TEMS Investigation 9.0.4

Release Note

About this release

Release date: 2009-06-23

Corrected functions in release 9.0.4

- When sites are exported to Google Earth as KML, some site data are corrupted which leads to invalid site positions. – Bug fixed.

- When pressing the arrow-keys (up/down) in L3-window the selection is jumping 2 steps. – Bug fixed.

- During a drive test, the UE was forced to 2G but did not show any changes in RxLev for serving cell (only for neighbor cells). – When the UE (Motorola Razr2 V9) is run in GSM mode it uses Enhanced Measurement Report, instead of Measurement Report that usually updates the Serving Cell RxLev. Corrections made so that Serving Cell RxLev is updated.

- The IEs related to HSDSCH retransmissions, BLER and HS SCCH are missing from RA display. – Bug fixed.

- There is a problem with the delay display. The max limit is set to 60 chips and can not be changed, although there is a displayed delay of 108 chips. – The max value for the delay IE has been changed to 256 chips.

- If you replay a logfile there are no blocked calls at all for MS1, but if you look at the same file in Route Analysis there are several blocked calls. – Bug fixed.

- Although converter tool shows merge successful, resulting log file contains no UL PESQ data. – There was a minor problem with an .xml file. The value under a certain event id was too large to be handled by the conversion. Corrections made to handle large values.

- When selecting "Disable HO" function for a Z750 device, a "parameter error" window appears. – The Z750 device can not handle “Disable HO”, so that option has been removed for the specific device.

- Running the RANT report, TEMS RA produces mif files that contains more than 150 Scrambling Codes (SC) in the "Scanner top 90.mif", thus making more columns than Mapinfo supports. – Bug fixed.

- Problems exporting a TEMS Investigation logfile to Google Earth. – Bug fixed (see also first corrected function in this list).

- Wrong decoding/displaying of BSIC of source and neighbor cells. – There exists several formats of BSIC and a faulty format was used in this case. Corrections made.

- Invalid Video Block call on 2nd attempt after connection when using N95 making video calls. – Certain message was not triggered as intended. Corrections made.

- When investigating a logfile, containing drop call, in TA and TI, different values appears for BCCH ARFCN a.o. – The drop call event was triggered differently in TA and TI. Corrections made for similar trigger conditions.

Corrected functions in release 9.0.3

- Route Analysis crashed when user right-clicked in empty workspace and selected an item from the pop-up menu. – The workspace pop-up menu has been removed since its functionality was of little use.

- In the Data Collection Map window, when opening the Layer Control dialog, an error message "Server Busy" appeared after a few seconds. – Code improved to eliminate this error message.

- Blocked call due to No Network not visible in TI. – New blocked call condition implemented with cause "T-303 Expiry, no MM connection available".

- No way to set PN Increment for EV-DO scanning. – The PN Increment parameter cannot be used in EV-DO the same way as in CDMA scanning. Instead, options have been added in the scan setup for the "Wide" and "Wider" EV-DO scan modes (where the pilot search window is expanded in the time domain).

- Wrong number of codes displayed in HSDPA PDSCH Codes Bar Chart. – Bug fixed.

- "Undecoded BCCH-BCH Message" not correctly decoded in TI. – Bug fixed in TI message decoding. (Note for clarity: "Undecoded" refers to the phone's unsuccessful decoding of the BCCH, not to the message itself.)

- Incorrect labeling of x-axis in HSDPA PDSCH Codes Bar Chart. – Bug fixed.

- SQI MOS information element not available in Report Generator (Data Collection application). – SQI MOS now selectable in report setup dialog.

- When upgrading TI from 9.x to 9.0.2, the Route Analysis logfile cache was not automatically cleared at installation time (which caused problems). – Fixed in TI 9.0.3.

- Sony Ericsson phone properties: "Ignore cell barred" option missing for GSM. – The GUI has been redone; the new GUI features an "All cells allowed" option (under both GSM Barred Cells and WCDMA Barred Cells) which is equivalent to "Ignore cell barred".

Enhancements in release 9.0.3

- Support of TEMS Pocket 6.3 (Sony Ericsson C702, W760 and TM506) and Pocket 6.4 (Nokia N96)

Corrected functions in release 9.0.2

- PESQ statistics erroneously calculated in logfile reports. – Statistics calculation corrected.
- Scan data from Sony Ericsson Z750i not replayed properly in Route Analysis application. – Bug fixed.
- Certain WCDMA IEs do not display when using Nokia NTM3 phones: UL Interference Serving, Serving CPICH Tx Power, Serving Cell LAC, Serving Cell RAC. – Fixed for LAC and RAC (the

latter only from NTM3.2 onward, i.e. N96). The other IEs cannot be presented wholly satisfactorily since Nokia NTM3 phones do not label SIBs with UARFCN and SC. However, TI application behavior has now been changed so that the relevant SIBs are always assumed to originate from the current serving cell.

