USING AUXILIARY SENSORS WITHIN TAPESTRY

TAPESTRY is capable of outputting a range of Auxiliary Navigation Sensors used to support and compliment the GPS measurements processed by the User Equipment Under Test.

Auxiliary Sensor Data is comprised of:

- Strapdown Inertial Measurement Unit (IMU).

  Using our MFIO expansion card, Tapestry generates Inertial Referenced Delta–Velocity and Delta-Angle for hardware formats such as Honeywell HG-1700, Litton LN200, and some AMRAAM sensors. Both SDLC and Differential RS422 protocol with all hardware handshaking is provided. Data synchronization with the RF output signal is maintained by the Tapestry ***Run Scenario*** Application.

- Automotive Sensor Data.

  Using our MFIO expansion card, Tapestry constructs and outputs data used by Automotive Navigation Systems. Data consists of Analog 0-5VDC programmable Gyroscopic and Acceleration measurements in a triad package. Odometers and ABS data is provided via a 4-Wheel-Speed-Pulse output. Rate table control, Reverse Signal, and programmable error models are output. Data synchronization with the RF output signal is maintained by the Tapestry ***Run Scenario*** Application.

- Baro Altimeter. Output via RS232 in a selection of formats and units. Internally this sensor support ICD-INS-059 1553 and related serial output.

- 1553. GPS-INS-059 data output via an optional (COTS-Ballard) 1553 PCI expansion card.

- ARINC-429. In support of aircraft navigation, related message types are output via an optional (COTS-Ballard) ARINC-429 PCI expansion card.

- Serial Data output via RS232 is provided.

This document provides a reference set from which a description of the implementation can be obtained. Please use the following links to navigate through the auxiliary sensor models.

Inertial Measurement Unit Package.

USINGTHEIMUMODEL.PDF

Automotive Sensor Package.

USINGAUTOMOTIVEMODEL.PDF

Serial Data Outputs.

INS059.PDF

Baro-Altimeter Model.

BAROMODEL.PDF

Programmable Discrete Data Lines via the Multi-Function (MFIO) expansion card.

MFIODISCRETEPINOUT.PDF

1-PPS Characteristics

1PPS.PDF

Automotive Feature Card Pin-Out

AUTOMOTIVEPINOUT.PDF

IMU Feature Card Pin-Out

IMUPINOUT.PDF