

## **Diamond Knowledge Base**

### **Centurion Version History 1.37**

<p>Build #0004 12/20/10</p>	<p>Complete update to support 60 Bins instead of 30 across the system (except Report generator). Now supports 120 Definitions for the Axle Class system. Complete update to support 64 Lanes instead of 32. Update to support Ball Hitch Detect functions on each vehicle, and enabled for each lane on a per-import basis. Also contains the foundation for the Special Vehicle Markers system to support future classifying enhancements on new generation counters. Also includes these changes: Added update of Release Date/Time when doing a counter firmware update to the Scanning box. Increased the size of the answer from 10,000 to 30,000 to allow for very large response file directories. Fixed problem not saving direct entry delay multipliers on setup screen. Updated bin table editor and report generator for V2 table support. Changed database as follows: Increased size of "_____ Class File Name" from 12 to 30 characters in both the Master tables and auto convert the base tables. Changed "TMG: Directions" and "TMG: Lanes" from 32 to 64 characters to accomodate new database capability. Increased max number of lanes in Stations to 64. LANESET: Changed Lane Number and Physical Lane Number to go up to 64. IMPORTS: Added Ball Hitch Detect (32 bit lane bit map). PER-VEHICLE: Increased Lane Number to 64, allowed class numbers to 60, added Special Vehicle Markers. CLASSIFICATION: Added "Bin Total 31-60" at end. VOLUME: Added "Lane 33-64" at end. Reset SVM to be before Other record. Fixed some bugs in conversion of database and added text noting to wait while database undergoes conversion. Added Volume Export for Titan II Study (to support up to 64 Lanes). Added combo-box for selecting type of per-vehicle export (Matching, Normal, Enhanced, With Bins, Enhanced+Bins, Loop Class). Added preferences option for splitting all ASCII and Binary exports into daily files. Greatly improved the Binary exporter to fully include all Loop Class values (including signatures) and to support full database exporting. System is now completely import, edit, export, reimport without any loss in the flow. Changed the import rules around the Default Bin Table so that DEFAULTX is used consistently whenever possible on imports, even if user sets the default to blank (now true even on Volume imports). Completed full support for 64 Lanes/60 Bins on Direct to Excel Export and also added BHD to Excel Export. Fixed issue saving file to Text using Unicode instead of ANSI text (improved look of Text Save function). Saved text now also looks improved with edited out MPH/FT/CM labels and the file is automatically opened in the editor at end. Fixed problems displaying Lane Grouping updates on user interface and also corrected display so that "GPS Baud" rate does not overlap the setting box on the Titan II link. Fixed messages that required a setting in the Length Class table when going into the Site Setup dialog. The COM port monitor now separately allows monitoring the detailed log file and the trace file. When enabling the log file, the system does show an hour glass (or spinning loop under Vista/Win 7) during writing out of this file to show it performing calculations when closing. Default for log file is off. Fixed issue with breaking up binned multi-day Binned and ASCII day files showing multiple error messag dialogs and blank files when a missing day was found in the set. Can now specify a minimum left scale value for the Loop Class Detail graph to help show scales better for vehicles; and clicking on the graph brings up the chart editor where multiple functions are available (print, save, export, etc.).</p>
<p>Build #0007 04/11/11</p>	<p>Corrected multiple issues with uploading Loop Class tables. Added extra 0x01 characters to Master/Slave switch and altered timing to improve switching performance. Completed the Reclassify Data function from the Per-Vehicle database editor. Completed the Loop Class Results Analysis Tool from the Per Vehicle database editor. Multiple changes, bug fixes, and improvements to the Loop Class table generator. Includes ability to make smaller tables, supports smart % matching system, and completes all aspects of table generation not already done.</p>

