

**Diamond Knowledge Base**

**Centurion Version History 1.42**

<p>Build #0001 03/07/16</p>	<p>Added support for Bluetooth database in addition to multiple changes to the Omega X3 interface including more integrated Bicycle data. First release for HLE with Bluetooth database support. Fully added "Bicycle" bin table type. Multiple changes to Binary file format to support Bicycle data collection in the binned data storage. New database type "Bicycle" (like Axle, Speed, Length, etc) which is processed in the same way. Changed the Data Wizard "PerVehicle" Report to switch to showing Bicycles/Vehicles (instead of Cars/Trucks) when Bicycle data is present. Modified the Data Wizard "Classification" Report to have a new section for Bicycle binned data. Fixed "Site Copy" to include everything in the Station, Lanes, and Imports databases (was missing some values). Added Bicycles to the DBView Report. Added the following to the Report Excel Generator: Support for Classification Data Dump Report Support for Classification Summary Report Updated the PerVehicle Summary Report to show Bicycles Added "Bike" to the PerVehicle Dump Added the following to the Report Generator: New "Bicycle Classes" option to Class Data Dump and Basic Class Report Added support for Bicycle class data to Class Data Dump Added support for Bicycle class data to Class Summary Report Added support for Bicycle class data to Basic Class Report Changed background color for bicycles on PerVehicle Data Dump Fixed bug with Lane Label position when switching from Together/Separate. Changed color of Bicycle data in the database editor to be green when showing bike data (either PerVehicle or Class tab). Fixed issues exporting Bicycle data (no SVM, import problems) Fixed issue when exporting to "New ASCII" format not clearing out the upper bin values to 0xFFFF. Updated the CSV formats to support PerVehicle "Bike" record and the Classification "Bicycle" type class. Fixed Direct to Excel not always putting the number in front of the datatype. Fixed bug not opening some Axle Class Tables (problem related to the addition of Austroads classifying) Changes for Omega X3: Added support for A/D Input Signature in files. Multiple changes to the OX3 interface for bicycle detection. Changed colors for any vehicle and/or axle that is a bicycle during monitoring. TSProcess extensively changed to handle distinction between bike and vehicle axles. Can import Bike Only, Vehicle Only, Bike and Vehicle in to two separate sites, or Bike and Vehicle combined into a single site. TSProcess implemented a "min Axle Spacing" value for both Vehicles and Bicycles. Added viewing the signal capture graphs (both in Start Collecting menu and While collection is active) Changed colors so that: Vehicles are White on black Bicycles are White on Green Bluetooth are White on Blue Changed the calculation for vehicles that are "bikes" to be any vehicle with a Bike Axle Count &gt;= Axle Count. Added the "Ask Bluetooth Scanning" questions. Added setting the Axle Collection Mode and USB/BT/GPS options to the MO command. Added a text file capture (Start &amp; Stop) to the popup menu of the Telemetry Terminal Mode. Added new "Bicycle" tab to the Preferences dialog box. This new tab contains options for handling the import of bicycle data. Fixed problem handling some Omega import data with a second's value of "60". Fixed moving GPS Lon/Lat over from some kinds of Omega Import files. Added setting the Number Format in the counter for the RR3 and the Omega X3. Fixed bug not allowing saving of Axle Class tables and then being able to reload them.</p>
<p>Build #0002 03/15/16</p>	<p>Added "Has Bike" to the individual imports. Added TSProcess ability to parse out and create a new binary file (for importing or viewing) that contains just the Bluetooth data from a file. Modified the database to support type "8" data (Bluetooth only), plus the ability to add Bluetooth to all other types (Datatype bit 8 set). Added "Bluetooth Data" directory option to the File Directories preference dialog box. Updated the following functions to support Bluetooth dataset: Site Copy Dialog Site Delete Dialog Added new Bluetooth data editor window. Added new Bluetooth Export function with following formats: New ASCII Format Binary Format CSV Format Direct to Excel Fixed "Site Delete Import" when deleting data from Bluetooth file. Added Bluetooth data display during the Omega X3 Start Collecting Process. Fixed some issues not displaying Bluetooth during normal link. Moved Bluetooth addresses to separate tab during Omega X3 Monitor Traffic. Fixed Bug not seeing Bluetooth values in Start Collecting window. Multiple changes to handle mixed sites (with both Bluetooth and regular PerVehicle/Classification/Volume data).</p>

