PROPOSED CHANGE NOTICE

Affected Document:	IRN/SCN Number	Date:
IS-GPS-800E	XXX-XXXX-XXX	DD-MMM-YYYY
Authority:	**Proposed Change Notice**	**Date:**
RFC-00374	IS800E_RFC374	28-NOV-2018

CLASSIFIED BY: N/A
DECLASSIFY ON: N/A

Document Title: NAVSTAR GPS Space Segment / User Segment L1C Interface

RFC Title: 2018 Proposed Changes to the Public Documents

Reason For Change (Driver):

The following topic was deferred from the 2017 Public ICWG and will now be resolved by this RFC.

1. Currently the Operational Advisories (OAs) that are published and archived contain plane/slot descriptions that are not in the constellation definition provided to the public in the Standard Positioning Service (SPS) Performance Standard (PS). The OA does not have the capability to correctly publish information regarding fore/aft position since moving to the 24+3 constellation with three expanded slots. In addition, the Points of Contact of the OA are not represented in a way that allows for efficient updates. This is a follow-up to RFC-351, which was CCB-approved on 8-Jan-2018.

The following topic resolves 3 document clean-up related activities:

2. a) Signal-in-space topics need clarification, as identified by the public in past Public ICWGs. b) There were some administrative errors found during the UpRev process of the public documents. c) Contractor signatories are required for government-controlled documents.

(Pre-RFCs 819, 861)

Description of Change:

1. Modify the OA as agreed to in ICD-GPS-240 and ICD-GPS-870.
2. a) Provide clarity for the list of signal-in-space topics identified by the public. b) Clean up identified administrative changes in all public documents. c) Remove required contractor signatories from government-controlled documents.

Authored By: Philip Kwan **Checked By: Jennifer Lemus**

AUTHORIZED SIGNATURES	REPRESENTING	DATE
	GPS Directorate Space & Missile Systems Center (SMC) – LAAFB	
See Next Page		
See Next Page		
See Next Page		
See Next Page		
See Next Page		

Document Markings Verify with CM

THIS DOCUMENT SPECIFIES TECHNICAL REQUIREMENTS AND NOTHING HEREIN CONTAINED SHALL BE DEEMED TO ALTER THE TERMS OF ANY CONTRACT OR PURCHASE ORDER BETWEEN ALL PARTIES AFFECTED.	Interface Control Contractor: Engility (GPS SE&I) 200 N. Pacific Coast Hwy, Suite 1800 El Segundo, CA 90245
	CODE IDENT 66RP1

Clean-Up and Clarification Proposed Changes

IS800-15 :

Section Number :
2.1.0-4

WAS :
<u>Other Publications</u>

IS-GPS-200 (current issue)	Navstar GPS Space Segment/Navigation User Interfaces
GP-03-001A (20 April 2006)	GPS Interface Control Working Group Charter

Redlines :
<u>Other Publications</u>

IS-GPS-200 (current issue)	Navstar GPS Space Segment/Navigation User Interfaces
GP-03-001A (20 April 2006)	GPS Interface Control Working Group Charter

IS :
<u>Other Publications</u>

IS-GPS-200 (current issue)	Navstar GPS Space Segment/Navigation User Interfaces
GP-03-001A (20 April 2006)	GPS Interface Control Working Group Charter

Rationale :
8/14/2018: Fix font size to be consistent with the rest of the document.

IS800-115 :

Section Number :
3.2.3.5.0-2

WAS :

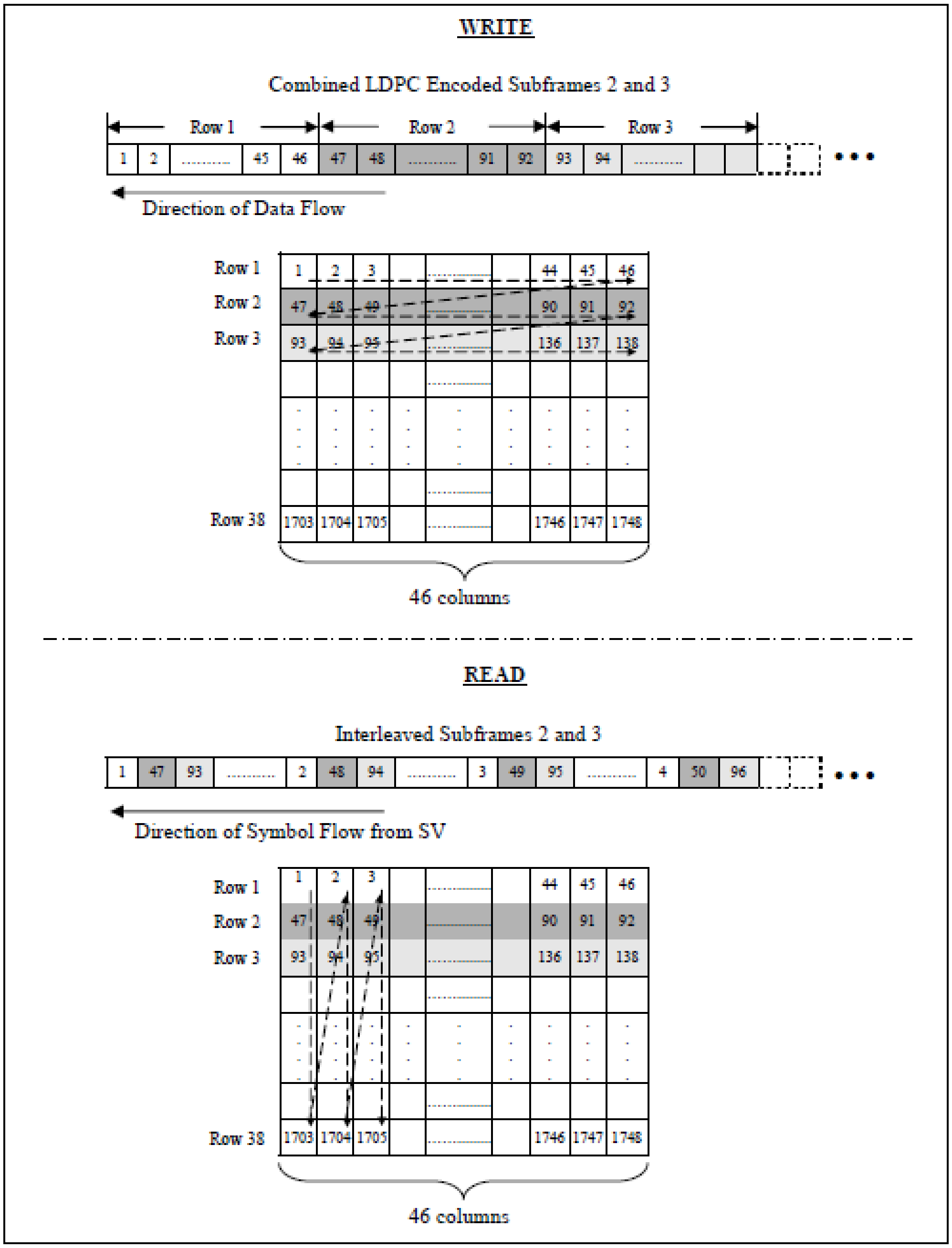

Figure 3.2-6. Conceptual Block Interleaver

Redlines :

