

TelitView Software Description (Version 2.2.0)

80000DSW10085A Rev 5 2018-10-22



APPLICABLE PRODUCTS

PRODUCT	
SL871	SC872-A
SL869-V2	SE868-A
SL871-S	SL869-V2S
SE868-AS	
SL869	SL869-DR
SL869-T	SL869-V3
SL869-3DR	SL869-V3T
SL869-ADR	SL869-T3I
JF2	SE880
JN3	SE868-V2
SE873	SE868-V3
SL876-A	



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1. Introduction

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For general contact, technical support, to report documentation errors and to order manuals, contact Telit's Technical Support Center (TTSC) at:

TS-EMEA@telit.com
TS-AMERICAS@telit.com
TS-APAC@telit.com

Alternatively, use:

<http://www.telit.com/en/products/technical-support-center/contact.php>

For detailed information about where you can buy the Telit modules or for recommendations on accessories and components visit:

<http://www.telit.com>

To register for product news and announcements or for product questions contact Telit's Technical Support Center (TTSC).

Our aim is to make this guide as helpful as possible. Keep us informed of your comments and suggestions for improvements.

Telit appreciates feedback from the users of our information.

1.2. Text Conventions



Danger – This information MUST be followed or catastrophic equipment failure or bodily injury may occur.



Caution or Warning – Alerts the user to important points about integrating the module, if these points are not followed, the module and end user equipment may fail or malfunction.



Tip or Information – Provides advice and suggestions that may be useful when integrating the module.

All dates are in ISO 8601 format, i.e. YYYY-MM-DD.



1.3. Related Documents

The following is a list of applicable documents downloadable from the Download Zone section of Telit's website <http://www.telit.com>

- TelitView User Guide (Latest revision)
- Please refer to the Applicable Products table for the supported Telit GNSS modules.



2. Delta Software from 2.1.7 to 2.2.0

2.1. New Features

Change Request ID	Description
	2.1.1. Second Serial Port & Pass-through Mode for SOU Support
	2.1.2. SOU (STM Odometer & Reverse) Handling and Display
	2.1.3. Satellite Display in Vendor-Specific SVIDs
	2.1.4. Support for IRNSS (NAVIC)
	2.1.5. Support for Display of SBAS Sats as Correction Source
	2.1.6. Telit Geofencing Configuration GUI

2.1.1. Second Serial Port & Pass-through Mode for SOU Support

(1) Support the second serial port (the Auxiliary Port)

TelitView User Guide changes or additions:

6.7.1 Launch Auxiliary Dialog Box

(2) Added the pass-through mode.

TelitView User Guide changes or additions:

6.7.2 Pass-through Mode

(3) Added Aux port data monitor window

TelitView User Guide changes or additions:

5.10 Aux Port Monitor Window

2.1.2. SOU (STM Odometer & Reverse) Handling and Display

Added STM DRSENMSG1 (Odometer), DRSENMSG2 (Reverse) message handling and display

TelitView User Guide changes or additions:

6.3.1 Launch DR Control Panel



2.1.3. Satellite Display in Vendor-Specific SVIDs

Changed the SVID ranges in different constellation and their display in Azimuth Elevation window and Signal Quality window, and Panel Status window.

TelitView User Guide changes or additions:

10.1 Display Examples of GNSS Signal

2.1.4. Support for IRNSS (NAVIC)

Support for the new constellation system: the Indian Regional Navigation Satellite System (IRNSS) with NAVIC satellites.

TelitView User Guide changes or additions:

10.1.6 GNSS Signal Charts: GPS + NAVIC

2.1.5. Support for Display of SBAS Sats as Correction Source

Signal display for the state that SBAS sat not on the GSA list but GGA reports DGPS status.

TelitView User Guide changes or additions:

5.4.1. Display of SBAS Satellite Used for Differential Corrections

2.1.6. Telit Geofencing Configuration GUI

Add GUI for Telit Geofencing Configuration and test capability.

