

CHANGE NOTICE

Affected Document: ICD-GPS-870 Rev D	IRN/SCN Number IRN-ICD-870D-002	Date: 25-SEP-2019
Authority: RFC-00395	Proposed Change Notice PCN-ICD-870D_RFC395	Date: 12-APR-2019

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

Document Title: NAVSTAR Next Generation GPS Operational Control Segment (OCX) to User Support Community Interface

RFC Title: 2019 Public Document Proposed Changes

Reason For Change (Driver):

1. IS-GPS-705 identifies dual frequency users as "L1/L2" and "L1/L5 (recommended)". Users may interpret frequency pair (L2/L5) as a viable dual frequency; that is not recommended.
2. The user implementation community has identified equations in the Elements of Coordinates Systems tables in documents ICD-GPS-700 (non-public), IS-GPS-200, IS-GPS-705, and IS-GPS-800 that can benefit from an improvement.
3. Documents IS-GPS-200, IS-GPS-705, IS-GPS-800, and ICD-GPS-700 (non-public) are not consistent in their definition of when to broadcast CNAV UTC data. These documents need to be made consistent.
4. ICD-GPS-870 Appendices 1-6 currently define an ASCII format for public release GPS products, the legacy format. The ICD states that modernized formats in XML will be defined. The ICD does not specifically call the current format legacy nor does it have placeholders for the modernized formats. Stakeholders could incorrectly assume that the ASCII format is the modernized format.
5. ICD-GPS-870 Appendices OCX provides a utility to convert modernized GPS products to the legacy, AEP-formatted GPS products. The legacy formats are characterized with default filenames, which are important for the public user community to interpret and process the GPS products. However, these default filenames are not described in ICD-GPS-870.
6. Public documents need clarification and clean-up, as identified in past Public ICWGs and as newly-identified changes of administrative nature.
7. 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 SPS Performance Standard as well as the data provided by the National Geospatial-Intelligence Agency (NGA) (refer to <http://earth-info.nga.mil/GandG/sathtml/satinfo.html>). 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. (Moved from RFC-374)

Description of Change:

1. In IS-GPS-705, state operational use of the group of signals (L2/L5) is at the users own risk.
2. Recommend a different, less complicated kinematic formulation that improves the equations in the Elements of Coordinate Systems tables in the Signal in Space (SiS) documents.
3. No change was needed.
4. Deferred for future RFC.
5. ICD-GPS-870 stakeholders are relying on the default filenames used by AEP for their equivalent files. ICD-GPS-870 does not capture the default filenames. Need to document the default filenames to support stakeholders.
6. Provide clarity and clean up identified administrative changes in all public documents.
7. This topic was originally addressed in RFC-374 but needs to be re-addressed in order to update ICD-GPS-870 such that OCX produces an OA with section one set to the original data or set to "RESERVED."

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AUTHORIZED SIGNATURES	REPRESENTING	DATE
	GPS Directorate Space & Missile Systems Center (SMC) – LAAFB	
	HQ Air Force Space Command (AFSPC/50OG)	
	Department of Homeland Security (DHS), United States Coast Guard (USCG) Navigation Center (NAVCEN)	
	Department of Transportation (DOT) Federation Aviation Administration (FAA)	

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ICD870-741 :

Insertion after object ICD870-199

1. SATELLITES, PLANES, AND CLOCKS (CS=CESIUM RB=RUBIDIUM) :																		
A. BLOCK I	:	NONE																
B. BLOCK II	:	PRNS	01,	02,	03,	04,	05,	06,	07,	08,	09,	10,	11,	12,	13,	14		
	:	PLANE	:	SLOT	B2,	D1,	C2,	D4,	B6,	C5,	A6,	A3,	A1,	E3,	D2,	B4,	F3,	F1
	:	CLOCK	:		RB,	RB,	CS,	RB,	RB,	RB,	RB,	CS,	CS,	CS,	RB,	RB,	RB,	RB
	:	BLOCK II	:	PRNS	15,	16,	17,	18,	19,	20,	21,	22,	23,	24,	25,	26,	27,	28
	:	PLANE	:	SLOT	F2,	B1,	C4,	E4,	C3,	E1,	D3,	E2,	F4,	D5,	A5,	F5,	A4,	B3
	:	CLOCK	:		RB,	CS,	RB,	RB,	CS,	RB								
	:	BLOCK II	:	PRNS	29,	30,	31,	32										
	:	PLANE	:	SLOT	C1,	B5,	A2,	E5										
	:	CLOCK	:		RB,	CS,	RB,	RB										
C. BLOCK III	:	PRNS	33,	34,	35													
	:	PLANE	:	SLOT	A2,	C3,	F4											
	:	CLOCK	:		RB,	RB,	RB											

Figure 20-3 OA Section 1

Section Number :

20.3.0-4

WAS :

N/A

Redlines :

<INSERTED OBJECT>

IS :

If no data are available, section one is denoted with "RESERVED." An example is illustrated in Figure 20-3a.

ICD870-742 :

Insertion after object ICD870-741 (See Previous)

Section Number :

20.3.0-5

WAS :

N/A

Redlines :

<INSERTED OBJECT>

IS :

1. RESERVED

ICD870-743 :

Insertion after object ICD870-742 (See Previous)

Section Number :

20.3.0-6

WAS :

N/A

Redlines :

<INSERTED OBJECT>

IS :

Figure 20-3a OA Section One (No Data)