- Markers plotted too far apart on map in Data Collection application while collecting data. – Interpolation setting for DC map plotting corrected.
- RAN Tuning: Changing MapInfo plot symbol shape does not work. – Bug fixed in RAN Tuning code.
- After importing a logfile from TEMS Automatic, export of this logfile in text format fails. – Bug fixed in Data Collection application.
- When replaying large logfiles in Route Analysis, window synchronization after clicking a new route marker takes an unacceptably long time. – Various improvements made, greatly reducing synchronization delays.
- CDMA information element “Scanned Ec” not populated in Route Analysis. – Bug fixed.

Corrected functions in release 9.0.1

- MTR files cannot be replayed. – MTR file revision 211 was not supported in TI; support has now been added. A bug in the handling of file names without extension has also been fixed.
- Simultaneous scanning of 850 and 1900 UMTS bands not possible with PCTel scanner although these scanners are capable of dual band scanning. – General support for dual band UMTS scanning with PCTel scanner has been implemented in TI application.
- Spurious Blocked Call events reported for calls that proceeded normally. – Handling of AT signaling interfered with message timestamping, causing false timeouts in the event generator. This has been rectified. Handling of hangup in Command Sequence tool has also been corrected.
- Problems reading HASP key after upgrade to TI 9.0, message "Class Not Registered" appears when exporting HASP key content to Excel. – This was due to the file "xlsgen.dll" not being registered at installation time. That registration is now done during installation. A minor bug in the HASP data export, producing a pointless error message about renaming the "invalid" Excel sheet, has also been fixed.
- Not possible to run Sony Ericsson Z750i TEMS Pocket logfiles in TEMS Investigation 8.2 or 9.0 Route Analysis. – Bug fixed in Route Analysis.
- USSD Facility SS Layer 3 message: data string is not decoded properly in Message Details window. – Decoding fixed.
- No C/I or RLC/LLC throughput obtained with Nokia N95 and Nokia 6121. – Bugs fixed (the relevant NTM3/NTM3.1 reports were not handled properly).
- Route Analysis: Cell names do not appear in Data Selector and spider cursor is not correctly drawn although cell file contains CGI/Cell ID for all cells. – This was due to the cell file not indicating ARFCN/UARFCN for the cells concerned, which is required by the cell identification algorithm. The information that ARFCN/UARFCN is mandatory in cell files has been added in RA User's Manual appendix C.4.2/C.4.3. The description of the cell identification algorithm (RA User's Manual appendix E) is correct and has not been changed.
- Not possible to paint cells from different technologies in different colors in Data Collection Map window. – This was previously not supported for cell files in CEL format (only with XML cell files). Color-based **differentiation** of cells (GSM vs. WCDMA) is now supported for CEL files also.
- GSM scanning with Sony Ericsson K790i: More channels are scanned than the ones selected for scanning. – Bug fixed.
- Not possible to search for specific WCDMA System Information Message (e.g. SIB 7) in logfile. – Logfile search function corrected.

- When using the Bosch/Blaupunkt TravelPilot GPS, TI crashes after the following error message being displayed: "The application called an interface that was marshalled for a different thread". – Bug fixed in handling of reported GPS positions. Improvements made to communication between application and GPS.
- When scanning with a Sony Ericsson Z750i, TEMS Investigation 9.0 draws multiple bars for the same channel in the bar chart. Data is also duplicated in logfiles so that the error persists when doing replay and export. – Bug fixed in application.

