

MASPS for ADS-B Rev. A

Tracking Information (committee secretary only)	
Change Issue Number	33
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Status (open/closed/deferred)	Rev. A – CLOSED
Last Action Date	2/22/02

Short Title for Change Issue:	Re-organize the SV and MS report elements
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Proposed Rationale for Consideration (originator should check all that apply):	
<input checked="" type="checkbox"/>	Item needed to support of near-term MASPS/MOPS development
<input checked="" type="checkbox"/>	DO-260/ED-102 1090 MHz Link MOPS Rev A
<input type="checkbox"/>	ASA MASPS
<input type="checkbox"/>	TIS-B MASPS
<input checked="" type="checkbox"/>	UAT MOPS
<input type="checkbox"/>	Item needed to support applications that have well defined concept of operation
<input type="checkbox"/>	Has complete application description
<input type="checkbox"/>	Has initial validation via operational test/evaluation
<input type="checkbox"/>	Has supporting analysis, if candidate stressing application
<input type="checkbox"/>	Item needed for harmonization with international requirements
<input type="checkbox"/>	Item identified during recent ADS-B development activities and operational evaluations
<input checked="" type="checkbox"/>	MASPS clarifications and correction item
<input checked="" type="checkbox"/>	Validation/modification of questioned MASPS requirement item
<input type="checkbox"/>	Military use provision item
<input type="checkbox"/>	New requirement item (must be associated with traffic surveillance to support ASAS)

Nature of Issue:	<input type="checkbox"/>	Editorial	<input checked="" type="checkbox"/>	Clarity	<input type="checkbox"/>	Performance	<input type="checkbox"/>	Functional
<u>Issue Description:</u>								
<p>The present definition of the SV and MS reports in §3.4.3.1 and §3.4.3.2 are confusing and do not correspond well with the description of NUC_p in §2.1.2.2.4.1 seems to imply that geometric altitude is only required for the tightest NUC_p (or NIC) categories (NUC_p=8 or 9), but the SV report definition (Table 3-5 in §3.4.3.1) lists geometric altitude without the qualifying asterisk to indicate that “an indication that no data is available should be provided if the data is not available,” and the lists of report elements required to be transmitted by different equipage classes (Tables 3-8(b) and 3-9) indicate that transmitting ADS-B participants of equipage classes A0, A1, A2, A3 must transmit almost all the SV report elements (elements #1 to #15), excepting only those report elements (#16, Time of Applicability, and #17, Report Mode) that are expected to be provided by the report assembly function in the “user ADS-B subsystem” at a receiving ADS-B participant.</p>								

Originator's proposed resolution if any:

I propose that the tables defining SV and MS report elements (Table 3-5 and Table 3-6) and their supporting text (§3.4.3.1 and §3.4.3.2), and the tables defining the report elements required to be transmitted by different equipage classes (Table 3-8(b) and 3-9) be amended to clarify what elements need to be transmitted by different participants.

Details should be worked out in connection with other issue papers. However, as a first stab at the changes needed, the DO-242A MASPS WG should consider:

- Include cross-references to the latency requirements on all SV and MS report elements. (I find it difficult to find latency requirements on NUC_p and NUC_r , or on their replacements, NIC, NAC_p , and $NAC_v = NUC_r$).
- Indicate that geometric altitude need only be transmitted in messages from, or delivered in SV reports about, participants that have the highest NUC_p (or NIC) values.
- Indicate that only one vertical rate is required from a participant, and that the vertical rate type (geometric altitude rate or pressure altitude rate) should be a MS report element.
- Move the TCP information out of the MS report, classifying it as a kind of on-condition report.

Working Group 6 Deliberations:

May 24, 2001: The ad hoc group agreed that this Issue Paper will be addressed in Revision A of DO-242.

July 19, 2001: Initial proposals for the reorganization of the State Vector and Mode Status reports were presented at the July WG6 meeting as part of Working Paper 242A-WP-6-11. Agreements reached during that review were incorporated into the follow-up paper 242A-WP-6-11A.

September 27, 2001: An update to the proposals for reorganization of the State Vector and Mode Status reports was presented as part of Working Paper 242A-WP-8-01. This paper was thoroughly reviewed by WG6 at the September meeting. Feedback from this review will be included in a future update to this work. For a detailed description of this review, refer to the minutes from this meeting.

October 26, 2001: At the October WG6 meeting, an update to the proposals for reorganization of the State Vector and Mode Status reports was presented as part of Working Paper 242A-WP-9-01. Feedback from this review will be included in a future update to this work. For a detailed description of this review, refer to the minutes from this meeting.

December 14, 2001: This Issue Paper was briefed to SC186 plenary in December (242A-WP-10-08). It was agreed that WG6 would continue with their efforts to reorganize the SV and MS reports.

February 1, 2002: This Issue Paper was discussed by WG6 at their January meeting as part of the review of 242A-WP-11-01.

February 22, 2002: The final MASPS text for this Issue Paper was agreed to at the February WG6 meeting as part of the review of 242A-WP-12-01.

Working Group 6 Final Resolution:

The reader is referred to the sections of the draft DO-242A delivered to RTCA March 4, 2002 in which the State Vector (§3.4.3) and Mode Status (§3.4.4) reports are defined.