Build #0008 05/20/11	Added allowing changing the Master/Slave by clicking on the Serial ID value. Fixed not clearing LaneInfos when making Ohio Exports short count format. Added function for importer to auto move characters at end of Info Line 1 to Lane Info 1 and Lane Info 2 when import is coming from an Omega ('h' custom version). Added "Move Decimal on GPS Coords" function (on by default). This also fixes the incorrect formatting of the GPS value returned by the Omega and Titan II counters.
Build #0009 06/15/11	Added support for importing data that has Lane Grouping enabled inside of the counter. Fixed some issues with importing data for Ohio using the 'h' custom version. You can now disable scanning for Sprite traffic counters in the Preferences dialog box to speed up looking for other traffic counters.
Build #0010 10/26/11	Update to speed up Omega/Titan II downloading along with misc. other improvements as detailed below: Support for higher baud rates (to 921.6K) on serial devices which support it. Fixed several issues in the Set Hidden Options command (0.0 battery voltage, some other wrong conversions).
Build #0011 07/25/11	Changed the terminal window to auto scroll back to a lower baud if the port doesn't take the changed baud rate. Added "3K" as a block size option for Omega/Titan II downloading. Rewrote the XMODEM transfer protocol so that blocks to the Omega are requested immediately after the last block sent (no longer waits for a timer). This radically increases the speed of transfers.
Build #0012 07/26/11	Changed to gray out Titan II / Omega Buttons until link initial connection complete.
Build #0013 08/17/11	Added CTRL+ALT+U to resend USB EZOTG and CODELOAD to Omega and Titan II counters during link. Fixed some issues with the Omega/Titan II link: Wrong time on last study, wrong date on file folder, errors on panel view, multiple other communication issues. Updated Titan II communication to support same changes as Omega.
Build #0014 08/26/11	Added support for UAA counters V1.61 Firmware Update feature. Sped up the Omega/Titan II Firmware Upload function. Eliminated the Auto-resending of EZOTG/Code Loader. Sped up some Commands/Enquires for the Omega/Titan II.
Build #0015 08/29/11	Added support for code Load V1.11 output of last written address (xxxx>) value. Fixed potential problem where '!' are not triggering automatic resends for Omega/Titan II uploads.
Build #0016 09/02/11	Added a USB Delay Time value for customizing the Omega/Titan II links.
Build #0017 09/07/11	Now supports the V1.31 Omega/Titan II code and the full CRC values of the Firmware Status function. Added a "Firmware Status" window which displays the complete state of the firmware inside the counter.
Build #0018 09/13/11	Fixed several issues with Omega/Titan II firmware uploading protocol. Added method for handling recovery from a lost link during the Omega/Titan II Firmware Upload.