TelitView User Guide changes or additions:

6.8. Geofencing Dashboard

2.2. General Enhancements & Bug Fixes

ID	Description
	2.2.1. Device-Specific Basic Commands List Update
	2.2.2. Miscellaneous Enhancements
	2.2.3. Bug Fix: Panel State window update from GGA and RMC
	2.2.4. Bug Fix: XML User Command Item 9
	2.2.5. Bug Fix: Extra CR and LF Characters in Command Build
	2.2.6. Bug Fix: "Append CR" Feature
	2.2.7. Bug Fix: Version String Detection



ID	Description
	2.2.8. Bug Fix: Empty Position Field
	2.2.9. Bug Fix: Reference Position set
	2.2.10. Bug Fix: UTC year value in RMC message interpretation

2.2.1. Device-Specific Basic Commands List Update

- (1) Updated the QCOM device Basic Commands xml file with Poll Telit FW version TEL and Poll Telit FW version SDK
- (2) Updated the QCOM device Basic Commands xml file with PTWS commands to configure the constellation sats
- (3) Updated the STM device Basic Commands xml file with PSTMSETCONSTMASK command to configure the constellation sats

2.2.2. Miscellaneous Enhancements

- (1) Module type's self-check to prompt customer choose correct module type for display of constellation type
- (2) QCOM GAL support (display and NMEA IDs)
- (3) Various enhancement to support the QZSS sats
- (4) Schedule Log: simple Length to record from the assumed current time and date
- (5) NMEA Monitor command sensitivity detection as different command
- (6) NMEA Monitor command window to "remove" command
- (7) NMEA Monitor window "Raw Data" and "Append CR" button and handling
- (8) Display QCOM device output that the QZSS sats are listed as SBAS

2.2.3. Bug Fix: Panel State window update from GGA and RMC

The Panel State window display can be updated from the data from GGA or RMC.

2.2.4. Bug Fix: XML User Command Item 9

Bug fix for the XML User Command item 9 missing from the list.

2.2.5. Bug Fix: Extra CR and LF Characters in Command Build

Bug fix for the extra CR and LF characters in sending the command string.



2.2.6. Bug Fix: "Append CR" Feature

Bug fix for the "Append CR" feature.

2.2.7. Bug Fix: Version String Detection

Bug fix for the version string detection for the "Setup Info Block" data, in the "All Serial Data" selection.

2.2.8. Bug Fix: Empty Position Field

Bug fix Empty Position field invoke from Scatter Plot

2.2.9. Bug Fix: Reference Position set

Bug fix Reference Position set

2.2.10. Bug Fix: UTC year value in RMC message interpretation

Bug fix UTC year value in RMC message interpretation



3. Delta Software from 2.1.6 to 2.1.7

3.1. New Features

Change Request ID	Description
	2.1.1 Scheduled Logging
	2.1.2 File Conversion to KML Format
	2.1.3 Poll for SW Version Automatically

3.1.1. Scheduled Logging

This feature allows user to schedule a file logging by set up the start date/time and stop date/time.
 TelitView User Guide changes or additions:

7.2.6 Immediate or scheduled logging

3.1.2. File Conversion to KML Format

This feature allows user to convert standard NMEA sentence file to KML file that is recognizable by Google Earth as an input.

TelitView User Guide changes or additions:

7.8.2 Data formats in file

3.1.3. Poll for SW Version Automatically

Poll for SW version when module type is not set or not known by TelitView (the module type is at “NON-SPECIFIC”). This feature will help TelitView in configure the display for different constellation in different chipset devices.