Enhancements in release 9.0.1

Data Collection

- Support of PCTEL EX 6105, dual mode - triband 2100 band IV, GSM 850/1900
- Support of EX Spectrum Option
- Support of Nokia 6121 SW version NTM 38 v2.0 based on Nokia 6121 V 05.11
- Support of Nokia 6120 SW version NTM 36 v2.0 based on Nokia 6121 V 05.11
- Support of PCTEL Vista EX driver 2.0.0.44
- Support of N95 NAM NTM 33 v 2.0
- Support of LG TU 550 Handset
- Support of Huawei E180
- Support of Motorola W385
- Support of Option Globetrotter Express HSUPA EMEA (GE0421)
- Support of Qualcomm TM6281 EU
- Support of Qualcomm TM6281 US
- Support of GPS units Globalsat BU-353
- Support of SEMC TM506
- Support of Option Globetrotter Express HSUPA World
- Support of Samsung SGH-T819
- External antenna solution can now be offered for new or existing Sony Ericsson Z750i terminals.
  - FAB 801 8764 External antenna for Z750, New,
  - FAB 801 8765 External antenna for Z750, Retrofit

  Note: This is a hardware modification and will always require external antenna to be connected. Both packages will include the external antenna. For more information contact your closest TEMS Support office.

Known Bugs and Limitations

PC Application Related

General/Installation

- When running multiple installations (different versions) of TEMS Investigation on the same machine, each installation needs to be put in its own directory. If the installation program

encounters an existing installation, it will automatically suggest a different directory for the new installation. If you have mistakenly installed one product version on top of another, uninstall all applications and then reinstall each application to a unique directory.

- The application start-up time may be prolonged if slow network shares are mounted on the machine.

General/Vista (Data Collection)

- Aero Glass should be turned off for performance reasons.
- User Access Control needs to be turned off to allow IP trace. It may also need to be disabled for other reasons depending on its configuration.
- Error dialog about writing in Windows registry appears when starting GeoSet Manager; .gst files can however still be created.
- Synchronization of mobile devices needs to be turned off. This can be done either in the Windows Mobile Device Center (Control Panel) > Connections, where you need to disable ”Allow USB Connections”, or in Windows Media Player > Options > Devices, where device synchronization must be disabled for all measurement devices.
- To avoid high CPU load/slow performance during multiple data sessions: Turn off IPv6 encapsulation in IPv4, that is, Windows ISATAP (Intra-Site Automatic Tunnel Addressing Protocol) for devices that will be used for measurement.

Data Collection

- User-created workspaces from previous versions of TEMS Investigation need to be recreated. New workspaces are supplied with the application.
- Problems may arise when TEMS Investigation is run on slow computers. Symptoms of these problems include repeated disconnects of connected handsets, long processing times, and high CPU load.
- On some older computers, problems with the serial port will cause "Resynch" reports to appear in the Mode Report message window. To resolve these problems, take the following steps: 1) Disable the computer's IR port. 2) Turn power management off. See the Getting Started Manual, chapter 3. 3) *(Dell computers only:)* From the Start menu, choose Programs > Dell Open Manage Client > Disable Dell Open Manage Client. 4) Reboot.
- Firewalls and other security products may prevent TEMS Investigation from running two or more data sessions at the same time.
- Standby/Hibernate mode should be disabled in the PC when running Data Collection.
- The number of equipment icons on the status bar (bottom right) may sometimes become inconsistent with the combo box on the main window toolbar (top left). This may occur after connecting and disconnecting devices a number of times.
- The GPS icon in the application status bar may sometimes turn red during data collection, although position reporting from the GPS device is satisfactory.
- Some GPS units may be erroneously identified as a "MS Serial Ballpoint". In Windows XP, perform the following steps: 1) With Administrator privileges on the PC, choose Start > Run > regedit. 2) Navigate to HKEY_LOCAL_MACHINE > System > Current Control Set > Services > sermouse. 3) Locate the entry "Start" and double-click on it. 4) Change the value Data from 3 to 4. This will prevent Windows from identifying the GPS device as a mouse. Note, however, that leaving the setting Data = 4 will prevent you from identifying new mouse devices until you change the value back to 3.
- During logfile recording as well as during logfile replay, temporary files are created by the application to enable the user to browse the history of the logfile. These files can become very large (3–4 times the logfile size), the exact size depending on the number of devices connected to the application at recording time. The temporary files are named according to the format “temsn” and created in the Windows temp directory (default: C:\path\tmp, where the path is defined by the environment variable TMP; in Windows XP, the TMP variable can be modified from the Control

Panel: System Properties > Advanced > Environment Variables). Make sure there is plenty of space on the disk where the temp directory resides. The temporary files are removed when you exit the application; however, if the application terminates abnormally, this might not happen. The files must then be removed manually.

