 of IS-GPS-200.