3.2. General Enhancements & Bug Fixes

ID	Description
	2.2.1. File Conversion: The File has timestamps



ID	Description
2.2.2.	Added Millisecond Data in GGA
2.2.3.	Data Overview Window Size Adjustment
2.2.4.	ODO Message Inquiry / Output
2.2.5.	Change Color Code for Galileo Sats Display
2.2.6.	Expand Legends and Change Color Codes
2.2.7.	Prevent Window Title Bar from Disappearing
2.2.8.	Clear the window Plots for Constellation Change Commands
2.2.9.	Update the Basic Commands in Command Menu
2.2.10	Bug Fix: About Window crash
2.2.11.	Bug Fix: Galileo only Mode in Signal Quality
2.2.12.	Bug Fix: Extra Field in NMEA Version
2.2.13.	Bug Fix: Text copy in NMEAMonitor Window
2.2.14.	Bug Fix: NMEA Checksum Single Digit Place
2.2.15.	Bug Fix: Real Pause in Replay File Read
2.2.16.	Bug Fix: Handling for QZSS Data
2.2.17.	Bug Fix: Disable EASY Independent from EPO

3.2.1. File Conversion: File with Timestamps

This enhancement allows the file conversion for a file that contains timestamps.

3.2.2. Added Millisecond Data in GGA

Added Millisecond data in NP_DATA_GGA data parse, to handle sub-second UTC time tag.

3.2.3. Data Overview Window Size Adjustment

The Data Overview window size is adjusted.

3.2.4. ODO Message Inquiry / Output

Added "\$PTWS,ODO,GET" to register response message "\$PTWS,ODO,VALUE,".

3.2.5. Change Color Code for Galileo Sats Display

Changed the color code for the Galileo sats data (from Blue base to Purple base), and changed the QZSS data (from Purple base to Violet)



3.2.6. Expand Legends and Change Color Codes

Expanded legends and changed the color codes to highlight the status of the sats used/in view status,

3.2.7. Prevent Window Title Bar from Disappearing

Prevent the window size, title bar from disappearing when the main window frame is resized.

3.2.8. Clear Window Plots for Constellation Change Commands

Clear the window plots on user commands that change constellation .

3.2.9. Update the Basic Commands in Command Menu

Rearrange and update the basic command set list.

Among other additions, now the standard restart commands for HOT, WARM , and COLD are included in the list of the basic commands available to user.

3.2.10. Bug Fix: About Window Crash

Bug fix for the crash of the About window.

3.2.11. Bug Fix: Galileo only Mode in Signal Quality

Bug fix for the Galileo only mode in Signal Quality window.

3.2.12. Bug Fix: Extra Field in NMEA Version

Bug fix for the NMEA version that has one extra field.

3.2.13. Bug Fix: Text Copy in NMEAMonitor Window

Bug fix for the text copy in NMEAMonitor window, rctbTx pane. Check for empty field before copy.

3.2.14. Bug Fix: NMEA Checksum Single Digit Place

Bug fix for the NMEA data – a single digit place in checksum.



3.2.15. Bug Fix: Real Pause in Replay File Read

Bug fix for the pause feature in replay file.

3.2.16. Bug Fix: Handling for QZSS Data

Added the handling for QZSS data from STM receiver output - it has separate NMEA message for the QZSS (SVID 193 - 197).

3.2.17. Bug Fix: Disable EASY Independent from EPO

Sending Disable EASY is independent on EPO Manager window.



4. Delta Software from 2.1.5 to 2.1.6

4.1. New Features

None.

4.2. General Enhancements & Bug Fixes

Change Request ID	Description
	2.2.1. Bug fix: Position fix state update In the data replay mode, navigation state update sometimes was missed.

4.2.1. Bug Fix: Position fix state update in replay mode

In the data replay mode, navigation state update was missed when a NMEA sentence checksum contains only one character.



5. Delta Software from 2.1.4 to 2.1.5

5.1. New Features

Change Request ID	Description
	2.1.1. Logger mode
	2.1.2. New MO-DR (3DR) Control Panel
	2.1.3 Setup Information in Data Log File

5.1.1. Logger Mode

Added new Logger mode to help minimize the possibility of data loss in situations where a high data density is present at the com port.

When the Logger mode is selected, TelitView will limit data feed to the windows to minimize processing and graphics update, and allow the data to be saved into file in the maximum bandwidth that is offered by the PC.

