

RTCA Special Committee 209
ATCRBS / Mode S Transponder

Meeting #4

Honeywell, Olathe, Kansas
18 – 19 October 2006

CP TO CLARIFY DATA LINK LIMITATION WITH SI CODE

Revision #1 was accomplished during Meeting #4 and the changes are marked with change bars in the margin, and revised text markings.

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SUMMARY

This WP presents a change proposal to the MOPS in order to clarify the data link limitations that apply when Surveillance Identifier (SI) codes are employed.

1.0 Introduction

This paper presents a proposed CP to the MOPS to clarify the limitations applied to data link when utilizing SI codes.

2.0 Issue

There has been some confusion on the part of some interrogator manufacturers regarding the limitations applied to data link functions when SI codes are employed. The wording in the MOPS, SARPS and the ICAO Doc.9684 Manual of the Secondary Surveillance Radar (SSR) Systems are not consistent. The proposed wording in this CP is consistent with the latter document, which is the most concise. Currently, the requirement contained in paragraph 2.216.2.7 is stated as follows:

“2.2.14.4.38 SI Surveillance Identifier

This 6-bit value shall define a surveillance identifier (SI) code which is derived from the CL and IC fields of UF=11, or received directly in the SIS subfield (2.2.17.2.1.1). These SI code values shall be assigned to interrogators in the range of 1 to 63. An SI value of zero shall not be used. The SI codes shall be used with the multisite lockout protocols (2.2.16.2.5). The SI codes shall not be used with the multisite communications protocols.

Note: The SI lockout facility can not be used unless all Mode S transponders within coverage range are equipped for this purpose.”

It is suggested that paragraph 2.2.14.4.38 be modified to read as follows:

“2.2.14.4.38 SI Surveillance Identifier

This 6-bit value shall define a surveillance identifier (SI) code which is derived from the CL and IC fields of UF=11, or received directly in the SIS subfield (2.2.17.2.1.1). These SI code values ~~shall be~~are assigned to interrogators in the range of 1 to 63. An SI value of zero ~~shall~~will not be used. The SI codes ~~shall be~~are used with the multisite lockout protocols (2.2.16.2.5). The SI codes ~~shall be~~are not ~~be~~used with the multisite communications protocols, which require the use of II codes. Therefore an interrogator operating with an SI code shall will be limited to the following data link capabilities:

- Unlinked Comm-A
- Broadcast Comm-A
- Ground-Initiated Comm-B (GICB)

- Broadcast Comm-B
- ACAS Downlink Transactions

Note 1: This specifically excludes the use of air-initiated Comm-B (AICB) protocol, which is required for data flash and downlink MSPs.

Note 2: The SI lockout facility can not be used unless all Mode S transponders within coverage range are equipped for this purpose.”