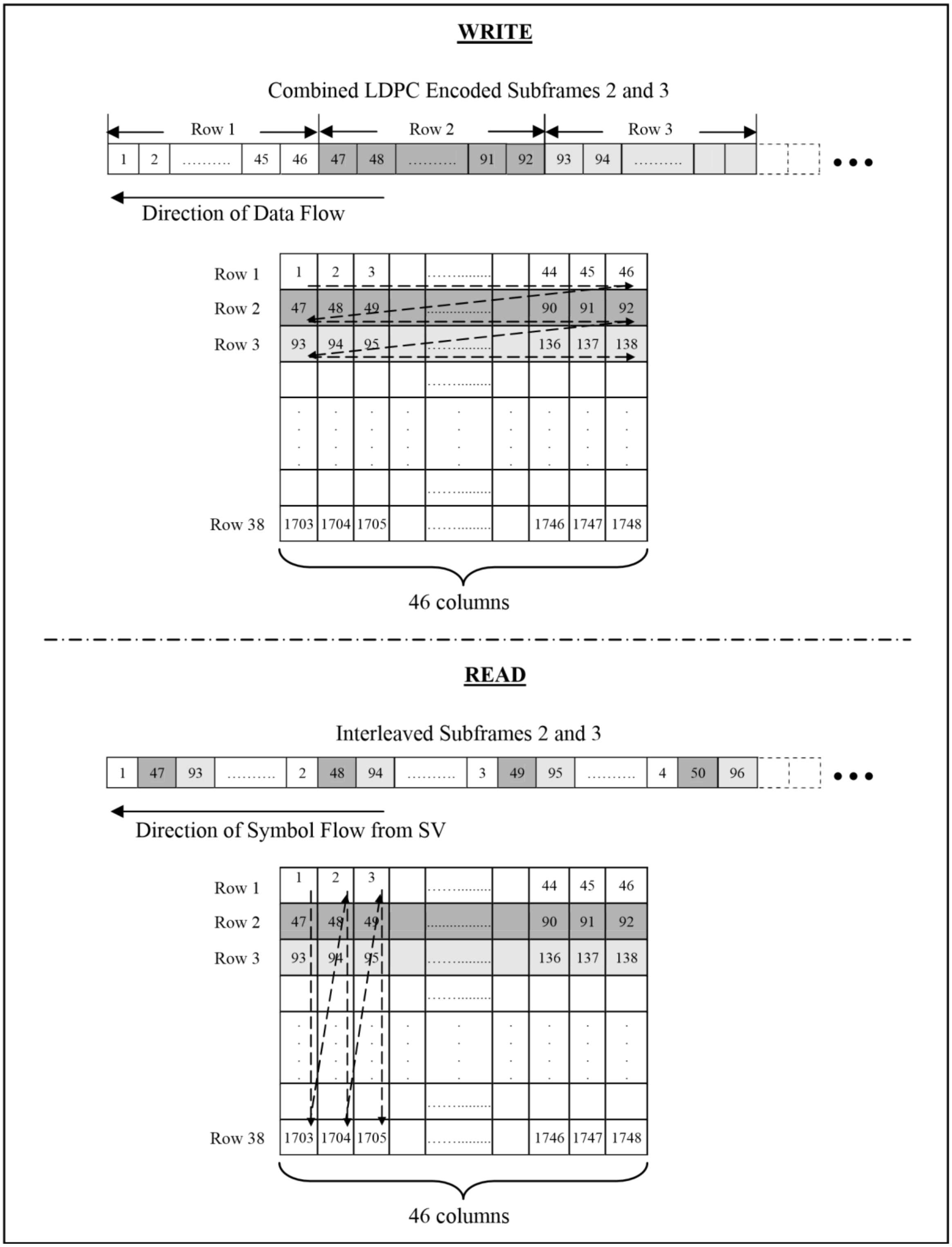

Figure 3.2-6. Conceptual Block Interleaver

IS :

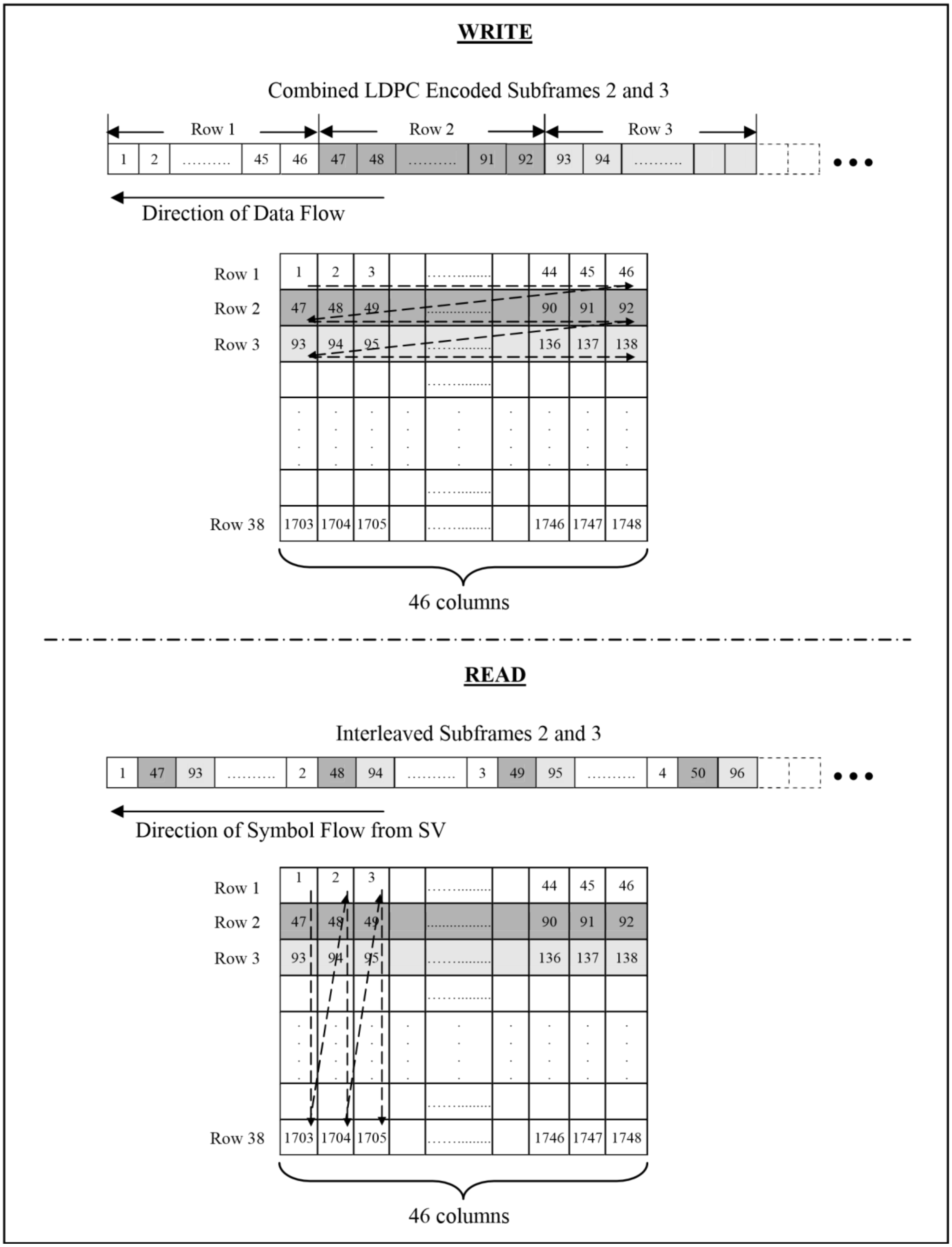

Figure 3.2-6. Conceptual Block Interleaver

Rationale :
8/14/2018: Update the figure to be legible.