TelitView User Guide changes or additions:

7.2.2 Logger Mode

5.1.2. New MO-DR (3DR) Control Panel

Added a new MODR Control panel to support 3DR control and data display.

More specifically the new user interface items are highlighted as the following:

- Dials and other gadgets to display GNSS speed, DR speed, GNSS course, DR course
- GNSS and DR navigation and calibration status flags
- MODR sensor installation setup view
- IMUIT data view
- IMU & Barometer data view
- DR reset command

The support for the Telit proprietary MO-DR messages:



- PTWSIMU,RAW
- PTWSBARO,RAW
- PTWSDR,STATE

TelitView User Guide changes or additions:

6.4 Mo_DR Control Panel

5.1.3. Setup Information in Data Log File

Every time TelitView starts to log data to file, it will also save the firmware version strings from the receiver, along with other supplementary information, to provide the traceability of test setup in a log file.

- Log type – the “All serial” data or “NMEA message” data
- Firmware version string – the SDK version and Telit GNSS version, where it is applicable
- Logger mode – it is ON or OFF

An example of a Setup Info Block is illustrated as the following:

```
***** Setup Info Block *****
TelitView: TelitView 2.1.5
Log type: All serial data
Firmware-SDK ID: $PMTK705,AXN_3.810_3333_16030200,0000,,1.0*35
Firmware-Telit ID: $PTWS,VERSION,VAL,v13-3.8.10-STD-2.2.0-N96-B2*3C
Logger mode: OFF
*****
```

TelitView User Guide changes or additions:

7.2.4 Setup Information in Log File

5.2. General Enhancements & Bug Fixes

Change Request ID	Description
	2.2.1. Bug fix: Window state check. Handle the data feed more discretionarily if an open window is minimized.
	2.2.2. Bug fix: Log of all serial data When logging data to file in “all serial” type, binary data will be saved properly.



Change Request ID	Description
	2.2.3. Bug fix: Initialization of nav second in the LoopIt Test. Initialization of Nav Second.
	2.2.4. Bug fix: Case Sensitivity of Checksum Corrected the case sensitivity for the checksum in NMEA sentences
	2.2.5. Bug fix: Improved the reliability of when plots are cleared. These cases include a restart command, the change of constellation, etc.
	2.2.6. Bug fix: Incorrect popup message box for SetIIEEmulation
	2.2.7. Bug fix: Corrected command sequence for auto-changing baud-rate (STM modules only)
	2.2.8. Bug fix: Change the data type in IMU1T UTC to string type
	2.2.9 Bug fix: Incorrect popup message box for session ID when TelitView runs for first time on a machine
	2.2.10. Bug fix: Set reference position Set reference position for the first time when TelitView runs for the first time on a machine
	2.2.11. Enhancement in data handling efficiency Enhancement in the proficiency of data feed handling to avoid the loss of data
	2.2.12. Applicable Product List Update

5.2.1. Bug Fix: Window state check

Handle the data feed more discretionarily if an open window is minimized.

5.2.2. Bug Fix: Log of all serial data

When logging data to file in “all serial” type, binary data will be saved properly.

5.2.3. Bug Fix: Initialization of Nav second

LoopIt Test: the nav seconds of random value in LoopIt Test should be initialized at the start of the test.

5.2.4. Bug Fix: Case sensitivity of checksum

Fixed the bug sensitivity case in checksum values in NMEA messages.

5.2.5. Bug Fix: Improved the reliability of when plots are cleared

These cases include a restart command, the change of constellation, etc.



5.2.6. **Bug Fix: Incorrect popup message box for SetIEmulation**

Fixed the bug error message box for SetIEmulation complaint.

5.2.7. **Bug Fix: Command sequence for suto-shanging baudrate**

Corrected command sequence for auto-changing baud-rate (STM modules only).

5.2.8. **Bug Fix: Change the data type in IMU1T UTC**

Change the data type in IMU1T UTC to string type

5.2.9. **Bug Fix: Incorrect popup message box for session ID**

Corrected error complaint when TelitView runs for first time on a machine.

