Centurion Software Change Log:

Build #0010 07/26/18	 □ Added a new "Rebuild Database" function that completely reimports the data for a site from the 'source' files. □ Completed the STABLE/PERFORMANCE mode as follows: + DER/DRR = 4/4 (or higher) + BFilter = 1 (or higher) + Default to LPS=0.16% sensitivity + Spread of at least two levels on caps. □ Added new "Three Lane Subtract" and "Four Lane Subtract" to the TSProcess system. □ Added ability to export the GPS Latitude/Longitude to one of a variety of formats specified in Preferences->General->Export.
Build #0009 07/15/18	 □ Fixed problem showing graphs on the Volume Summary Report when graphs disabled. □ Changed to make sure cap values in "Stable" mode are separated by at least two levels. □ Added setting the "Enviro Storage" mode on the Omega X3 and Omega-G (Setting screen). This works with V1.47/V1.10 and higher. □ Also added reading/writing the "Weather" value from Omega X3 V1.47 and Omega-G V1.10 and higher ("SA" and "GS" functions). □ Changed the timestamp 0xF2 format to support the new OX3/OAG version. This includes temp to the tenth of a degree C and a Primary/Secondary battery voltage to the hundredth of a volt. □ Added support for the 0xF2 record from standard data (both reading/ writing). This changes the Binary and ASCII formats as well. □ Added the Enviro data to the "Memo" line of imports when present.
Build #0008 07/10/18	 □ Changed to allow blank Diamond Account names. □ Fixed Site Copy not checking for NULL Bluetooth names. □ Added ability to include GPS data in the Export Data output. □ Added showing extended site info in the Export NEW Ascii format. □ Added support for UPP V5.20 (or higher) firmware and handling the new Performance/Stable modes when combined with loop board firmware V2.00 (or higher). □ Fixed occasional non-updating loop sensor on Monitor Sensors screen. □ Added Ctrl+Alt+M to set Modem Values without stopping collection. □ Added Loop Board serial port baud select to support 460800 & 921600 rates (for loop board hardware V2.00). □ Major change to the DDS User Interface to improve the way files are displayed (especially when there are many of them). □ Added ability to specify the FTP server and to modify the login name on the DDS Interval Data Monitor and the Parking Lot DDS system.
Build #0007 05/20/18	□ Added option to do web updating via HTTP (instead of FTP)
Build #0006 05/18/18	☐ Fixed not setting the data day and minute correctly on a file name when downloading from a remote site (through polling system).
Build #0005 05/17/18	 Changed to not give a "corrupt EOF" error at the end of importing files that have been downloaded from DDS. Major change to use the Indy 10 FTP access components (no longer uses the "Apro" component) for all DDS access. This greatly sped up the process and made it a lot more reliable. Added a count of the files to the DDS Files tab names. Fixed Access Violation bug at the end of downloading from a counter linked to by the parking system. Changed default PLSystem poll command from "R-1" to "R-2". Added an error message to the poll log when trying to manually download a specific file that does not exist on the counter. Trims off extra file data from block retrieve command. Fixed bug with Block Retrieving files under the polling system (was not correctly fixing them after the fact). Added sending a 0x18 when calling any SOIP sites to make sure it exits from any
	#0010 07/26/18 Build #0009 07/15/18 Build #0008 07/10/18 Build #0006 05/18/18 Build #0006 05/18/18