- If recording is started and a logfile is then replayed multiple times (using rewind, step, etc.) the route will look very strange in Route Analysis with multiple “MS1” devices appearing.
- When you save a command sequence to an XML file, any user names and passwords (e.g. for FTP or HTTP servers) given in commands are saved with the file (encrypted). Note that another user who runs your command sequence will be accessing the server using the same user name and password.
- When running video telephony from a command sequence, the phone needs to be locked on WCDMA.
- Redial only works for calls made in a command sequence.
- When running multiple command sequences at the same time, you need to be aware of potential device usage conflicts. For example, assigning Dial to the MS and Hang Up to the DC device of the same phone may cause unwanted behavior.
- Command Sequence tool: It may happen that a phone proceeds from a PS session command (such as KPI FTP DL) to the next command assigned to it without being detached from the PS network. This may cause the latter command to fail (potentially introducing artifacts in KPI statistics). If this problem occurs, it can be prevented by inserting an explicit PS Detach command (or a Wait For Event command with event = PS Detach) after the PS session command. This is to ensure that the PS Detach completes before the phone proceeds with its next task.
- When using the serving cell indication in the Map window to show the strongest scanned CPICH, this works only for the 1st UMTS frequency (the one decoded into the information elements named “1st”).
- In the WCDMA Data Line Chart, changing to a different MS does not update the Legend pane (bottom left) in the line chart window.
- The Channel Verification tool causes the Sony Ericsson W600i phone to disconnect, and moreover it cannot be reconnected until the application has been restarted.
- The information element Coding Scheme DL is not updated correctly.
- The WCDMA RLC throughput trace reporting period is not exactly 1 second as specified. The reporting period varies according to phone load and is typically around 1050 ms during high speed WCDMA PS activity.
- When turning on all extended logs for Motorola and Qualcomm chipset based devices (without turning off something else), the load on TEMS Investigation may become excessive, and the application may freeze.
- Interpolation of GPS positions does not work with the PCTel SeeGull LX and EX scanner GPS.
- Negative frame numbers may occur occasionally when replaying or exporting older logfiles. These frame numbers should be regarded as invalid.
- Logfiles merged with uplink data files may contain internal reports with erroneous timestamps.
- The phone must be locked to GSM when performing GSM Channel Verification with a WCDMA capable phone. How to set this lock (on Radio Access Technology) is described in the Data Collection User’s Manual, chapter 13 (“Device Properties”).
- IP packet capture/analysis stops after less than a minute when using multiple CDMA phones.
- A separately powered USB 2.0 hub is strongly recommended for drive tests. That is, the USB hub should not be powered through the USB port alone. Depending on the type and number of devices connected, the hub may otherwise not be able to deliver sufficient power. It needs also to be stressed that an uninterrupted USB connection between PC and device is vital for successful recording of realtime measurement data.
- Autodetect of Ethernet devices will trigger any firewall.

- AutoPlay must be disabled in Windows Control Panel, for all devices that are to be used for measuring.
- It is not possible to open compressed logfiles from pocket 6.3 directly in 9.0.3.
  These logfiles must be manually uncompressed in order for TI 9.0.3 to recognize them.

Route Analysis

- Devices in logfiles from previous versions of TEMS Investigation GSM/TEMS Investigation WCDMA may not always be correctly identified. Older Samsung phones, for example, may appear as “Unknown CLSID Unsupported”.
- Loading old workspaces from previous versions of Route Analysis will crash the Route Analysis application. Only workspaces from this version will load.
- The legend in the Map window flickers when items are selected/deselected. Whenever a checkbox on the Legend tab is checked or unchecked, the contents of that window pane are redrawn.
- Changing the presentation in a slave map window sometimes adds an offset to the plot in the master window from which the slave was created. (An easy workaround is to close the slave, refresh the master, and open a new slave.)
- The spider cursor does not show at the outset in the Map window, nor does it appear when selecting objects directly on the map. However, when a sample is selected in a different presentation window (e.g. a line chart or a message window), the spider cursor does appear around the corresponding point of the route.
- Events in the MID/MIF files generated by the RAN Tuning tool may sometimes be associated with the wrong MS/DC device. For example, a RAS Dial event from DC1 may be given as originating from MS2 in the MID/MIF files (UE Event Plot).
- Care should be taken when comparing (for example) events in the RAN Tuning report with events shown during replay in Data Collection. RAN Tuning calculates event statistics only on complete calls and data sessions. Calls and data sessions that are set up before the logfile recording is started, or end after the logfile recording is stopped, are not used for calculating event statistics.
- The maximum database size in RAN Tuning is 2 GB.
- To avoid long processing times in RAN Tuning tool, the selected cell files/clusters should match as closely as possible the area where the selected logfiles were recorded.
- The route in the Map window is moved when opening a slave map.
- The Map window does not have any tooltips for its toolbar buttons.
- In the Map window, data is displayed differently depending on which of the plotted routes is stepped through.
- No default map is loaded in Route Analysis Map window.
- The replay function in Route Analysis often executes very slowly. Manually stepping through the route with the keyboard arrow keys can be faster.
- The cache in Route Analysis should be cleared when a new release is installed to avoid misleading results. How to do this is described in the Route Analysis User’s Manual, section 5.5 (“Clearing the Logfile Cache”).
- The spider cursor in the Route Analysis map does not show values for CDMA and EV-DO related data.
- Processing logfiles with Python scripts from the Converter tool does not work. A workaround is to run the scripts from the Windows Command Prompt.