Build #0020 10/17/11	Fixed a problem with skipping a block in the Firmware upload of the Omega/Titan II. Added auto-detection of the WM_DEVICECHANGE message to the MainForm message handler. This function then auto-triggers the scanning windows to rescan for USB devices, thereby eliminating the slowdown experienced when the function does this too fast. Fixed Issues with not making the Settings and Main Link screen clocks match on the Titan and Omega link screens. Added an "Ohio Site ID" setting to the Preferences which makes any Site ID on Omega/Titan II data files, counter screens, or when keying in for a new Start Collecting be zero filled to be at least 6 characters long. Fixed the Time Zone offset values to not have +13 and instead include the missing +4 value. Added support for the V1.32 Omega/Titan II setting for Auto Setting of Daylight Savings time. Fixed the width of the Upload [Type] [Ver] Display on the Uni-Lim, Apollo, and V2.80+ screens. Fixed problem handling Omega/Titan II 'h' version inputs which put the Lane codes into position 28-29 for only a single lane of data. Solved an issue with the Volume Import during Lane Overlap which caused missing Lane(s) on the first record only when Lane Shifting was enabled. Fixed a bug which caused firmware to not resize download file after download (timer multiply error). This caused junk to appear at the end of files from the Omega/Titan II. Changed so Omega/Titan II counters do not download ALL FILES as a single file but save them as multiple files. Fixed file naming scheme so that Standard File Naming now adds "_x.bin" to the end to not overwrite existing files.
Build #0021 10/26/11	Fixed incorrectly seeing two lanes of volume instead of one on RoadRunner CSV imports. Fixed not allowing setting temp offset in Omega's.
Build #0023 12/08/11	Added support for clearing the Retrieved File marker on V4.16-4.49 and 4.56+ UPP5 counters. This is a new command option in the Retrieved/Delete files screen. Added support for "Live" Time Adjust with the same version of counters.
Build #0024 12/22/11	Added CTRL+ALT+F to Terminal Window to access UPP upload function. Fixed a problem reading out the directional info line on V4.04 and higher firmware.
Build #0025 02/27/12	Stopped filling the Last Closed with junk when no Last Closed value known (now puts in ??:?:??). Fixed problem with not linking to UPP5 counters when they are set to 9600 baud (as with 'p' version) and a direct link is being made. Fixed bug with Ctrl+Alt+F in the Terminal Window causing interference with the main link window. Made the following changes to the Parking Lot System: Decreased depth of lit color. Added MAC or COM as an option for each sign and counter. Changed the Link Establish function to auto determine method of connection and then use that method. Added Sign Address (1-254) to handle different signs on the same COM link. Updated the Titan II link to match functionality in the Omega link.
Build #0026 03/21/12	Changed the Set Counter Time box to use 24 Hour clockformat. Changed the importer as follows: Skip binaries if the "Type of Counter" is unknown. Added a DataEndTime/Date check to correctly set the imports record to match the intervals on Binned & Count. Added an Excel export option to put "Imports" on a new tab instead of on the Stations page. Added a Text output option for the Polling Log (which stops writing to the database version).
Build #0027 04/16/12	Fixed problem with reading in new bin table from counter and then writing it to disk. Changed the layout of the Excel Exports when the "Imports is on a new tab so that specific lanes are always placed in a fixed location (includes blank lane lines).

Build #0028 07/12/12	Update to complete Loop Class Table Generator with better memory management and new 16-Bit features. Also to address these issues: Fixed problem with reading in new bin table from counter and then writing it to disk. Changed the layout of the Excel Exports so "Imports" are on a new tab and lanes are fixed. Fixed bug in not deleting the correct file when you select individual or range of files and there is 1 or more MMC or TAM files in the counter. Fixed bug in SiteLeapYearFix which did not update the database name of Mlaneset and therefore accidentally created a CenturionCC alias when none was needed. Made multiple improvements to progress bar updating during database functions. External file editor used to view Loop Class files > 50MB. Added the unlicensed information to the end of the YOURREG.TXT file. Fixed issue with "Index Out Of Bounds" error during some old database updates. Added a "Link To Site With Terminal" function to direct dial directory.
Build #0029 07/25/12	Added "manifest" files into the installer. These are installed only on Vista and above systems. Fixed problem that kept Field from Calling with Terminal window. Added support for new Piezo V4 V1.20+ functions for "BaselineReset" and "NegativeFilter". These are available only with UPP5 V4.21-4.49 and V4.61+. Increased width of Piezo settings on Monitor Count. Added a "Filter 2/3" on Monitor Lanes. Added a "Mute" on test Sensors.
Build #0030 07/26/12	Supports new V4 Piezo Board with V1.20 or later firmware Negative Filter and Baseline Reset functions. Also makes multiple other changes and improvements as follows: Added a Pause button to the Monitor Lanes screen and also a Filter 2-3 checkbox. Fixed problem in Field that kept the Terminal window from opening correctly. Put in a "Mute" button in the Test Sensors screen. Changed the WinXP install to use path specific device driver files (Win7/Vista files are unchanged). Added the "Manifest" files to the installer (Win7/Vista only). Also changed the way the system deletes old "uninstall" shortcuts.
Build #0031 09/12/12	Fixed issues with registration CSD line (garbage). Fixed location of Serial # on main link screen. Changed so that V4.23 is also recognized as supporting ACS Vehicle output. Noted WIM REV E code also supports the Negative Filter and the Baseline Reset.
Build #0032 11/26/12	Increased length of time C is given to accommodate Loop Class initialization. Added a Warning window when Piezo V4 board reports an invalid Version (hardware or firmware). Added support for new "Auto" Daylight Savings adjust in V4.28-4.49 and V4.68+. Fixed a problem causing "At end of Table" errors when importing certain data that had previously been 'binary' exported from Centurion. Changed the WADOT Trips Format to auto-switch to using Length Bins if the Classification dropped the Axle Class in the middle of an export. Fixed a problem in not displaying the correct end date on exporting data in certain cases.
Build #0033 12/11/12	New Export Forced Interval function to allow users to choose the record interval for all export formats in addition to these changes: Adjusted some elements of the Loop Class interface. Changed the WADOT Trips export to auto-switch to use Length bins if data collection mode changes in the middle of the month. Adds support for the new Auto Daylight Savings adjust in V4.28-4.49 and V4.68+. Minor corrections to handling database end dates/times and single import datasets. Fixed "0" showing up in Weekly Site Summary on the totals page (when user collects non-directional two lane data). Updated to the new V3 eDocEngine system which improves the look and layout of PDF, RTF, Excel, and other "Save As..." formats on reports. In particular, the Excel save now lines up columns more consistently across pages and matches the report better as well. Changed the unlicensed function to include Drive ID and other info in coding. Added "Ohio TMG (L/3)" and "Ohio TMG (D/3)" to the Auto Export selection box. Modified the Bin Table version number edit to work more smoothly (changed components). Added an "Export Errors" dialog box which lists all export errors just like the Import Errors box does. This new dialog takes the place of individually showing errors whenever auto-exports are enabled as part of the auto-polling system (fixing an Ohio reported issue).