IS800-146 :

Section Number :
3.5.2.0-5

WAS :

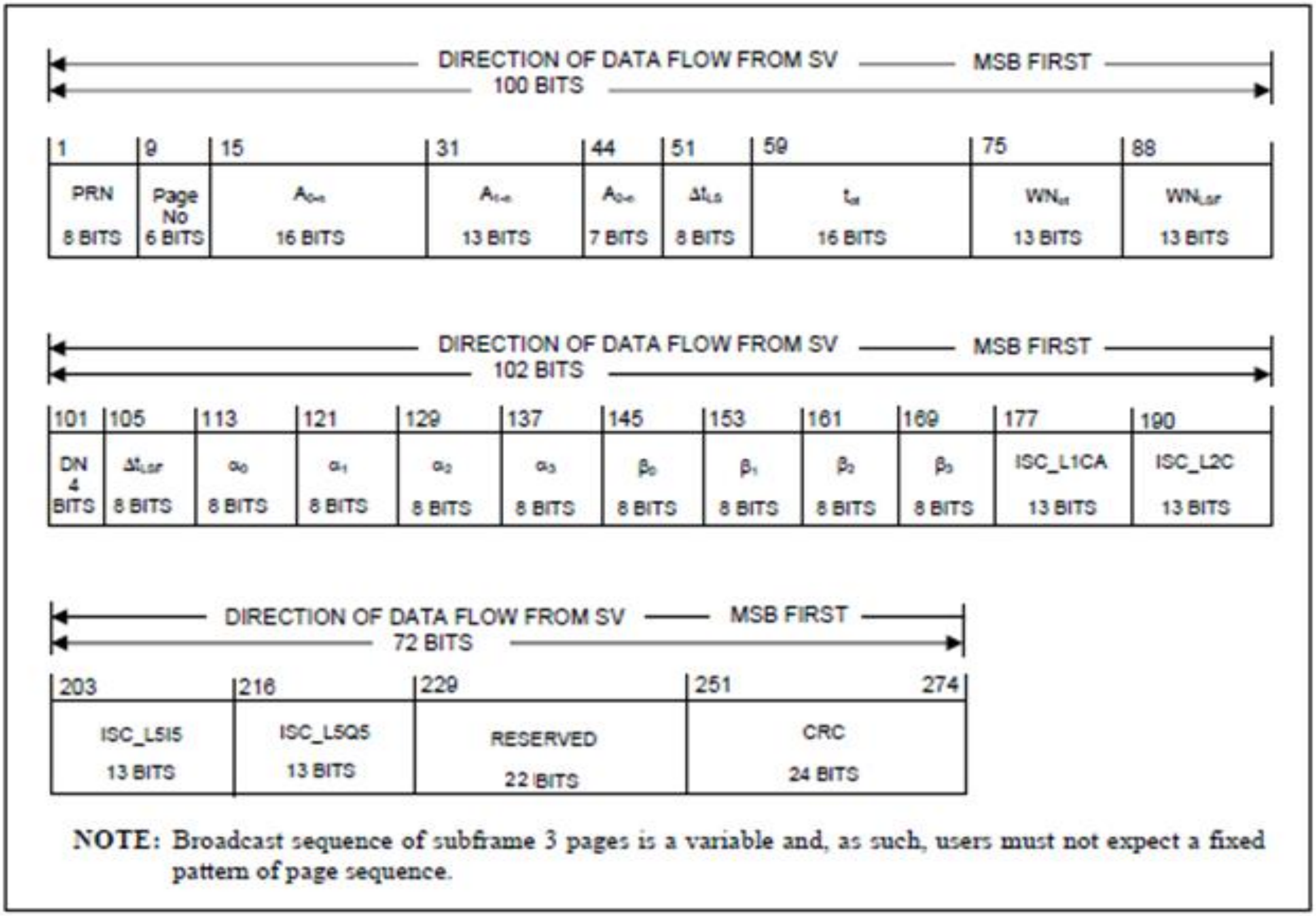

Figure 3.5-2. Subframe 3, Page 1 - UTC & IONO

Redlines :

DIRECTION OF DATA FLOW FROM SV — MSB FIRST

100 BITS

1	9	15	31	44	51	59	75	88
PRN 8 BITS	Page No 6 BITS	A_{0-n} 16 BITS	A_{1-n} 13 BITS	A_{2-n} 7 BITS	Δt_{LS} 8 BITS	t_{ot} 16 BITS	WN_{ot} 13 BITS	WN_{LSF} 13 BITS

DIRECTION OF DATA FLOW FROM SV — MSB FIRST

102 BITS

101	105	113	121	129	137	145	153	161	169	177	190
DN 4 BITS	Δt_{LSF} 8 BITS	α_0 8 BITS	α_1 8 BITS	α_2 8 BITS	α_3 8 BITS	β_0 8 BITS	β_1 8 BITS	β_2 8 BITS	β_3 8 BITS	$ISC_{L1C/A}$ 13 BITS	ISC_{L2C} 13 BITS

DIRECTION OF DATA FLOW FROM SV — MSB FIRST

72 BITS

203	216	229	251 — 274
ISC_{L5I5} 13 BITS	ISC_{L5Q5} 13 BITS	RESERVED 2 BITS	CRC 24 BITS

NOTE: Broadcast sequence of subframe 3 pages is a variable and, as such, users must not expect a fixed pattern of page sequence.

Figure 3.5-2. Subframe 3, Page 1 - UTC & IONO

[Figure was redrawn for legibility]

IS:

DIRECTION OF DATA FLOW FROM SV — MSB FIRST

100 BITS

1	9	15	31	44	51	59	75	88
PRN 8 BITS	Page No 6 BITS	A_{0-n} 16 BITS	A_{1-n} 13 BITS	A_{2-n} 7 BITS	Δt_{LS} 8 BITS	t_{ot} 16 BITS	WN_{ot} 13 BITS	WN_{LSF} 13 BITS

DIRECTION OF DATA FLOW FROM SV — MSB FIRST

102 BITS

101	105	113	121	129	137	145	153	161	169	177	190
DN 4 BITS	Δt_{LSF} 8 BITS	α_0 8 BITS	α_1 8 BITS	α_2 8 BITS	α_3 8 BITS	β_0 8 BITS	β_1 8 BITS	β_2 8 BITS	β_3 8 BITS	$ISC_{L1C/A}$ 13 BITS	ISC_{L2C} 13 BITS

DIRECTION OF DATA FLOW FROM SV — MSB FIRST

72 BITS

203	216	229	251 — 274
ISC_{L5I5} 13 BITS	ISC_{L5Q5} 13 BITS	RESERVED 2 BITS	CRC 24 BITS

NOTE: Broadcast sequence of subframe 3 pages is a variable and, as such, users must not expect a fixed pattern of page sequence.

Figure 3.5-2. Subframe 3, Page 1 - UTC & IONO

Rationale :
8/15/2018: Update figure to be more legible for user readability.

IS800-159 :

Section Number :
3.5.3.0-8

WAS :

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

Parameter		No. of Bits**	Scale Factor (LSB)	Effective Range***	Units
WN	Data Sequence Propagation Week Number	13	1		weeks
ITOW	Interval time of week	8		0 to 83	(see text)
t_{op}	CEI Data sequence propagation time of week	11	300	0 to 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-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.

Redlines :

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

Parameter		No. of Bits**	Scale Factor (LSB)	~~Effective~~Valid Range***	Units
WN	Data Sequence Propagation Week Number	13	1		weeks
ITOW	Interval time of week	8		0 to 83	(see text)
t_{op}	CEI Data sequence propagation time of week	11	300	0 to 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-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.

[parameter alignment fixed]

IS :

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

Parameter		No. of Bits**	Scale Factor (LSB)	Valid Range***	Units
WN	Data Sequence Propagation Week Number	13	1		weeks
ITOW	Interval time of week	8		0 to 83	(see text)
t_{op}	CEI Data sequence propagation time of week	11	300	0 to 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-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.

Rationale :
3/19/18: This table is inconsistent with "effective range" and "valid range" usage. Update this sheet to include "Valid Range" per RFC-288. In addition, fix the alignment of the variables for user readability.

IS800-161 :

Section Number :
3.5.3.0-12

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}	CEI Data Sequence Propagation 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.

