

## What's New in OEM7 FW 7.08.14

*This is a general release based off of 7.08.10, available on these OEM7 platforms (and associated variants): OEM719, OEM729, OEM7700, OEM7600, OEM7720, OEM7500, CPT7, CPT7700, PwrPak7, PwrPak7D, GT7800.*

### New Features

- TerraStar C-PRO enhancements with global RTK From the Sky™ technology: improved performance and convergence using triple frequency in PPP (for OEM7600, OEM7500 and OEM7720)
- Oceanix with global RTK From the Sky™ technology for all platforms
- Store and update week number in NVM to automatically maintain GPS week era

### Additional Firmware Updates

- Store Spoofing calibration
- Fix issue with SBAS12 log
- VARF re-activated for OEM719 HW Revision 1.05
- Fix issue with BDSBCNAV1RAWMESSAGE

## What's New in OEM7 FW 7.08.13

*This is an internal release.*

## What's New in OEM7 FW 7.08.12

*This is an Agriculture market-specific release for these platforms, based on the 7.08.10 release: SMART7, SMART7-W, and SMART7-I variants (including support for RELAY7), and OEM719. Note: Includes all features from 7.06.03, 7.08.01, and 7.08.01R1 releases.*

### New Features

- TerraStar C-PRO enhancements with improved performance and convergence using quad frequency in PPP
  - Includes BeiDou B1C, B2a, B2b, B3
  - Includes Galileo E6B
- Improved implementation of Subscription Managed Channel Configuration with TerraStar-C PRO, TerraStar-X, RTK ASSIST PRO subscriptions: Automatic activation of the advanced

channel configuration when a valid subscription is activated, for the duration of the subscription period

- Improved multipath mitigation using a new correlator type

## **Additional Firmware Updates**

- Updates for improved tracking of the BeiDou system:
  - Use the almanac to determine the satellites in view
  - Prioritize MEO satellites for tracking
- Defaults to tracking Galileo E6B signal (previously defaulted to E6C)
- Increased idle time available
- Fix identification of QZSS and NavIC in NMEA logs
- Improved reliability when establishing a connection to the Wi-Fi access point
- Terrain Compensation log/command documentation updated to remove SMART7 base variant from the list of supported platforms

## **Changes to Commands/Logs**

### **Commands**

Updated commands:

PPPSOURCE – TERRASTAR\_L and TERRASTAR\_C source options removed

## **What's New in OEM7 FW 7.08.11**

*This is an internal release.*

## **What's New in OEM7 FW 7.08.10 (revised Nov 1, 2022)**

*This is a general release available on these OEM7 platforms (and associated variants): OEM719, OEM729, OEM7700, CPT7700, PwrPak7 (not including PwrPak7D), GT7800.*

### **New Features**

- TerraStar C-PRO enhancements with global RTK From the Sky™ technology: improved performance and convergence using quad frequency in PPP
  - Includes BeiDou B1C, B2a, B2b, B3
  - Includes Galileo E6B
- Subscription Managed Channel Configuration with TerraStar-C PRO, TerraStar-X, RTK ASSIST PRO subscriptions: Automatic activation of the advanced channel configuration when a valid subscription is activated, for the duration of the subscription period.

- Improved multipath mitigation using a new correlator type
- Support OEM719 HW Revision 1.05
- Support OEM729 HW Revision 2.10

## **Additional Firmware Updates**

- For the BeiDou system:
  - Use the almanac to determine the satellites in view
  - Prioritize MEO satellites for tracking
- Defaults to tracking Galileo E6B signal (previously defaulted to E6C)
- The COM2 TX pin (TXD2) can no longer be configured to output a periodic pulse and instead will be solely dedicated to the primary COM2 transmit data function on the OEM719
- Connect to newly inserted USB stick while operating
- Fix identification of QZSS and NavIC in NMEA logs
- Increased idle time available
- Update WIFI package to v1.7.12

## **Changes to Commands/Logs**

### **Commands**

New commands:

- LOCKOUTSATELLITE, UNLOCKOUTSATELLITE

Updated commands:

- COMCONTROL

### **Logs**

New logs:

- BDSBCNAV1EPHEMERIS, BDSBCNAV2EPHEMERIS, BDSBCNAV3EPHEMERIS, BDSBCNAV1RAWMESSAGE, BDSBCNAV2RAWMESSAGE

## **What's New in OEM7 FW 7.08.09R1**

*This is a general release available on these OEM7 platforms (and associated variants): PwrPak7D.*

## **Additional Firmware Updates**

- Update WIFI package to v1.7.12
- Fix issue with INSCOMMAND and CONNECTIMU commands

