

RTCA Special Committee 186, Working Group 3
EUROCAE WG-51, SG-1

ADS-B 1090ES MOPS Maintenance

WG-3 Meeting #26
SG-1 Meeting #3
Joint Session

RTCA Headquarters, Washington DC
31 March – 3 April 2009

ACSS's Response to Action Item 25-07
Regarding Uncompensated Latency

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Summary
This Working Paper addresses the response of L-3/ACSS to Action Item 25-07 regarding the topic of Uncompensated Latency.

ACSS's Response to Action Item 25-07 – Uncompensated Latency

ACSS's current integrated product contains the transponder and ADS-B functionality. Analysis showed a maximum of 170ms uncompensated latency from receipt of the position data to transmit of the position message.

1090-WP25-11R1 states for the transmitting equipment:

- c. Improve upon the current requirement in DO-260A so that the transmitted time of applicability is within ± 100 ms of the time of applicability of the data (assuming $T_C = TOA$), i.e., that the ADS-B Transmitting Equipment compensates for all but ± 100 ms of the time that the position data is within the box, i.e.,...

Note: There are at least three ways to meet this requirement. (1) The position can be extrapolated 100 ms into the future, (2) the random transmission time can be determined ahead of time, and (3) the position can be extrapolated at a higher rate.

As compensation is allowed within the transponder, the integrated transponder could meet the +/-100ms requirement.