Redlines :

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

Parameter		No. of Bits**	Scale Factor (LSB)	~~Effective~~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}	CEI Data Sequence Propagation 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~~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.

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)
$a_{f2\text{-}n}$	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}	CEI Data Sequence Propagation 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.

Rationale :
3/19/18: This table is inconsistent with "effective range" and "valid range" usage. Update this sheet to include "Valid Range" per RFC-288.

IS800-182 :

Section Number :
3.5.3.6.1.0-6

WAS :

Table 3.5-2. Elements of Coordinate System (part 2 of 2)

Element/Equation *	**Description**
$\Phi_k = \nu_k + \omega_n$	Argument of Latitude
$\delta u_k = C_{us\text{-}n}\sin 2\Phi_k + C_{uc\text{-}n}\cos 2\Phi_k$	Argument of Latitude Correction
$\delta r_k = C_{rs\text{-}n}\sin 2\Phi_k + C_{rc\text{-}n}\cos 2\Phi_k$	Radial Correction — Second Harmonic Perturbations
$\delta i_k = C_{is\text{-}n}\sin 2\Phi_k + C_{ic\text{-}n}\cos 2\Phi_k$	Inclination Correction
$u_k = \Phi_k + \delta u_k$	Corrected Argument of Latitude
$r_k = A_k(1 - e_n \cos E_k) + \delta r_k$	Corrected Radius
$i_k = i_{o\text{-}n} + (i_{o\text{-}n}\text{-DOT})t_k + \delta i_k$	Corrected Inclination
$x_k' = r_k \cos u_k$	Positions in orbital plane
$y_k' = r_k \sin u_k$	
$\dot{\Omega} = \dot{\Omega}_{REF} + \Delta\dot{\Omega}$ ***	Rate of Right Ascension
$\Omega_k = \Omega_{0\text{-}n} + (\dot{\Omega} - \dot{\Omega}_e)\, t_k - \dot{\Omega}_e\, t_{oe}$	Corrected Longitude of Ascending Node
$x_k = x_k' \cos \Omega_k - y_k' \cos i_k \sin \Omega_k$	
$y_k = x_k' \sin \Omega_k + y_k' \cos i_k \cos \Omega_k$	Earth-fixed coordinates of SV antenna phase center
$z_k = y_k' \sin i_k$	
*** $\dot{\Omega}_{REF} = -2.6 \times 10^{-9}$ semi-circles/second.	

Redlines :

Table 3.5-2. Elements of Coordinate System (part 2 of 2)

Element/Equation*	**Description**
$\Phi_k = \nu_k + \omega_n$	Argument of Latitude
$\left.\begin{array}{l} \delta u_k = C_{us\text{-}n}\sin 2\Phi_k + C_{uc\text{-}n}\cos 2\Phi_k \\ \delta r_k = C_{rs\text{-}n}\sin 2\Phi_k + C_{rc\text{-}n}\cos 2\Phi_k \\ \delta i_k = C_{is\text{-}n}\sin 2\Phi_k + C_{ic\text{-}n}\cos 2\Phi_k \end{array}\right.$	$\left.\begin{array}{l} \text{Argument of Latitude Correction} \\ \text{Radial Correction} \\ \text{Inclination Correction} \end{array}\right\}$ Second Harmonic Perturbations
$u_k = \Phi_k + \delta u_k$	Corrected Argument of Latitude
$r_k = A_k(1 - e_n \cos E_k) + \delta r_k$	Corrected Radius
$i_k = i_{o\text{-}n} + (i_{o\text{-}n}\text{-DOT})t_k + \delta i_k$	Corrected Inclination
$\left.\begin{array}{l} x_k' = r_k \cos u_k \\ y_k' = r_k \sin u_k \end{array}\right\}$	Positions in orbital plane
$\dot{\Omega} = \dot{\Omega}_{REF} + \Delta\dot{\Omega}$ ***	Rate of Right Ascension
$\Omega_k = \Omega_{0\text{-}n} + (\dot{\Omega} - \dot{\Omega}_e)\, t_k - \dot{\Omega}_e\, t_{oe}$	Corrected Longitude of Ascending Node
$\left.\begin{array}{l} x_k = x_k' \cos \Omega_k - y_k' \cos i_k \sin \Omega_k \\ y_k = x_k' \sin \Omega_k + y_k' \cos i_k \cos \Omega_k \\ z_k = y_k' \sin i_k \end{array}\right\}$	Earth-fixed coordinates of SV antenna phase center
*** $\dot{\Omega}_{REF} = -2.6 \times 10^{-9}$ semi-circles/second.	

IS :

Table 3.5-2. Elements of Coordinate System (part 2 of 2)

Element/Equation	Description
$\Phi_k = \nu_k + \omega_n$	Argument of Latitude
$\delta u_k = C_{us\text{-}n}\sin 2\Phi_k + C_{uc\text{-}n}\cos 2\Phi_k$	Argument of Latitude Correction (Second Harmonic Perturbations)
$\delta r_k = C_{rs\text{-}n}\sin 2\Phi_k + C_{rc\text{-}n}\cos 2\Phi_k$	Radial Correction (Second Harmonic Perturbations)
$\delta i_k = C_{is\text{-}n}\sin 2\Phi_k + C_{ic\text{-}n}\cos 2\Phi_k$	Inclination Correction (Second Harmonic Perturbations)
$u_k = \Phi_k + \delta u_k$	Corrected Argument of Latitude
$r_k = A_k(1 - e_n \cos E_k) + \delta r_k$	Corrected Radius
$i_k = i_{o\text{-}n} + (i_{o\text{-}n}\text{-DOT})t_k + \delta i_k$	Corrected Inclination
$x_k' = r_k \cos u_k$ $y_k' = r_k \sin u_k$	Positions in orbital plane
$\dot{\Omega} = \dot{\Omega}_{REF} + \Delta\dot{\Omega}$ ***	Rate of Right Ascension
$\Omega_k = \Omega_{0\text{-}n} + (\dot{\Omega} - \dot{\Omega}_e)\, t_k - \dot{\Omega}_e\, t_{oe}$	Corrected Longitude of Ascending Node
$x_k = x_k' \cos \Omega_k - y_k' \cos i_k \sin \Omega_k$ $y_k = x_k' \sin \Omega_k + y_k' \cos i_k \cos \Omega_k$ $z_k = y_k' \sin i_k$	Earth-fixed coordinates of SV antenna phase center
*** $\dot{\Omega}_{REF} = -2.6 \times 10^{-9}$ semi-circles/second.	

Rationale :
3/19/18: There is one asterisk at "Element/Equation" but in (part 1 of 2) the * represents A_{REF}, which is not referred to at all in this object. It does not seem to encompass the entire column. Furthermore, the * note isn't even included in this part of the Table. Hence, the asterisk will be removed.

IS800-193 :

Section Number :
3.5.3.8.0-6

WAS :
For N = 1, 3, and 5, X should be rounded to 2.8, 5.7, and 11.3 meters, respectively.

The nominal URA$_{NED0}$ value (X) shall be suitable for use as a conservative prediction of the RMS NED range errors for accuracy-related purposes in the pseudorange domain (e.g., measurement de-weighting RAIM, FOM computations). Integrity properties of the IAURA$_{NED}$ are specified with respect to the scaled (multiplied by either 4.42 or 5.73 as appropriate) upper bound values of the URA$_{NED0}$ index, URA$_{NED2}$ index, and URA$_{NED2}$ index (see 3.5.3.10.1).

URA$_{NED0}$ accounts for zeroth order SIS contributions to user range error which include, but are not limited to, the following: LSB representation/truncation error; the net effect of clock correction polynomial error and code phase error in the transmitted signal for single-frequency L1C/A or single-frequency L2C users who correct the code phase as described in Section 3.5.3.9; the net effect of clock parameter, code phase, and inter-signal correction error for dual-frequency L1/L2 and L1/L5 users who correct for group delay and ionospheric effects as described in Section 3.5.3.9; radial ephemeris error; anisotropic antenna errors; and signal deformation error. URA$_{NED}$ does not account for user range contributions due to the inaccuracy of the broadcast ionospheric data parameters used in the single-frequency ionospheric model or for other atmospheric effects.