Build #0003 03/16/16	Fixed creating initial Per-Vehicle directories for database. Fixed bug on selecting the Per-Vehicle database from DBView.
Build #0004 03/18/16	Added Report Generation for Bluetooth data: Bluetooth Data Dump Added Report Export Generation for Bluetooth data: Bluetooth Data Dump Added some summary info (total of each type) to the bottom of the Bluetooth Data Dump Report Export to Excel. Fixed a bug in not importing stored GPS Addresses. Added new Flag Field type 0x06 (GPS Location in standard file type). When this flag is found in the import file, it auto-sets the station to this location. Fixed but with New Reports not displaying correctly when Bluetooth data is brought into the database.
Build #0005 04/06/16	Added "Bluetooth Travel Time 1 Report" which analyzes up to 100 different sites and creates a report on it. Added new suite of counter connection to "TT-200-DL" devices (which is a Data logger attached to a TT-200 Loop Detector). Fixed a bug in 7-character response from the IFA command with v3.10 counters (has an extra '0' at the end). Added new functionality to TSProcess for handling Loop-Loop configurations (from TT-200 counters, or any data with sensor mode 4 for Pres (OC-Pres) style of input). Changed PerVehicle reports to use the following for Pres-Pres axle class: <ul style="list-style-type: none"> <li>&lt; 20' long – Class #2</li> <li>&lt; 50' long – Class #4</li> <li>All others – Class #9</li> </ul>
Build #0006 04/12/16	Changed to support Omega X3 V1.11 firmware and always using the A/D system to process road tube axle strikes (AxleCollectMode=0 is for O.C. Input). Changed the sampling rate to 1140hz for Omega X3 (now shows 0.88ms per sample on all charts).
Build #0007 05/07/16	Increased the number of COM ports you can select in the Terminal Window. Added a "COM Ports (found)" bar to the Open Terminal window. This is linked to the "COM Ports (all)" bar so that users can select from either list box and have the Telemetry Window open to that port. Modified all COM port selection bars that list found ports to now include the full name of the COM Port (instead of just the Com Number). Increased Comport Selection boxes, now shows upto 255 COM Ports. Changed CC & Parks to include the Telemetry->Open Terminal Window option. Added a "Port Assign" page to the Preferences->Communication Option page which allows setting up ports as fixed for all identical devices. Fixed allowing right click on Piezo/Tube images showing the option for Signal Capture when it wasn't actually enabled (PopupMenu=NULL) Modified TSProcess to correctly identify "O.C. Input Data" from Omega X3 counters when Axle Collection type = 0 and firmware >= 1.11 Added some analysis to Bluetooth Travel Time 1 Report. Parking System Changes: Added ability to select SOIP for all counter connections (and added a new SOIP Address box for entering the IP address @ port). Added new "Type of Device" selection for counters which includes: <ul style="list-style-type: none"> <li>- Diamond (UPP)</li> <li>- ROSIM (WAP-348x) System now opens unique COM and Winsock port for each device that has a unique address (not MAC addressable devices from common port). Increased selectable "Outflow Lanes" from 1-8 to 1-16. Added parsing for WAP-348X data flow.</li> </ul>
Build #0008 05/15/16	Fixed some bugs in linking to counters in the new Parking Lot monitor system when connecting by SOIP or by COM port. Completely changed the "Link" and the "Poll" function of the Parking Lot Monitor. They now work with direct COM, SOIP, and they also bypass the older Centurion functions and use the telemetry functions instead. Fixed not showing error in Parking Lot when no connection is made. Added support for SDR Per-Vehicle input format (this is different from the previous 'Radar' format).

