Septentrio MosaicHAT

Includes:
– 1 Septentrio MosaicHAT board (Mosaic) manufactured by ArduSimple

More info about the product!

Septentrio MosaicHAT has several different configurations to provide you with flexibility:

SKU	Variation Name
AS-OPENHW-MOSAICHAT-X5-00	Mosaic-X5
AS-OPENHW-MOSAICHAT-H-00	Mosaic-H

Get a discounted bulk price on this product for orders of 50 units or more. Contact us at info@ardusimple.com to get a quote.

Description

The mosaicHAT is an Open Source GPS/GNSS HW PCB HAT which integrates Septentrio's Mosaic modules with basic communications and which can be stacked into a Raspberry Pi system.

ArduSimple manufactures the mosaicHAT receiver from Septentrio following the Open Source Hardware (OSHW) guidelines.

Good to know:
– This product is manufactured and sold by ArduSimple, but designed by Septentrio.
– This product is compatible but doesn't include multiband GNSS antenna, which is necessary to use the product. Will not give good performance with a standard GNSS antenna, requires a multiband one.

Specifications

Mosaic-H features

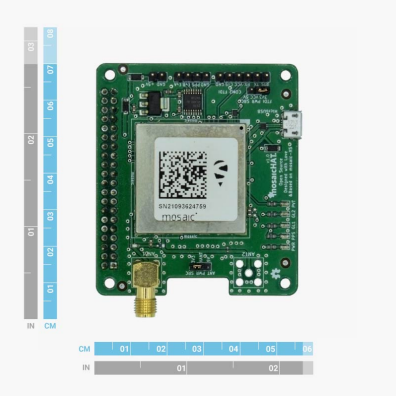
- Millimeter level precision
  - <1cm with a base station up to 35km
  - <1cm with NTRIP up to 35km
  - <1.2m in standalone mode
  - <0.6m standalone with SBAS coverage
- GNSS attitude accuracy
  - 1m antenna separation: 0.15deg heading, 0.25deg pitch/roll
  - 5m antenna separation: 0.03deg heading, 0.05deg pitch/roll
- Update rate
  - Default: 1Hz
  - Measurements only: up to 100Hz
  - Standalone, SBAS, DGPS + attitude: up to 50Hz
  - RTK+attitude: up to 20Hz
- Multi band: L1, L2 and E5b support, 448 hardware channels
- Multifrequency and Multiconstellation:
  - GPS: L1 L2
  - GLONASS: L1 L2
  - Galileo: E1 E5b
  - BeiDou: B1 B2
  - QZSS: L1 L2
  - SBAS: WAAS, EGNOS, MSAS, GAGAN, SDCM (L1)
- Start-up times:
  - Cold start: <45s
  - Warm start: <20s
  - Re-acquisition: 1s
- Protocols:
  - Septentrio Binary Format (SBF)
  - NMEA 0183, v2.3, v3.03, v4.0
  - RINEX v2.x, v3.x
  - RTCM v2.x, v3.x (MSM included)
  - CMR v2.0 (out/in), CMR+ (input only)
- Interfaces **(check user guide to verify which are available)**:
  - USB
  - UART
  - XBee
  - Timepulse
  - Event
- Base and Rover functionality

- Operating temperature Range: -40 to +85deg
- Certification: CE, WEEE, ISO 9001-2015
- Documentation: RED, RoHS

Mosaic-X5 features

- Millimeter level precision
  - <1cm with a base station up to 35km
  - <1cm with NTRIP up to 35km
  - <1.2m in standalone mode
  - <0.6m standalone with SBAS coverage
- Update rate
  - Default: 1Hz
  - With maximum performance: up to 100Hz
- Multi band: L1, L2 and L5 support, 448 hardware channels
- Multifrequency and Multiconstellation:
  - GPS: L1C/A L1PY L2C L2P L5
  - GLONASS: L1CA L2CA L2P L3 CDMA
  - Galileo: E1 E5a E5b E5 AltBloc E6
  - BeiDou: B1I B1C B2a B2I B3
  - QZSS: L1C/A L2C L5
  - Navic: L5
  - SBAS: WAAS, EGNOS, MSAS, GAGAN, SDCM (L1 L5)
- Start-up times:
  - Cold start: <45s
  - Warm start: <20s
  - Re-acquisition: 1s
- Protocols:
  - Septentrio Binary Format (SBF)
  - NMEA 0183, v2.3, v3.03, v4.0
  - RINEX v2.x, v3.x
  - RTCM v2.x, v3.x (MSM included)
  - CMR v2.0 (out/in), CMR+ (input only)
- Interfaces **(check user guide to verify which are available)**:
  - USB
  - UART
  - XBee
  - Timepulse
  - Event
- Base and Rover functionality
- Operating temperature Range: -40 to +85deg
- Certification: CE, WEEE, ISO 9001-2015
- Documentation: RED, RoHS

Image Gallery



Documentation

User Guide	https://github.com/septentrio-gnss/mosaicHAT
how to configure Septentrio Mosaic boards	https://www.ardusimple.com/how-to-configure-septentrio-mosaic-x5-and-mosaic-h/

Septentrio MosaicHAT includes free basic technical support. Contact info@ardusimple.com for more information.
Data and descriptions in this document are subject to change without notice. Product photos and pictures are for illustration purposes only and may differ from the real product appearance.