Redlines :
For N = 1, 3, and 5, X should be rounded to 2.8, 5.7, and 11.3 meters, respectively.

The nominal URA$_{NED0}$ value (X) shall be suitable for use as a conservative prediction of the RMS NED range errors for accuracy-related purposes in the pseudorange domain (e.g., measurement de-weighting RAIM, FOM computations). Integrity properties of the IAURA$_{NED}$ are specified with respect to the scaled (multiplied by either 4.42 or 5.73 as appropriate) upper bound values of the URA$_{NED0}$ index, URA$_{NED1\cancel{2}}$ index, and URA$_{NED2}$ index (see 3.5.3.10.1).

URA$_{NED0}$ accounts for zeroth order SIS contributions to user range error which include, but are not limited to, the following: LSB representation/truncation error; the net effect of clock correction polynomial error and code phase error in the transmitted signal for single-frequency L1C~~/A or single-frequency L2C~~ users who correct the code phase as described in Section 3.5.3.9; the net effect of clock parameter, code phase, and inter-signal correction error for dual-frequency ~~L1~~L1C/L2C and ~~L1~~L1C/L5 users who correct for group delay and ionospheric effects as described in Section 3.5.3.9; radial ephemeris error; anisotropic antenna errors; and signal deformation error. URA$_{NED}$ does not account for user range contributions due to the inaccuracy of the broadcast ionospheric data parameters used in the single-frequency ionospheric model or for other atmospheric effects.

IS :
For N = 1, 3, and 5, X should be rounded to 2.8, 5.7, and 11.3 meters, respectively.

The nominal URA_{NED0} value (X) shall be suitable for use as a conservative prediction of the RMS NED range errors for accuracy-related purposes in the pseudorange domain (e.g., measurement de-weighting RAIM, FOM computations). Integrity properties of the $IAURA_{NED}$ are specified with respect to the scaled (multiplied by either 4.42 or 5.73 as appropriate) upper bound values of the URA_{NED0} index, URA_{NED1} index, and URA_{NED2} index (see 3.5.3.10.1).

URA_{NED0} accounts for zeroth order SIS contributions to user range error which include, but are not limited to, the following: LSB representation/truncation error; the net effect of clock correction polynomial error and code phase error in the transmitted signal for single-frequency L1C users who correct the code phase as described in Section 3.5.3.9; the net effect of clock parameter, code phase, and inter-signal correction error for dual-frequency L1C/L2C and L1C/L5 users who correct for group delay and ionospheric effects as described in Section 3.5.3.9; radial ephemeris error; anisotropic antenna errors; and signal deformation error. URA_{NED} does not account for user range contributions due to the inaccuracy of the broadcast ionospheric data parameters used in the single-frequency ionospheric model or for other atmospheric effects.

Rationale :
8/14/2018: URA_{NED2} is listed twice -- one instance should be URA_{NED1}.

6/21/2018: Due to URA clarifications made in IS-GPS-200, additional clarification is needed in IS-GPS-800 to be consistent with IS-GPS-200 changes. In this case, single-frequency users reading this section would only be single-frequency L1C users (for CNAV-2), not L1C/A. Dual frequency users who utilize CNAV-2 need to be specified too: L1/L2 and L1/L5 to L1C/L2 and L1C/L5.

IS800-202 :

Section Number :
3.5.3.9.2.0-1

WAS :
The two frequency ($L1C_P$ and L2C) user shall correct for the group delay and ionospheric effects by applying the relationship

$$PR = \frac{(PR_{L2C} - \gamma_{12} PR_{L1CP}) + c\,(ISC_{L2C} - \gamma_{12} ISC_{L1CP})}{1 - \gamma_{12}} - c\,T_{GD}.$$

The two frequency ($L1C_D$ and L2C) user shall correct for the group delay and ionospheric effects by applying the relationship

$$PR = \frac{(PR_{L2C} - \gamma_{12} PR_{L1CD}) + c\,(ISC_{L2C} - \gamma_{12} ISC_{L1CD})}{1 - \gamma_{12}} - c\,T_{GD}.$$

Redlines :

The ~~two~~dual-frequency (L1C_P and L2C) user shall correct for the group delay and ionospheric effects by applying the relationship

$$PR = \frac{(PR_{L2C} - \gamma_{12} PR_{L1CP}) + c\,(ISC_{L2C} - \gamma_{12} ISC_{L1CP})}{1 - \gamma_{12}} - c\,T_{GD} \; .$$

The ~~two~~dual-frequency (L1C_D and L2C) user shall correct for the group delay and ionospheric effects by applying the relationship

$$PR = \frac{(PR_{L2C} - \gamma_{12} PR_{L1CD}) + c\,(ISC_{L2C} - \gamma_{12} ISC_{L1CD})}{1 - \gamma_{12}} - c\,T_{GD} \; .$$

IS :

The dual-frequency (L1C_P and L2C) user shall correct for the group delay and ionospheric effects by applying the relationship

$$PR = \frac{(PR_{L2C} - \gamma_{12} PR_{L1CP}) + c\,(ISC_{L2C} - \gamma_{12} ISC_{L1CP})}{1 - \gamma_{12}} - c\,T_{GD} \; .$$

The dual-frequency (L1C_D and L2C) user shall correct for the group delay and ionospheric effects by applying the relationship

$$PR = \frac{(PR_{L2C} - \gamma_{12} PR_{L1CD}) + c\,(ISC_{L2C} - \gamma_{12} ISC_{L1CD})}{1 - \gamma_{12}} - c\,T_{GD} \; .$$

Rationale :

7/23/2018: Update two frequency to dual-frequency to be consistent with the SPS PS.

IS800-205 :

Section Number :
3.5.3.9.3.0-1

WAS :
The two frequency (L1C$_P$ and L5 Q5) user shall correct for the group delay and ionospheric effects by applying the relationship

$$PR = \frac{(PR_{L5Q5} - \gamma_{15} PR_{L1CP}) + c\,(ISC_{L5Q5} - \gamma_{15} ISC_{L1CP})}{1 - \gamma_{15}} - c\,T_{GD}.$$

Redlines :
The ~~two~~dual-frequency (L1C$_P$ and L5 Q5) user shall correct for the group delay and ionospheric effects by applying the relationship

$$PR = \frac{(PR_{L5Q5} - \gamma_{15} PR_{L1CP}) + c\,(ISC_{L5Q5} - \gamma_{15} ISC_{L1CP})}{1 - \gamma_{15}} - c\,T_{GD}.$$

IS :
The dual-frequency (L1C$_P$ and L5 Q5) user shall correct for the group delay and ionospheric effects by applying the relationship

$$PR = \frac{(PR_{L5Q5} - \gamma_{15} PR_{L1CP}) + c\,(ISC_{L5Q5} - \gamma_{15} ISC_{L1CP})}{1 - \gamma_{15}} - c\,T_{GD}.$$

Rationale :
7/23/2018: Update two frequency to dual-frequency to be consistent with the SPS PS.