Build #0034 12/31/12	Added support for the new "System Status" info as part of the environmental storage record. Made the "Firmware Upload" function to the V2.80+ UPP5 counters remember the serial number in the counter and then resend it when next link. Made it harder to exit the Firmware Upload function once it has started (to eliminate bad switches to LinkMode 20). Changed the Spin Edits on the Bin Table Editor to TAdvSpinEdit (looks more like an editor box).
Build #0035 01/31/13	Increased the wait delay time for erasing Flassh Tables from 20 seconds to 5 minutes. Sped up the interval timer on the upload loop class record to make the system operate faster. Added recognition of the "OUTOFMEM" variable returned when a file closes due to lack of memory (V4.30/V4.70, 1/14/13 or later). Added support for changing the Loop Class Tables Priority and Matching Site ID values. This includes support for V4.70 release 1/20/13 which includes IF8 and SF8 changes. Warning window pops up with UPP5 versions 4.06-4.29 to update to 4.30. Similar window appears to update 4.50-4.69 to new version 4.70
Build #0036 02/28/13	Version Numbers in the Update Firmware dialog box were being reported in the wrong locations. Fixed issue with not creating the WADOT format correctly (adding Length & Axle in same record and not switching to Length on record if it starts at the beginning of the day). Changed the word "Armed" to "Standby" on the Centurion TT-6/8 Bluetooth screen. Fixed an "Access Violation" error on the Basic Classification Report (huge speed bin ranges).
Build #0037 03/14/13	Fixed problem with saying wrong version numbers on the update screen AND changed it to values to 4.31/4.71. Added the Michigan output format from TrafMan.
Build #0038 03/25/13	Mad sure setting old style piezo boards you cannot set the % value < 0 or above 100 (it now auto-ranges the number). Fixed not letting the priority be set on Loop Class tables for Boards #2 - #4. Added option "On hangup, delay to allow port to recover" for putting a 3 second pause after polling (either auto or manual) between sites.
Build #0039 04/01/13	Fixed a problem with getting IFA command on older MDK and non-MDK boards without the DS2438 chip (missing ending bytes).
Build #0040 04/23/13	Added a single file name for the Michigan Export Format.
Build #0041 05/09/13	Fixed issue with "Force Interval" and Michigan Exporting.

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