



## Tersus David30 GNSS Receiver Firmware Version ( FW1469 ) Release

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Jul. 19<sup>th</sup>, 2023

### Overview

Tersus GNSS Inc. ("Tersus") is glad to release the firmware for David30 GNSS Receiver.

Firmware version (FW1469) and support documents are available at

<https://www.tersus-gnss.com/software/david-receiver> and

<https://www.tersus-gnss.com/release-note/david-receiver>.

### Features

- Supports multiple constellations and frequencies: GPS L1C/ A, L 2C, L2P, L5, GLONASS L1C/A, L2C/A, BDS B1/B2/B3, supports BDS-3, Galileo E1, E5a, E5b, QZSS L1C /A, L2C, L5.
- Provide centimeter-level accurate positioning to meet the wide range of precision positioning applications. Even in harsh environments and long baseline (15~30km) situation, the fixed RTK solutions can satisfy the diversity of surveying needs.
- The 8GB onboard data storage makes it possible to store raw measurements for post-processing application.
- The maximum update rate is 20Hz for RTK and 20Hz for raw measurements.
- With multiple configurations, the firmware matches the needs of post-processing workflows, and for the use as base/rover mode.

## Vision History

Issue	Type	Version
Fixed the issue that error caused by differential data delay	Bug Fix	FW1469
Fixed the issue of error estimate		
Changed the filter state update strategy for short baseline		
Fixed 3706 config word	Bug Fix	FW1467
Added the command to specify the station id	Enhancement	
RTK updated 1) set new filters 2) modified the filter prediction 3) modified the position filtering method 4) faster fix speed 5) fixed some RTCM processing 6) By decoding the RTCM data, judge whether it is VRS or not and related noise estimation	Enhancement	
Updated libBB.	Enhancement	FW1210
Updated libBB.	Enhancement	FW1206
Some RTK policies have been modified.	Bug Fix	
Fixed the problem of no output of QZSS in satvis , and increased the output of SBAS.		
Added output of SBAS satellite information in satvis.	Enhancement	FW1202
Added the output of SBAS satellite information in GSV with the beginning of GSGSV.		
Updated bitstream, BB, PVT, tracking SBAS satellites.	Enhancement	FW1201
LOG added sbasephemeris , which records the ephemeris of SBAS satellites		
COMMAND added the option of SBAS in assignall, assignfreq Options for sbas S1		
The internal satellite number mapping of QZSS has been changed, and one more satellite was tracked.		
Fixed board crash issue.	Bug Fix	FW1185
Updated Ionospheric Models section for RTK.	Enhancement	FW1184
BB updated the Satellite Position Solving section.	Enhancement	FW1183
RTK changed the RTCM2 decoding part	Enhancement	
Fixed the problem of GLONASS.	Bug Fix	
Updated RTK section. 1. Added new base station type 2. Increased processing to GLONASS bias. 3. Some threshold modifications.	Enhancement	FW1182
Fixed OMC cycle slip detection.	Bug Fix	FW1181
Updated the problem of message id	Bug Fix	
Changed the problem that the RTK ionosphere changes too much std overtime.	Bug Fix	FW1180
Updated output of assert info.	Enhancement	FW1179
Modified the problem of decoding RTCM3 data.	Bug Fix	FW1124
Fixed the issue of the RTK caused board crash	Bug Fix	FW1116
Differential data zero period adjusted.	Bug Fix	
Fixed the problem of decoding during using CORS.	Bug Fix	FW1092

Increase the threshold for inversely calculating the receiver clock error of the base station.	Enhancement	FW1076
Fixed the problem that when BX316 is used as differential data, BDS only has a single frequency to participate in the solution.	Bug Fix	FW1075
Fixed the problem of deviation of positioning results when using CMR as differential data.	Bug Fix	FW1074
Updated libBB.	Enhancement	FW1073
Updated libBB.	Enhancement	FW1072
Controlled the altitude angle of satellites participating in RTK.	Enhancement	FW1054
Improved processing of floating point and single point beating after RTCM2.3 packet loss.	Bug Fix	FW1053
Part of the PVT has been updated.	Enhancement	
RTK engine adds tri-band ultra-wide lane fix. In RTCM3.2, added B2A broadcast in BDS, and no longer broadcast B2.	Enhancement	FW1037
Added the usage of DiskContorl on the AP side.		
baseantenna and log refsta commands in AP log.	Bug Fix	
PVT fixed the problem that stdvel is too large.		