IS800-206 :

Section Number :
3.5.3.9.3.0-2

WAS :
The two frequency (L1C$_D$ and L5 Q5) user shall correct for the group delay and ionospheric effects by applying the relationship

$$PR = \frac{(PR_{L5Q5} - \gamma_{15} PR_{L1CD}) + c\,(ISC_{L5Q5} - \gamma_{15} ISC_{L1CD})}{1 - \gamma_{15}} - c\,T_{GD}.$$

Redlines :
The ~~two~~dual-frequency (L1C$_D$ and L5 Q5) user shall correct for the group delay and ionospheric effects by applying the relationship

$$PR = \frac{(PR_{L5Q5} - \gamma_{15} PR_{L1CD}) + c\,(ISC_{L5Q5} - \gamma_{15} ISC_{L1CD})}{1 - \gamma_{15}} - c\,T_{GD}.$$

IS :
The dual-frequency (L1C$_D$ and L5 Q5) user shall correct for the group delay and ionospheric effects by applying the relationship

$$PR = \frac{(PR_{L5Q5} - \gamma_{15} PR_{L1CD}) + c\,(ISC_{L5Q5} - \gamma_{15} ISC_{L1CD})}{1 - \gamma_{15}} - c\,T_{GD}.$$

Rationale :
7/23/2018: Update two frequency to dual-frequency to be consistent with the SPS PS.

IS800-207 :

Section Number :
3.5.3.9.3.0-3

WAS :
The two frequency (L1C_P and L5 I5) user shall correct for the group delay and ionospheric effects by applying the relationship

$$PR = \frac{(PR_{L5I5} - \gamma_{15} PR_{L1CP}) + c\,(ISC_{L5I5} - \gamma_{15} ISC_{L1CP})}{1 - \gamma_{15}} - c\,T_{GD}$$.

Redlines :
The ~~two~~dual-frequency (L1C_P and L5 I5) user shall correct for the group delay and ionospheric effects by applying the relationship

$$PR = \frac{(PR_{L5I5} - \gamma_{15} PR_{L1CP}) + c\,(ISC_{L5I5} - \gamma_{15} ISC_{L1CP})}{1 - \gamma_{15}} - c\,T_{GD}$$.

IS :
The dual-frequency (L1C_P and L5 I5) user shall correct for the group delay and ionospheric effects by applying the relationship

$$PR = \frac{(PR_{L5I5} - \gamma_{15} PR_{L1CP}) + c\,(ISC_{L5I5} - \gamma_{15} ISC_{L1CP})}{1 - \gamma_{15}} - c\,T_{GD}$$.

Rationale :
7/23/2018: Update two frequency to dual-frequency to be consistent with the SPS PS.

IS800-208 :

Section Number :
3.5.3.9.3.0-4

WAS :
The two frequency ($L1C_D$ and L5 I5) user shall correct for the group delay and ionospheric effects by applying the relationship

$$PR = \frac{(PR_{L5I5} - \gamma_{15} PR_{L1CD}) + c\,(ISC_{L5I5} - \gamma_{15} ISC_{L1CD})}{1 - \gamma_{15}} - c\,T_{GD}.$$

Redlines :
The ~~two~~dual-frequency ($L1C_D$ and L5 I5) user shall correct for the group delay and ionospheric effects by applying the relationship

$$PR = \frac{(PR_{L5I5} - \gamma_{15} PR_{L1CD}) + c\,(ISC_{L5I5} - \gamma_{15} ISC_{L1CD})}{1 - \gamma_{15}} - c\,T_{GD}.$$

IS :
The dual-frequency ($L1C_D$ and L5 I5) user shall correct for the group delay and ionospheric effects by applying the relationship

$$PR = \frac{(PR_{L5I5} - \gamma_{15} PR_{L1CD}) + c\,(ISC_{L5I5} - \gamma_{15} ISC_{L1CD})}{1 - \gamma_{15}} - c\,T_{GD}.$$

Rationale :
7/23/2018: Update two frequency to dual-frequency to be consistent with the SPS PS.

IS800-226 :

Section Number :
3.5.4.1.2.0-1

WAS :
The ionospheric parameters which allow the "L1 only" user to utilize the ionospheric model for computation of the ionospheric delay are contained in subframe 3, page 1. The "one frequency" user should use the model given in paragraph 20.3.3.5.2.5 of IS-GPS-200 to make this correction for the ionospheric effects. The bit lengths, scale factors, ranges, and units of these parameters are given in Table 20-X of IS-GPS-200.

Redlines :
The ionospheric parameters which allow the "L1 only" user to utilize the ionospheric model for computation of the ionospheric delay are contained in subframe 3, page 1. The "~~one~~ single-frequency" user should use the model given in paragraph 20.3.3.5.2.5 of IS-GPS-200 to make this correction for the ionospheric effects. The bit lengths, scale factors, ranges, and units of these parameters are given in Table 20-X of IS-GPS-200.

IS :
The ionospheric parameters which allow the "L1 only" user to utilize the ionospheric model for computation of the ionospheric delay are contained in subframe 3, page 1. The "single-frequency" user should use the model given in paragraph 20.3.3.5.2.5 of IS-GPS-200 to make this correction for the ionospheric effects. The bit lengths, scale factors, ranges, and units of these parameters are given in Table 20-X of IS-GPS-200.

Rationale :
7/23/2018: Update one frequency to single-frequency to be consistent with the SPS PS.

IS800-251 :

Section Number :
3.5.4.3.4.0-1

WAS :
The three, one-bit, health indication in bits 44, 45 and 46 of subframe 3, page 4 and bits 31, 32 and 33 of each packet of reduced almanac refers to the L1, L2, and L5 signals of the SV whose PRN number is specified in the message or in the packet. For each health indicator, a “0” signifies that all signals on the associated frequency are okay and “1” signifies that some or all signals on the associated frequency are bad. The predicted health data will be updated at the time of upload when a new reduced almanac has been built by the CS. The transmitted health data may not correspond to the actual health of the transmitting SV or other SVs in the constellation.

Redlines :
The three, one-bit, health indication in bits 44, 45 and 46 of subframe 3, page 4 and bits 31, 32 and 33 of each packet of reduced almanac refers to the L1, L2, and L5 signals of the SV whose PRN number is specified in the message or in the packet. For each health indicator, a “0” signifies that all signals on the associated frequency are okay and “1” signifies that some or all signals on the associated frequency are bad. The predicted health data will be updated at the time of upload when a new midi almanac or reduced almanac has been built by the CS. The transmitted health data may not correspond to the actual health of the transmitting SV or other SVs in the constellation.

IS :
The three, one-bit, health indication in bits 44, 45 and 46 of subframe 3, page 4 and bits 31, 32 and 33 of each packet of reduced almanac refers to the L1, L2, and L5 signals of the SV whose PRN number is specified in the message or in the packet. For each health indicator, a “0” signifies that all signals on the associated frequency are okay and “1” signifies that some or all signals on the associated frequency are bad. The predicted health data will be updated at the time of upload when a new midi almanac or reduced almanac has been built by the CS. The transmitted health data may not correspond to the actual health of the transmitting SV or other SVs in the constellation.

Rationale :
8/14/2018: Because the Health Bit Clarification Topic is currently deferred, revert all changes associated with the topic; keep the administrative change.

8/1/2018: Update statement to include midi almanac since the paragraph discusses midi almanac in addition to reduced almanac.

7/17/2018: Clarify definition of health bits in this section to specify carriers; if a carrier is bad, all codes on the carriers are bad, and vice versa. Resolves health bit ambiguity.

4/20/2018: In addition to addressing the L1, L2, and L5 health bit question in the IS-GPS-200 and IS-GPS-705 documents, address it in IS-GPS-800. This change clarifies the health bits so that SVs which do not possess the capability to transmit L5 will transmit a bit that equates to a "healthy" signal by default (cited in 20.3.3.3.1.4 of IS-GPS-200).

IS800-267 :

Section Number :
3.5.4.4.1.0-1

WAS :
Subframe 3, page 5 shall contain DC parameters that apply to the clock and ephemeris data transmitted by another SV. One subframe 3, page 5, as depicted in Figure 3.5-6, shall contain 34 bits of clock differential correction (CDC) parameters and 92 bits of ephemeris differential correction (EDC) parameters for one SV other than the transmitting SV. Bit 37 of subframe 3, page 5 shall be a DC Data Type indicator that indicates the data type for which the DC parameters apply. Zero (0) signifies that the corrections apply to CNAV-2 data, $D_{L1C}(t)$, and one (1) signifies that the corrections apply to NAV (legacy) data, D(t), defined in Appendix II of IS-GPS-200.