Build #0009 05/16/16	Added a couple more format options for the SDR data file. Added "Ignore Bike Indicator:" to TSProcess. Fixed corrupted error from Omega X3 file (wasn't handling the flag field 0x06 properly during import). Fixed multiple issues with the Last Study that occurred when collecting volume only data. Now auto-calculates totals and ADT for Volume only data from Last Study (previously only showed for PerVehicle collection).
Build #0010 05/19/16	Modified the Omega X3 link to go back to using the standard Airswitch circuit (now called Normal / O.C. Input). Changed Free version to allow communication with TT-200-DL Changed Free version to allow processing of TT-200-DL data files.
Build #0011 05/24/16	Changed so that V1.15 Omega X3's labels it as "Hide Asking Axle Collection Mode" for the bit.1 setting.
Build #0012 05/24/16	Added a "Length" bin export format for PRN files. Got rid of the extra blank page on Basic Value Report - 15 min. Changed ADT calculation on Volume Summary to match other reports. Fixed bug when reading out Axle, Speed and Length bin table definitions for counters with V4.76 (or higher). Eliminated changing Centurion baud rates inside of CounterLink10 (it is unnecessary and screws up a direct RS232 port link). Fixed clearing upper bits of Advanced Settings on Omega X3 link. Added support for Omega X3 V1.20 changes: New "Cell Modem/RS232 Baud Rate" setting. Added command line option to run TSProcess and then exit. This is done by using TSPROCESS on the command line followed by the input file(s) and then the output path. Also added new "TSProcess Export" directory which defines the default output directory for TSProcess when run from the command line or when run from the File -> Process Timestamp To Output File Only command. Added auto-display of the Data File Wizard for Omega X3 imports (can be enabled/disabled in General Preferences > Import [TAB]). Added new 'Simple type interface for the Omega X3 traffic counter. Added window asking users if they want to use the 'simple' or 'advanced' link screen for the Omega X3
Build #0015 07/27/16	(Added new "Data Integrity") check function. To start, it works only with newly downloaded data files (or existing files on the computer: Settings controlled from a new Preferences -> Data Integrity Checking dialog box Has a "Run Check Now" button to check any existing data file. Supports finding periods with Zero Count and finding SnMis counts that exceed a fixed percentage of the total, or SnMis count that exceeds fixed amount in a lane over a specified period. When Data Integrity violations occur, a pop-up window appears with functions to print, edit, and save the lists. Save format is Word compatible. Multiple changes to support the new Omega X3 V1.30 firmware including changes to support the new Cascade-IoT modem installation: Added new Modem Parameters setup screen. Multiple checks on the Diamond Account #, IP Address, all Firewall values to make sure they are valid before proceeding. File directory now shows separate column next to the "Retrieved" column that indicates files that have been sent to the "DDS" (Diamond Data Server). This is shown only when the Cascade-IoT modem is installed. Added "File Create" option box to the Settings panel (Manual or Daily). Added ability to call up Omega X3 traffic counters from the Direct Call Directory or the Centurion Map (to amek SolP links to the Omega X3). Added support for new firmware V1.30 "Enhanced" axle collection mode. This does A/D style input but stores just like "Normal" mode. Fixed bug showing the secondary voltage level. Fixed tab order on TSProcess and fixed bug which caused infinite loop when selecting an end time of "23:59:59" and an end date that is less than the actual end of the data.
Build #0016 08/28/16	Added ability to mark "Enhanced" mode data from Omega X3 as all bicycles. Added a simple Hex Editor to program, accessible from File->Hex Editor Fixed bug in not allowing update of custom ILoopxxxa.bin firmware (where 'a' is the custom letter). Changed the I-Loop Firmware upload function to handle Loop Boards that are still in Vehicle Output mode. Fixed double buffering problem with CounterLink3 causing sensors to not display correctly in "Test Sensors".

Build #0017 11/15/16	Added "Diamond Data Server" button and dialog box of settings for controlling the Omega X3 Cascade-IoT modem connection. Fixed bug with "Capture" mode not working right when linking through Winsock connection. Disabled the search for Excel (Program now thinks Excel is installed always and leaves it up to the Windows API to handle opening files in this format). Added new feature to set which class types to export during any Classification export.
Build #0018 12/05/16	Fixed "LoopLabel4" from being hidden behind loop image (making it impossible to click the image and set loop values). Changed the position of all Start Collecting Next/Previous buttons to be manually set locations (not relying on Windows to positioning for different window sizes).

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