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## What's New in OEM7 FW 7.08.09

*This is a general release available on these OEM7 platforms (and associated variants): OEM719, OEM729.*

### New Features

- Support OEM719 HW Revision 1.05
- Support OEM729 HW Revision 2.10

### Additional Firmware Updates

- The COM2 TX pin (TXD2) can no longer be configured to output a periodic pulse and instead will be solely dedicated to the primary COM2 transmit data function on the OEM719

### Changes to Commands/Logs

#### Commands

Updated commands:

- COMCONTROL

## What's New in OEM7 FW 7.08.08

*This is an internal release.*

## What's New in OEM7 FW 7.08.07

*This is an internal release.*

## What's New in OEM7 FW 7.08.06

*This is an internal release.*

## What's New in OEM7 FW 7.08.05

*This is an internal release.*

## What's New in OEM7 FW 7.08.04

*This is an internal release.*

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## What's New in OEM7 FW 7.08.03

*This is an internal release.*

## What's New in OEM7 FW 7.08.02 (updated June 2021)

*This is a general release based on 7.08.00 for these OEM7 platforms: CPT7 (all versions), CPT7700*

### New Features

- Support for new CPT7 hardware and the CPT7700, with the following functionality:
  - Internal data logging
  - Wheel sensor support (DMI)
  - New enclosure LEDs
  - Added Event 3 In/Out support
  - Support for the HG4930\_AN04 IMU

### Additional Firmware Updates

- Improvements to SPAN azimuth performance

## What's New in OEM7 FW 7.08.01

*This is an Agriculture market-specific release for these platforms, based on the 7.08.00 release: SMART2, SMART7 (all variants, including support for RELAY7), OEM719, OEM729, OEM7700 and OEM7500. Note: Includes all features included in the 7.06.03 (SMART7) and 7.06.02 (SMART2) releases.*

### New Features

- TerraStar-C PRO now supported on SMART2
- Use of BeiDou Phase III B1C and B2a in GLIDE
- Two-stage zeroing calibration for Terrain Compensation
- PPPSEED MANUAL command for manual PPP seeding in restricted movement conditions

### Additional Firmware Updates

- Major improvements on PPP seeding robustness and reliability
- PPP quality indicator / standard deviation improvements
- PPP robustness improvements and fast recovery from erroneous seeding
- Support for Datum and plate tectonics correction for SPAN and ALIGN
- In RTK or PSRDIFF modes, correctly ignore datum transformation as the source datum is not known to the rover receiver

- Prevention of incorrect INS seeding for SPAN capable enclosures when inverted using SETALIGNMENTORIENTATION
- General robustness improvements for SPAN Agriculture profile
- Improved false alarm rate on automatic interference detection

## Changes to Commands/Logs

### Commands

Updated commands:

- PPPSEED
- TILTZERO

### Logs

New logs:

- TILTDATA

## What's New in OEM7 FW 7.08.00 (revised Nov 1, 2022)

*This is a general release available on these OEM7 platforms: OEM719, OEM729, OEM7700, OEM7720, OEM7500, OEM7600, PP7, PP7D, CPT7.*

### New Features

- Track BeiDou B2b signal
- Support PwrPak7Q-E2 and PwrPak7DQ-E2, with no Wi-Fi
- Spoofing detection on GPS L1 C/A signals

### Additional Firmware Updates

- Change in all channel configurations for models that support BeiDou
  - Increase number of BeiDou satellites tracked
  - Dual frequency models now track BeiDou B2b instead of B2a
  - All full frequency models now include BeiDou B2b
- Provide navigation data from BeiDou B1C and B2a signals
- Use of BeiDou B1C and B2a in RTK positioning
- Datum Handling (released)– Ability to transform between different datums to allow interoperability between different position engines
- Enhanced generic IMU support
- Load new firmware stored from internal memory
- Ability to establish multiple ethernet connections to a receiver

- Fixed issue with ITSPECTRALANALYSIS command
- Improved SPAN performance
- Use of OUTPUTDATUM command applies to all position types

## Changes to Commands/Logs

### Commands

New commands:

- SETALIGNMENTORIENTATION

Updated commands:

- SOFTLOADFILE
- SETINSROTATION
- EXTERNALPVAS

Removed commands:

- DIFFCODEBIASCONTROL – This command will no longer be supported

### Logs

New logs:

- BDSBCNAV1EPHEMERIS, BDSBCNAV2EPHEMERIS
- PDPDATUMINFO, PSRDATUMINFO, RTKDATUMINFO, INSDATUMINFO
- INSVELUSER

Updated logs:

- GPGRS, GPGSV

## What's New in OEM7 FW 7.07.04

*This is a general release based off of 7.07.03 for these OEM7 platforms: PP7, PP7D.*

### New Features

- Support for all variants of the PP7 family with no WIFI and no internal memory

### Additional Firmware Updates

- Improved ordered NMEA log sequence

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## What's New in OEM7 FW 7.07.03 (updated)

*This is a general release based off of 7.07.01 for these OEM7 platforms: OEM719, OEM729, OEM7700, OEM7720, OEM7500, OEM7600, PP7, PP7D, CPT7, GT7800.*

### New Features

- TerraStar-X is now supported with a subscription and a receiver model that is unlocked for RTK.
- Support for the PwrPak7-E2 (with Epson370 IMU) and all variants
- Output information for use in interference location detection

## What's New in OEM7 FW 7.07.02

*This is an internal release.*

## What's New in OEM7 FW 7.07.01

*This is a general release based off of 7.07.00 for these OEM7 platforms: OEM719, OEM729, OEM7700, OEM7720, OEM7500, OEM7600, PP7, PP7D, CPT7, GT7800.*

### New Features

- SPAN Marine Profile
- SPAN Rail Profile
- PP7 WiFi Client

### Additional Firmware Updates

- Improvements to the SPAN system convergence robustness and efficiency
- Epson G320 IMUs support 200Hz data rate

### Changes to Commands/Logs

- Final removal of deprecated OEM6 SPAN logs and commands as outlined in the *OEM6 to OEM7 Integration Guide*

### Commands

New commands:

- SPAN: SETIMUEVENT, RAWDMI, DMICONFIG

Removed commands:

- SPAN: ASYNCHINSLOGGING, SETWHEELPARAMETERS, WHEELVELOCITY, HEAVEFILTERLogs



New logs:

- SPAN: INSPVASDCMP, INSPVACMP, CORRIMUS, RAWDMI

Updated logs:

- INSCONFIG – can now be logged ONTIME

Removed logs:

- SPAN: CORRIMUDATA, CORRIMUDATAS, TIMEDWHEELDATA, WHEELSIZE

## What's New in OEM7 FW 7.07.00 (updated May 2021)

*This is a limited release without SPAN support available on these OEM7 platforms: OEM719, OEM729, OEM7700, OEM7720, OEM7500, OEM7600, PP7, PP7D (not including PP7-E1 or PP7D-E1). Note: All changes since 7.05.00 are included in this release with the exception of 7.06.02.*

### New Features

- Introduce configurations with L5, E5a and B2a frequencies on the OEM7500
- Improved signal acquisition with better Time to First Fix (TTFF)

### Additional Firmware Updates

- Compliant to NMEA 4.10
- Track Galileo E6 signal (not used in positioning)
- Track BeiDou B1C and B2a (not used in positioning), with no navigation data from these signals
  - Addition of B1C tracking channels to dual and full frequency models, in channel configurations 4&5
- Ability to track BeiDou PRNs > 30 (not used in positioning)
- Improved multifrequency RTK ambiguity resolution
- CAN port assignments on OEM7500 changed so that CAN0 port maps to physical port CAN1
- For the BeiDou system, use the ephemeris to determine the satellites in view
- TRACKSIGNAL command to disable non primary signal types
- Addition of NavIC L5 channels to the MF models in channel configurations 4&5 (not used in positioning by default)
- Reset data in ITK logs when ITK filters are disabled
- Improved interference detection thresholds
- Beta Feature: Basic CAN Read/Write support
- Accept the ASSIGNALL SBAS command on dual antenna receivers
- Respond with “ok” when an UNLOG command for a command not currently logged is received

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## Changes to Commands/Logs

### Commands

New commands:

- NMEA: NMEABEIDOUTALKER
- ITK: ITWARNINGCONFIG
- RTK: RTKTRACKINGCONTROL, RTKTRACKINGCONTROL
- CONFIGCODE
- TRACKSIGNAL
- DOPPLERWINDOW
- APPROXPOSTIMEOUT
- DUALANTENNAALIGN
- PNGCONFIG

Updated commands:

- CLOCKOFFSET – increased offset field range

Removed commands:

- ITK: ITINTERFERENCEDETECT

### Logs

New logs:

- Galileo Navigation data: GALFNAVRAWALMANAC, GALFNAVRAWEPHEMERIS, GALINAVRAWALMANAC, GALINAVRAWEPHEMERIS
- PPP: PPPSEEDAPPLICATIONSTATUS, PPPSEEDSTORESTATUS
- ITK: ITPSDDETECT

Updated logs:

- PASHR