Redlines :
Subframe 3, page 5 shall contain DC parameters that apply to the clock and ephemeris data transmitted by another SV. One subframe 3, page 5, as depicted in Figure 3.5-6, shall contain 34 bits of clock differential correction (CDC) parameters and 92 bits of ephemeris differential correction (EDC) parameters for one SV other than the transmitting SV. Bit 37 of subframe 3, page 5 shall be a DC Data Type indicator that indicates the data type for which the DC parameters apply. Zero (0) signifies that the corrections apply to CNAV-2 data, $D_{L1C}(t)$, and one (1) signifies that the corrections apply to ~~NAV~~legacy navigation (~~legacy~~LNAV) data, D(t), defined in Appendix II of IS-GPS-200.

IS :
Subframe 3, page 5 shall contain DC parameters that apply to the clock and ephemeris data transmitted by another SV. One subframe 3, page 5, as depicted in Figure 3.5-6, shall contain 34 bits of clock differential correction (CDC) parameters and 92 bits of ephemeris differential correction (EDC) parameters for one SV other than the transmitting SV. Bit 37 of subframe 3, page 5 shall be a DC Data Type indicator that indicates the data type for which the DC parameters apply. Zero (0) signifies that the corrections apply to CNAV-2 data, $D_{L1C}(t)$, and one (1) signifies that the corrections apply to legacy navigation (LNAV) data, D(t), defined in Appendix II of IS-GPS-200.

Rationale :
Update NAV to LNAV to represent legacy navigation.

IS800-871 :

Section Number :
3.5.5.2.0-1

WAS :
The following rule governs the transmission of t_{oe} in different CEI data sets: The transmitted t_{oe} will be different from any value transmitted by the SV during the preceding six hours. t_{op} does not have to match t_{oe}.

Cutovers to new CEI data sets will occur only on hour boundaries except for the first CEI data set of a new CEI data sequence propagation. The first CEI 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 CEI data set corresponds to the beginning of the curve fit interval for the CEI data set. Each CEI 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 CEI 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 CEI data set of a new CEI data sequence propagation.

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

Redlines :
The following rule governs the transmission of t_{oe} in different CEI data sets: The transmitted t_{oe} will be different from any value transmitted by the SV during the preceding six hours. t_{op} does not have to match t_{oe}.

Cutovers to new CEI data sets will occur only on hour boundaries except for the first CEI data set of a new CEI data sequence propagation. The first CEI 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 CEI data set corresponds to the beginning of the curve fit interval for the CEI data set. Each CEI 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 CEI data set is rendered ~~invalid~~obsolete before the end of its curve fit interval when it is superseded by the SV cutting over to the first CEI data set of a new CEI data sequence propagation.

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

IS :
The following rule governs the transmission of t_{oe} in different CEI data sets: The transmitted t_{oe} will be different from any value transmitted by the SV during the preceding six hours. t_{op} does not have to match t_{oe}.

Cutovers to new CEI data sets will occur only on hour boundaries except for the first CEI data set of a new CEI data sequence propagation. The first CEI 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 CEI data set corresponds to the beginning of the curve fit interval for the CEI data set. Each CEI 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 CEI data set is rendered obsolete before the end of its curve fit interval when it is superseded by the SV cutting over to the first CEI data set of a new CEI data sequence propagation.

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

Rationale :
4/19/2018: Update "invalid" to "obsolete" because if the receiver interprets the data as invalid, then the receiver may stop using the data until it decodes new CEI data. Rather than do that, tell the user that the data is obsolete because it will be superseded by new data, but to continue using the old data until the receiver fully decodes the new CEI data.

IS800-893 :

Section Number :
6.1.0-1

WAS :

APC	-	antenna phase center
ASCII	-	American Standard Code for Information Interchange
BCH	-	Bose, Chaudhuri, and Hocquenghem
BOC	-	Binary Offset Carrier
BPSK	-	Bi-Phase Shift Key
CCB	-	Configuration Control Board
CDC	-	clock differential correction
CEI	-	Clock/Ephemeris/ Integrity
CNAV-2-	-	L1C Navigation Message
CRC	-	Cyclic Redundancy Check
CS	-	Control Segment
dBc	-	Power ratio of a signal to a (unmodulated) carrier signal, expressed in decibels
DC	-	differential correction
DN	-	Day Number
ECEF	-	Earth-Centered, Earth-Fixed
ECI	-	Earth-Centered, Inertial
EDC	-	ephemeris differential correction
EOE	-	Edge-of-Earth

EOL	-	End-of-Life
EOP	-	Earth Orientation Parameters
FEC	-	Forward Error Correction
GBAS	-	Ground Based Augmentation System
GGTO	-	GPS/GNSS Time Offset
GNSS	-	Global Navigation Satellite System
GPS	-	Global Positioning System
GPSW	-	GPS Wing
ICC	-	Interface Control Contractor
ICWG	-	Interface Control Working Group
IRN	-	Interface Revision Notice
IS	-	Interface Specification
ISC	-	Inter-Signal Correction
ITOW	-	Interval Time of Week
LDPC	-	Low Density Parity Check
LFSR	-	Linear Feedback Shift Register
LSB	-	Least Significant Bit
LSF	-	Leap Seconds Future
L1C	-	Common L1 Signal
MCS	-	Master Control Station
MHz	-	Megahertz
MSB	-	Most Significant Bit
NAV	-	Legacy Navigation Message, D(t)
NSCD	-	non-standard $L1C_D$
NSCP	-	non-standard $L1C_P$
PIRN	-	Proposed Interface Revision Notice
PRN	-	Pseudo-Random Noise
RF	-	Radio Frequency
RHCP	-	Right-Hand Circularly Polarized
RMS	-	Root Mean Square
SBAS	-	Satellite Based Augmentation System

sps	-	symbols per second
SS	-	Space Segment
SSV	-	Space Service Volume
SV	-	Space Vehicle
TBD	-	To Be Determined
TBR	-	To Be Resolved
TBS	-	To Be Supplied
TMBOC	-	Time-Multiplexed BOC
TOI	-	Time of Interval
TOW	-	Time of Week
UDRA	-	User Differential Range Accuracy
UE	-	User Equipment
URA	-	User Range Accuracy
US	-	User Segment
USNO	-	U.S. Naval Observatory
UTC	-	Coordinated Universal Time
WGS 84	-	World Geodetic System 1984

Redlines :

APC	-	antenna phase center
ASCII	-	American Standard Code for Information Interchange
BCH	-	Bose, Chaudhuri, and Hocquenghem
BOC	-	Binary Offset Carrier
BPSK	-	Bi-Phase Shift Key
CCB	-	Configuration Control Board
CDC	-	clock differential correction
CEI	-	Clock/Ephemeris/ Integrity
CNAV-2-	-	L1C Navigation Message
CRC	-	Cyclic Redundancy Check
CS	-	Control Segment
dBc	-	Power ratio of a signal to a (unmodulated) carrier signal,

		expressed in decibels
DC	-	differential correction
DN	-	Day Number
ECEF	-	Earth-Centered, Earth-Fixed
ECI	-	Earth-Centered, Inertial
EDC	-	ephemeris differential correction
EOE	-	Edge-of-Earth
EOL	-	End-of-Life
EOP	-	Earth Orientation Parameters
FEC	-	Forward Error Correction
GBAS	-	Ground Based Augmentation System
GGTO	-	GPS/GNSS Time Offset
GNSS	-	Global Navigation Satellite System
GPS	-	Global Positioning System
GPSW	-	GPS Wing
ICC	-	Interface Control Contractor
ICWG	-	Interface Control Working Group
IRN	-	Interface Revision Notice
IS	-	Interface Specification
ISC	-	Inter-Signal Correction
ITOW	-	Interval Time of Week
LDPC	-	Low Density Parity Check
LFSR	-	Linear Feedback Shift Register
LNAV	-	Legacy Navigation
LSB	-	Least Significant Bit
LSF	-	Leap Seconds Future
L1C	-	Common L1 Signal
MCS	-	Master Control Station
MHz	-	Megahertz
MSB	-	Most Significant Bit
NAV	-	Navigation

