

RTCA Special Committee 186, Working Group 3

ADS-B 1090 MOPS, Revision A

Meeting #3

Review of Section A.7.8

(Presented by Stacey Rowlan)

SUMMARY
Section A.7.8 describes two methods for performing local CPR decoding, the Range Monitoring and the Emitter Centered methods. While both methods can be used to provide unambiguous decode of position, a limitation with the Range Monitoring method should be considered

Coast Time Considerations When Using Range Monitoring Method Of Local Decoding

Section A.7.8 describes two methods for performing local CPR decoding, the Range Monitoring and the Emitter Centered methods. While both methods can be used to provide unambiguous decode of position, a limitation with the Range Monitoring method should be considered.

Working Paper 1090-WP-2-01 recommends that the coast time allowed before requiring a global decode be increased from 25 seconds to 120 seconds. For the Range Monitoring method the allowed coast time before requiring a global decode depends on the range of the intruder. An intruder at close range could be coasted for a long (> 120 seconds) period of time before requiring a global decode. An intruder at 170 NM (the maximum range allowed using this method) could only be coasted for approximately 36 seconds (10 NM @ 1000 knots) before the intruder's range might be beyond the maximum range (180 NM) at which an unambiguous local decode is possible.

In light of this limitation, the 120 second coast should only be allowed if Emitter Centered Local Decoding is implemented. The MOPS should either require this method of local decoding or qualify the allowed coast times depending on the method used.

If the Emitter Centered method is to be required, it is recommended that the description of the Range Monitoring method either be deleted from A.7.8, and subsections, or it should be clearly noted that it is only included for background information and does not meet the requirements of the MOPS. Section A.7.4 should also be changed to indicate the reference point is the last track position of the intruder.

The Range Monitoring method could be allowed with the following qualifications:

Allow 25 second coast if Range Monitoring Method is used

Allow a variable coast time (25 seconds up to 120 seconds) based on the range of the intruder when using the Range Monitoring Method