5.2.10. **Bug Fix: Set reference position**

Set reference position for the first time when TelitView runs for the first time on a machine

5.2.11. **Enhancement in data handling efficiency**

Enhancement in the proficiency of data feed handling to avoid the loss of data.

5.2.12. **Applicable product list update**

The Applicability Table is updated to include new products that are supported with the TelitView 2.1.5 Release.



6. Delta Software from 2.1.3 to 2.1.4

6.1. New Features

Change Request ID	Description
	3.1.1. Support for GNSS Galileo System
	2.1.2. MEMS-Only DR (Dead Reckoning)

6.1.1. Support for GNSS Galileo System

TelitView contains the support for the Galileo system in GNSS in the Navigation States window, SignalQuality view, and AzimuthElevation view.

TelitView User Guide changes or additions:

- 5.2 Navigation State Window
- 5.4.2 Satellite Tracking States
- 9.1.4 GNSS Signal Chars: GPS + GALILEO

6.1.2. MEMS-Only DR (Dead Reckoning)

The newly added MO-DR window provides the following user interface features for MEMS-Only DR:

- The control panel
- The DR status display
- The display for Telit proprietary IMU1T data display

TelitView User Guide Additions:

- 6.4 MO-DR Control Panel

6.1.2.1. MEMS-Only Gyro Data Display

TelitView User Guide Additions:

- 6.4.1 MEMS-Only-Gyro Data Display



6.2. General Enhancements

ID	Description
	2.2.1. Product Identification
	2.2.2. Replay File
	2.2.3. Display Average CNo Values
	2.2.4. Display Error Stats
	2.2.5. NMEA Version 4.10 compatible

6.2.1. Product Identification

Changed the Production Selection user interface.

Product selection has been noticeably enhanced. Now there are two methods provided for the user to make selections:

- 1) Module type – the names of Telit GNSS Modules (shown in the left side box)
- 2) Chipset type – the names of the GNSS chipsets that are found in modules (shown in the right side box).

TelitView User Guide Additions:

- 7.1 Identify Product

6.2.2. Replay File

The log file replay has the following enhancement, and eliminated the reading flaw that resulted in the gaps between read after a pause.

The read is synchronized with the GPRMC on the second mark.

Enhanced the “Fast” speed read by adding the 2nd “Fast” to read at 10 times fast as the normal speed.

TelitView User Guide Additions:

- 6.1.2 Control the Speed for Replay

6.2.3. Display Average CNo Values

The Signal Quality window now has a new field that display the average signal level (CNo) on the current epoch.



The Data Charts window contains new display for the average signal level (CNo) as a trace on time update. When selected, the signal level will be displayed and updated as the time goes on. This display is user-selectable and is a default set by design.

TelitView User Guide Additions:

- 5.4 Signal Quality
- 5.8 Data Chart

6.2.4. Display Position Error Stats (CEP, Bias)

The Scatter Plot window now has a new field that display the CEP (Circular Error Probability) value.

The same plot window also contains display the TelitView's processing of data and the offset , or bias, that has been calculated by TelitView, to the Easting and Northing direction, respectively.

TelitView User Guide Additions:

- 5.6 Scatter Plot



6.2.5. NMEA Version 4.10 Compatible

TelitView is compatible with the NMEA version 4.10.

It means that the sentences of NMEA version 4.10 are not necessarily fully implemented or used in the TelitView's message handling, the sentences pertaining to the version will not interfere with the normal operation of the software.



7. Document History

Revision	Date	Changes
Rev 0	2015-08-05	First Issue - Delta Software from 2.1.2 to 2.1.3
Rev 1	2016-02-22	Software Description (Version 2.1.4)
Rev 2	2016-11-30	Software Description (Version 2.1.5)
Rev 3	2016-12-16	Software Description (Version 2.1.6)
Rev 4	2017-09-15	Software Description (Version 2.1.7)
Rev 5	2018-10-22	Software Description (Version 2.2.0)