NSCD	-	non-standard $L1C_D$
NSCP	-	non-standard $L1C_P$
PIRN	-	Proposed Interface Revision Notice
PRN	-	Pseudo-Random Noise
RF	-	Radio Frequency
RHCP	-	Right-Hand Circularly Polarized
RMS	-	Root Mean Square
SBAS	-	Satellite Based Augmentation System
sps	-	symbols per second
SS	-	Space Segment
SSV	-	Space Service Volume
SV	-	Space Vehicle
TBD	-	To Be Determined
TBR	-	To Be Resolved
TBS	-	To Be Supplied
TMBOC	-	Time-Multiplexed BOC
TOI	-	Time of Interval
TOW	-	Time of Week
UDRA	-	User Differential Range Accuracy
UE	-	User Equipment
URA	-	User Range Accuracy
US	-	User Segment
USNO	-	U.S. Naval Observatory
UTC	-	Coordinated Universal Time
WGS 84	-	World Geodetic System 1984

IS :

APC	-	antenna phase center
ASCII	-	American Standard Code for Information Interchange
BCH	-	Bose, Chaudhuri, and Hocquenghem
BOC	-	Binary Offset Carrier
BPSK	-	Bi-Phase Shift Key
CCB	-	Configuration Control Board
CDC	-	clock differential correction
CEI	-	Clock/Ephemeris/ Integrity
CNAV-2	-	L1C Navigation Message
CRC	-	Cyclic Redundancy Check
CS	-	Control Segment
dBc	-	Power ratio of a signal to a (unmodulated) carrier signal, expressed in decibels
DC	-	differential correction
DN	-	Day Number
ECEF	-	Earth-Centered, Earth-Fixed
ECI	-	Earth-Centered, Inertial
EDC	-	ephemeris differential correction
EOE	-	Edge-of-Earth
EOL	-	End-of-Life
EOP	-	Earth Orientation Parameters
FEC	-	Forward Error Correction
GBAS	-	Ground Based Augmentation System
GGTO	-	GPS/GNSS Time Offset
GNSS	-	Global Navigation Satellite System
GPS	-	Global Positioning System
GPSW	-	GPS Wing
ICC	-	Interface Control Contractor
ICWG	-	Interface Control Working Group
IRN	-	Interface Revision Notice

IS	-	Interface Specification
ISC	-	Inter-Signal Correction
ITOW	-	Interval Time of Week
LDPC	-	Low Density Parity Check
LFSR	-	Linear Feedback Shift Register
LNAV	-	Legacy Navigation
LSB	-	Least Significant Bit
LSF	-	Leap Seconds Future
L1C	-	Common L1 Signal
MCS	-	Master Control Station
MHz	-	Megahertz
MSB	-	Most Significant Bit
NAV	-	Navigation
NSCD	-	non-standard $L1C_D$
NSCP	-	non-standard $L1C_P$
PIRN	-	Proposed Interface Revision Notice
PRN	-	Pseudo-Random Noise
RF	-	Radio Frequency
RHCP	-	Right-Hand Circularly Polarized
RMS	-	Root Mean Square
SBAS	-	Satellite Based Augmentation System
sps	-	symbols per second
SS	-	Space Segment
SSV	-	Space Service Volume
SV	-	Space Vehicle
TBD	-	To Be Determined
TBR	-	To Be Resolved
TBS	-	To Be Supplied
TMBOC	-	Time-Multiplexed BOC
TOI	-	Time of Interval
TOW	-	Time of Week

UDRA	-	User Differential Range Accuracy
UE	-	User Equipment
URA	-	User Range Accuracy
US	-	User Segment
USNO	-	U.S. Naval Observatory
UTC	-	Coordinated Universal Time
WGS 84	-	World Geodetic System 1984

Rationale :
Update NAV to LNAV to represent legacy navigation. In addition, add definition for NAV as Navigation to be consistent with other acronym tables.

IS800-298 :

Section Number :
6.2.1.0-2

WAS :
Note #1: URA applies over the curve fit interval that is applicable to the NAV data from which the URA is read, for the worst-case location within the satellite footprint.

Redlines :
Note #1: URA applies over the curve fit interval that is applicable to the ~~NAV~~CNAV-2 data from which the URA is read, for the worst-case location within the satellite footprint.

IS :
Note #1: URA applies over the curve fit interval that is applicable to the CNAV-2 data from which the URA is read, for the worst-case location within the satellite footprint.

Rationale :
Update NAV to CNAV-2 since IS-GPS-800 discusses CNAV-2 data.

IS800-299 :

Section Number :
6.2.1.0-3

WAS :
Note #2: The URA for a particular signal may be represented by a single index in the NAV data or by a composite of more than one index representing components of the total URA. Specific URA indexes and formulae for calculating the total URA for each signal are defined in appendix 20 for the LNAV message and appendix 30 for the CNAV message.

Redlines :
Note #2: The URA for a particular signal may be represented by a single index in the ~~NAV~~CNAV-2 data or by a composite of more than one index representing components of the total URA. Specific URA indexes and formulae for calculating the total URA for each signal are defined in ~~appendix~~Appendix ~~20~~II of IS-GPS-200 for the LNAV message and ~~appendix~~Appendix ~~30~~III of IS-GPS-200 for the CNAV message.

IS :
Note #2: The URA for a particular signal may be represented by a single index in the CNAV-2 data or by a composite of more than one index representing components of the total URA. Specific URA indexes and formulae for calculating the total URA for each signal are defined in Appendix II of IS-GPS-200 for the LNAV message and Appendix III of IS-GPS-200 for the CNAV message.

Rationale :
Update NAV to CNAV-2 sicne IS-GPS-800 discusses CNAV-2 data. In addition, administrative change to correct the section references that are for IS-GPS-200.

IS800-370 :

Section Number :
6.3.2.0-1

WAS :
Before any new signal or group of signals (e.g., L2C, L5, M, L1C, etcetera) is declared operational, the availability of and/or the configuration of the broadcast signal or group of signals may not comply with all requirements of the relevant IS or ICD. For example, the pre-operational broadcast of L2C signals from the IIR-M satellites did not include any NAV or CNAV data as required by IS-GPS-200. Pre-operational use of any new signal or group of signals is at the users own risk.

Redlines :
Before any new signal or group of signals (e.g., L2C, L5, M, L1C, etcetera) is declared operational, the availability of and/or the configuration of the broadcast signal or group of signals may not comply with all requirements of the relevant IS or ICD. For example, the pre-operational broadcast of L2C signals from the IIR-M satellites did not include any ~~NAV~~LNAV or CNAV data as required by IS-GPS-200. Pre-operational use of any new signal or group of signals is at the users own risk.

IS :
Before any new signal or group of signals (e.g., L2C, L5, M, L1C, etcetera) is declared operational, the availability of and/or the configuration of the broadcast signal or group of signals may not comply with all requirements of the relevant IS or ICD. For example, the pre-operational broadcast of L2C signals from the IIR-M satellites did not include any LNAV or CNAV data as required by IS-GPS-200. Pre-operational use of any new signal or group of signals is at the users own risk.

Rationale :
Update NAV to LNAV to represent the navigation data messages represented in IS-GPS-200.
