

**RTCA SC-186 WG3**

**Washington, DC**

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**TIS-B Format Issues**

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Summary

Honeywell is implementing some TIS-B functionality to gain experience with the performance of the fielded FAA system. This program has raised questions regarding the TIS-B formats. This working paper presents these questions and requests clarifications.

## **1. Introduction**

Honeywell is implementing some TIS-B functionality to gain experience with the performance of the fielded FAA system. This program has raised questions regarding the TIS-B formats. The discussion below presents the questions with references to DO-260A.

## **2. Discussion**

The ADS-B Airborne Velocity Message has a bit called Source Bit for Vertical Rate (DO-260A §2.2.3.2.6.1.10). This bit indicates that the vertical rate is from a GNSS or INS source when it is ZERO and Barometric source when it is a ONE.

The same bit position in the TIS-B Velocity Message is called the GEO Flag (DO-260A §2.2.17.3.4). This bit doesn't actually have an associated paragraph. It is mentioned in several other paragraphs to indicate that certain bit fields only exist when this bit is in a given state.

It is not clear whether this bit in the TIS-B Velocity Message also imparts the same information as the ADS-B Airborne Velocity Message. If it does, the polarity of this bit is reversed from the ADS-B Airborne Velocity Message.

It is not clear when one format or the other is transmitted.

It is not clear where a TIS-B sensor would get Geometric rate or altitude data at all.

At a minimum, the TIS-B Velocity Message GEO Flag bit needs a paragraph to clarify how it should be interpreted.

## **3. Recommendations**

WG-3 is requested to clarify the requirements for the TIS-B Formats discussed in section 2 in DO-260A Change 3 or DO-260B.