Phone Related

Sony Ericsson K800/K790/Z750

- The driver software for the memory stick needs to be installed on the PC to avoid problems when connecting a phone that is turned off. If the K790/K800 has a memory stick, do as follows when first connecting the phone: Insert the USB cable. Wait for drivers to install. Unplug and insert again to make the memory stick driver install.
- When setting a RAT lock for a K800 phone, only the Apply and Cancel buttons should be used in the dialog (not the OK button).
- When locking the phone on a WCDMA cell, the signal strength measurements will become invalid for other cells.
- The Pocket functionality in the phone remains disabled after removing the USB cable connection to the PC.

Sony Ericsson K600/W600

- If CKPD is going to be used to execute video calls, it is necessary to disable the keylock first.

Qualcomm Chipset Based Phones and PC Cards

- An inter-RAT handover can be performed without any handover command from the network. In this case, no event is generated, and pre-handover IE values are not cleared in presentation windows. For example, WCDMA IEs in the Line Chart WCDMA window do not become invalid after handover to GSM, but freeze at their final values (flat lines drawn in chart).
- The hardware information and the number of UEs used are sometimes missing in the logfile information (accessed by clicking the Information [“i”] button on the Replay toolbar).
- AT commands in command sequences are not always executed.
- If video calls are iterated, a Wait command (at least 5 seconds) must be present after the End Call command. This is needed for the camera to initialize and for the phone to enter the correct state for the next video call.
- In Route Analysis, Samsung phones are detected as Qualcomm TM6200 phones.
- PS Attach/Detach does not work with some data cards. This will cause KPI sessions to fail. The procedure is handled correctly by (for example) Option Fusion and Globetrotter GT Max.
- Some Qualcomm chipset based commercial UEs may not have test reporting activated. The device may then be impossible to connect, or seem to be locked to GSM, and/or only deliver low-level reports. Please contact the UE vendor; Ericsson is not authorized to change this behavior.
- Kyocera SE44 needs to be enabled manually. Autodetect is unfortunately not possible for this device.
- Sierra Wireless 850/860/875 data cards cannot be autodetected; they must be manually added in the application.
- Some issues with poor uplink and downlink throughput using Sierra Wireless HSDPA cards are resolved with appropriate registry settings. The following settings are recommended when using these devices:

  Path in registry: HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters\

  Settings for Windows XP:

tcpwindowsize	65535
tcpwindowsizeglobal	0
tcpsack	1
tcpmaxdupacks	2
tcp1323opts	3
tcpmaxconretransmit	5

- Mobilink software in the Novatel Merlin X950D and in the MCD 950D PC card should be disabled and cannot be used when running TEMS Investigation.

- Care needs to be taken when using the NV interface to write to a Qualcomm chipset based device, since an inappropriate NV write may damage the device.
- The WCDMA AMR IEs are updated for both GSM and WCDMA when using Qualcomm chipset based devices.

Samsung T819/T639

- RLC DL throughput is not reported by the above phones.

Nokia N95/6120/6121

- When the Nokia 6121 switches from GSM to WCDMA, GSM values remain in TEMS Investigation presentation windows. These are old values and linger because Nokia NTM3 phones stop reporting on GSM after the switch.
- If you encounter problems connecting one of these phones in Data Collection, there is a need for a power reboot of the phone.
- When locking on band with Nokia N95, this action should be preceded by disabling band lock ("All bands supported" option). If you click OK between selections of different bands, the phone will lock on all bands that you have selected at some point.

Nokia 6280/6680

- The Nokia 6280 and 6680 phones cannot perform a dialup with the DC device immediately after a call has been performed with the MS device. If the phone is disconnected in between, the dialup will work.

