Software Release Notes
Quantum

What's New in Quantum 8.2.0

This is a general release.

New Features

- **MOXA PC Port Bridging (LD900 only)**
  - When an LD900 is connected in the rackmount configuration with the MOXA PC, ICOM 1-4 outputs are bridged to the PC's NMEA 1-4 ports. This is only available when ICOM ports are set as TCP.
  - MOXA PC COM1 and COM2 port settings are configurable via quantum. These ports are used for external heading input and tides output.

- **Precision Time Protocol**
  - The LD900 and LD8 can now use their GPS time to synchronise the clocks on other network equipment.

- **INHDT Messages - LD900 only**
  - NMEA heading message added for INS solutions.

- **External Logger Outputs**
  - ICOM ports can now be set as external logger output format to allow connection to a data logger application.

- **Factory Reset LD900**
  - Ability to factory reset the LD900 has been added, with the Lan2 IP address now being maintained during the process.

- **User Defined Tides Geoid Separation**
  - The undulation value used in the tides solution can now be set to a user configurable value. The model is then reported as USER.

- **Position Vertical SD added to sidebar.**

- **LBAND off option added for GNSS1 and LBAND corrections.**

Changes

- INS Status thresholds changed to better reflect aligning and converging states.

- Disable Notifications now turns off all notifications, current and historical.

- Details of interference added to notifications

- Digital certificate added to quantum installer avoiding error messages of untrusted software.

What's New in Quantum 8.1.0

This is a maintenance release.

New Features

No new features, this is a maintenance release.

Changes

- Quantum Version information added to the main screen.

- Events notifications display UTC time for recent events.

- Warning splash screen added when disabling GNSS signals.

- Event notification icon changed from red to amber.

What's New in Quantum 8.0.0

This is a general release.

New Features

- **Secondary Positioning – LD900 only**
  - A position can now be calculated, and output based on the GNSS2 antenna and output from COM4 and COM5. All output messages will be output at 1Hz.
  - PPP mode can be selected between auto, ultra and apex independently from GNSS1.
  - The secondary position can be activated by means of the FDNRZNTVEA authcode on GNSS2.

- **INS User Reference Point – LD900 only**
  - User can now offset the INS solution to a user defined location on the vessel.

- **INS Detailed Status – LD900 only**
  - Detailed statuses are available on the INS status tile.

- **System Version Information**
  - System version of the connected receiver can be read from "System Status."

- **ICOM 4 and 5 available for LD8**
  - ICOM functionality is available on ICOM 4 and ICOM 5 as per existing ports.

- **COM 6 input available for LD900**
  - Correctional inputs (RTK, IOLAN, UHF) can be input via COM6.

- **Vessel Shape on Polar Plots**
  - Vessel outline is now displayed on the Polar Plots when heading is enabled.

- **BESTPOS Output now available**
  - BESTPOS is now a configurable output.

- **50, 100, 200 Hz INS Outputs – LD900 only**
  - INS messages can now be output at up to 200Hz rates.

- **RAIM mode**

- o Receiver Autonomous Integrity Monitoring (RAIM Mode) can now be configured.

- **SBAS Status**
  - o SBAS Status is now displayed on a Quantum Tile.

- **NTRIP Status**
  - o NTRIP Status is now displayed on a Quantum Tile.

- **HEAVE Status and filter configuration**
  - o HEAVE filter can now be configured between 1 and 300 seconds, and a time-series graph is now available.

- **LBAND Status switch**
  - o The LBAND time-series graph now has a switch between GNSS1 and LBAND

Changes

- ICOM ports with UDP protocol only need an endpoint when an output is being configured.

- Primary and secondary LBAND corrections on the LD900 have been renamed to LBAND and GNSS1 respectively to match the ports on the LD900.

- NTRIP Status now triggered by IOLAN input.

What's New in Quantum 7.2.0
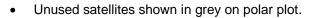
This is a general release.

New Features

- **GRIT Interference Mitigation**
  - o Interference Mitigation Features now available as a Licenced Feature. Notch and Bandpass filters are now available along with HDR mode for L1, L2 and L5 band signals.

- **Expanded RF Spectrum Monitoring**
  - o RF Spectrum Monitoring has now been extended to cover both Wideband, Passband and FilterBand RF Spectrum for signals, and is configured from the RF Spectrum Tile.

- **GNSS Signal Control**
  - o Some GNSS signals and constellations can be disabled if they are causing issues due to signal disturbances.

- **Spoofing Calibration Date**
  - o Spoofing Detection Calibration date is now displayed in Quantum.

- **Heading Standard Deviation**
  - o Heading standard deviation is now displayed in Quantum.

Changes

- LBand HDR Configuration moved from LBand Configuration to Interference Configuration.

- UHF and MF are no longer exclusive and may be enabled at the same time.

Go to: https://veripos.com/support/technical-documents/quantum/quantum-user-manual for detailed information on Quantum operation

- Unused satellites shown in grey on polar plot.

- Spoofing detection status is amber when uncalibrated.

- TRINAV configuration moved to positioning menu.

What's New in Quantum 7.1.0

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New Features

- **APEX PRO Service**
  - This is the new fast converging PPP service. Units can be enabled for either Apex 5 or Apex PRO.

- **Dual Lband Antenna (LD900)**
  - The LD900 can now track/use Lband corrections from both the combined GNSS/Lband antenna and dedicated Lband antenna simultaneously.

- **AUTO PPP Mode**
  - The LD900 can be set to AUTO PPP mode to allow automatic fallback from APEX to ULTRA.

- **Dual PPP Status**
  - Quantum now provides the status of the backup PPP solution i.e. APEX and ULTRA.

- **AUX COM4 Outputs - LD900 only**
  - The auxiliary COM4 port is now available for output of some messages.

- **Interference detection configuration**
  - Interference detection can now be turned on/off.

- **New INS messages - LD900 only**
  - BESTGPSPOS, INSSTDDEV, SYNCHEAVE and DELAYEDHEAVE have been added.

- **Multi Licence**
  - Quantum can now be licenced for multiple receivers, removing the need to re-apply the licence when switching receivers.

- **Event history clearing**
  - Quantum historic events can be cleared.

Changes

- INS Status thresholds changed to better reflect aligning and converging states.

- GRIT configuration re-organised.

- Interference and spoofing detection indicators not shown if not configured.

- Interference detection changed from RED to AMBER.

What's New in Quantum 7.0.0

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New Features

- **Interference toolkit including spoofing detection.**

- **Day mode.**

- **Expanded PPS Configuration – Pulse width.**

- **SID NTRIP input via IOLAN.**

- **Data Input via ICOM.**

- **ICOM Socket Configuration.**

- **Expanded Correction Input Formats – CMR, NOVATELX.**

- **UDP Support.**

- **DNS Configuration.**

- **NMEA Talker Configuration.**

- **DOP Status Tile.**

- **Solution Correction Latency Indicator.**