Nokia 6125

- If the phone does not recognize the network or otherwise behaves strangely, a master reset of the phone may help:

  Menu > Settings
  Scroll down to Restore factory settings
  Enter security code 12345
  Then power cycle the phone.

Nokia 6086

- Too long SSID strings will be shown truncated (to 12 characters).

Motorola E1000/E1070/Razr V3xx

- EFEM (Enhanced Field Engineering Mode) needs to be disabled when running TEMS Investigation. To do this, push the middle menu button and then the left menu button, and set Availability of EFEM Screens to Off.
- GSM neighbors reported by the Motorola E1070 are not correctly sorted.
- The Lock to RAT feature in Motorola Razr V3xx NA (US) does not support the GSM 900/1800 bands.

LG U960

- It is not possible to run video telephony from a command sequence

AQM Modules

- If the USB connection is broken during AQM measurement, the PC application may need to be restarted to enable reconnect of phones.
- When running AQM measurements, it is recommended to use the Start Recording and Stop Recording commands in the command sequence to ensure that each logfile contains a full call sequence. Automatic swapping of logfiles is not recommended, as this can cause the merge mechanism to fail.
- PESQ calls may fail with error message “3 AQM Module errors”. This message is shown when the PC application has tried to contact the AQM module three times and failed on all occasions. This can be caused for example by the module being physically disconnected from the USB port or by the module not responding. The proper procedure when this happens is either to reset the AQM module using the reset button located on the back of the module, or to restart the module by disconnecting and connecting power. The AQM module then needs to be paired again with its phone. This is done from the Equipment Configuration window by right-clicking the phone, choosing Select AQM Module, and then choosing the correct module. – Failures of this kind are also recorded in the logfile in the form of error messages indicating that the connection to the AQM module has been lost. – If such failures occur frequently, this indicates a bad USB connection or power cable.

Scanner Related

DRT 4301

- The Logfile Information dialog does not indicate scanned channels or carriers for logfiles recorded with the DRT scanner.

PCTel SeeGull LX/EX

- If you do not disconnect the scanner properly from within TEMS Investigation, problems may arise when you try to connect it again. For example, if you remove the cable from the serial port without first disconnecting the scanner in the application, measurements will continue to run in the scanner, and when it is connected to the port again the connect might fail. There are two ways to solve the problem: either connect the scanner manually in TEMS Investigation, or turn the scanner off and on to make the connect function work again.
- In the event of an error report from the hardware during a measurement, all further measurements are suspended until the power to the scanner is manually recycled. There is no recovery from errors reported by hardware.
- In the CW scan, a –65 dBc spurious response exists +1.4 MHz from the unmodulated input signal.
- The Spectrum Analyzer can sometimes return spurious responses (–62 dBc) when a very strong input tone is present.

- When CPICH scanning multiple frequencies, the sample rate per frequency will be decreased compared to the single-frequency measurement. When scanning four frequencies, the sample rate is decreased to only one measurement per frequency over a two-second period, which means that it no longer makes any sense to choose the “Sub” data mode. It is then better to choose the “Full” data mode and also get the synchronization channel measurements.
- The PCTel scanners may sometimes report many scan drop messages. The scanner uses this message to tell the host how many scan data messages were dropped and not delivered through the data link. Automatic scan data is dropped when the scanner is scanning faster than the data can be delivered through the data link, causing the pipeline to overfill.

GPS Related

- While in dead reckoning mode, Garmin Street Pilot 2650 labels its calculated positions as invalid in the PC interface yet presents the positions on its display without any such indication. The positions calculated by dead reckoning are indeed mostly useful and enable TEMS Investigation to plot the route reasonably correctly when GPS coverage is temporarily lost. (To make use of the “invalid” positions you need to turn on an option in the GPS window properties (see the Data Collection User's Manual, section 20.1.)
- The events GPS Connected and GPS Disconnected are intended for drive testing and are generated only during recording. They do not appear during replay and post-processing.
- The positioning capabilities of the USB GPS (KRE 105 074) may not be adequate for all needs. See further "Product Specification USB GPS Receiver" (USB_specification100502.doc) available on the GPS CD.
- To connect the Nokia LD-3W Bluetooth GPS device first startup Data Collection. Then the GPS needs to be logically connected in Windows outside of the Data Collection application, otherwise it cannot be successfully connected in the Equipment Configuration tool.
- If the power is lost on a Bluetooth GPS device the GPS or PC application need to be restarted in order to re-connect.

Contact Information

For support in the use of TEMS Investigation, please contact TEMS according to the directions found at www.tems.com under the link “Contact TEMS”.

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