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	Build #0004 05/09/18	"RING" retrieves! □ Fixed not showing Auto-Listen Mode on the Counter Setup Report. □ Fixed showing Listen Reset times on Counter Setup Report when auto-listen is disabled but listen reset times are enabled. □ Fixed showing "Attempt #x" on subsequent downloads after a successful download. □ Made sure if user clicks the Cancel button when doing a poll through the Parking Lot system it stops all polling. □ Changed the cancel polling button to eliminate access violation errors when multi-site polling enabled. □ Multi-site polling now waits with a modem connected site until it finishes before starting any additional sites. □ Fixed the "Poll When Possible" option to only poll connections once per 24 hours. □ Added "Vehicle Length >" and "Vehicle Length <" trip options for UPP V5.10 and higher. □ Included the "Interval Start" incident detection (already supported in the firmware). □ Changed the "Pulse OC Action" value to be in hundredths of a second. □ Added an "IR Camera" TSProcess function to handle data from Omega X3 V2.00 that has IR Camera data file collection. □ Fixed hiding the ADT Lane #1 on the 1 Lane Class TSProcess results when customer does not do directional. □ Added support for the "IR Camera" as a sensor type in all modes.
	Build #0003 05/03/18	 □ Fixed a bug in Parking Lot which caused "Access Violation" to appear when closing link to a SOIPO site after clicking the "Link" button. □ Added "-PLMONITOR" command line to monitor activity on Parking Lot system. Creates a file for each counter link and saves the send/receives to the counter into a file in the main program directory named "PLMONx.TXT". □ Changed to send a Ctrl+X before the 0x01+G+T on the parking lot monitor. This improves linking to sites that always have carrier active. □ Fixed bug with scanning for loop board #3 on Pegasus/Unicorn links.
	Build #0002 04/10/18	 □ Fixed bug when doing Card C export with Length bins if ALL the lanes are length bins. □ Added Multiple Simultaneous Polling ability (up to 20 sites at the same time). Enabled by new tab on File->Preferences->Communication named "Multi-Site Polling".
	Build #0001 04/01/18	Major change to support multiple remote counter connections at the same time. You can multi-counter link with the "Direct Call Directory" or through the map/polling link screen. Note that polling is still done one counter at a time. Other changes for build #0001: Added support for UPP V5.09 "Block Retrieve" file command. Changed the Geocounts output format to reduce the number of bins on the "TC" and "TS" line by one, and to remove the "other" bin value (the last value) on the "TL" line. Fixed bug displaying the "Last Called" value on the Map View. Added database backup/restore functionality. Changed so any DDS file processed stops after one file read.
	Build #0011 03/07/18	 Added a "Report Title Override" setting in the Organizational Preferences dialog that lets them put in their own title on all reports. Added a "Don't Use Solid Black Report Titles" checkbox. NOTE: This replaces the "Use Transparent" selection that used to exist on the General Preferences->Database tab. New internal function for linking to Hologram API called the Hologram Bridge.
1.45	Build #0010 02/26/18	 Fixed bug not setting the right lane spacing on a directional lane with TSProcess. Also fixed the Lane Info line. Added support for V2.00 TT-2/46/8-BT (can now set airswitch delay). Changed system for handling FTP directory downloads to work with any size returns. Added "Auto Create Archive sub-directories" option to the DDS system to handle moving files to the archive after a certain amount of time. Added a complete "Archive Sub-Directories" functionality which shows files from different years in the "DDS Files" function. Added new "Process" option to automatically scan, download, and import data from DDS when Centurion first starts (as well as from a user click), and added option to do "Process" at specific time automatically.

		D. Added new Deily, Menthely, and Veryly, Auto Discours wanted with meany items allowing
		Added new Daily, Monthly, and Yearly Auto Process reports with menu items allowing
		them to be accessed at any time.
-		 □ Added new Daily, Monthly, and Yearly CSV file exports user can open with Excel. □ Added support for Space Bridge connections using "SB:" prefix on numbers (along with
		Added support for Space Bridge connections using "SB:" prefix on numbers (along with new Spacebridge Configuration button on Direct Dial Directory and Telemetry Menu).
		Now supports V5.08 Unicorn/Phoenix/Pegasus Iris Modem values of:
	Build	Now supports v3.06 officorff/Ffloeffix/Fegasus Iris Fflodefff values of: Push Time
	#0009	o Reset Time 1 & 2
	02/03/18	o FTP Account, User Name, & Password (for custom server)
		o MEID (last read, IFC only)
		□ Supports custom server for the DDS Configuration and Show Files function.
		☐ Changed the Data Integrity Check to apply to newly created Timestamp processed files
		(if enabled).
		☐ Fixed not closing the TSProcess window if user selects a non-Timestamp file for
	Build	processing.
	#0008	Added the "24 Hour Study" and "48 Hour Study" buttons to the Timestamp processor.
	01/19/18	When clicked, it auto selects to the nearest 15 minute (or 1 hour if possible) data set in
		TSProcess for processing and importing.
		☐ Changed minimum value of Inactivity Timeout to a "0" for Iris Modem configuration.
		☐ Added support for V5.08 firmware Opto Relay Turn On/Off ability.
		☐ Added support for marking files as "Unsent to DDS" when connected to a Phoenix V5.08
		(or later) firmware.
	Build	☐ Added post-processing of MMC files from V5.08 devices (who can have 0xAA, 0xA8, or
	#0007	0x8A instead of just 0xAA)
	01/02/18	☐ Changed to allow blank and/or IP address of 0.0.0.0 which indicates IP address is not
		known or used with this configuration for the Phoenix and Omega X3 Iris Modem (this
-		allows modem to work with Hologram network).
		Added an "Always Delay on Counter Commands/Enquires" to the General Preferences
	Build	Counter tab (to improve communications to very slow devices).
	#0006	Parking Lot changes:Fixed bug not setting the "Original" baud rate when doing link through Parking
	12/27/17	Lot system.
		 Fixed Free Spaces going negative on display.
	Build	Added support for UPP V5.07 (supports modem baud of 115200).
	#0005	☐ Changed the way remote high speed downloading works (if specially enabled in
	12/15/17	preferences).
	•	☐ Fixed display of "30 days" on the licensing screens, including on the main splash screen.
		☐ Added code for supporting the "LIVEMONITOR" function of the Astral Controller and the
		Omega Passive IR (dual COM ports). This is accessed by opening a terminal window to
		the Passive IR, starting the monitor, and then right clicking and selecting "Process for
		Astral-Omega PIR Link"
	Build	Added ability to do high speed Phoenix downloads during a remote link. You must
	#0004	check the box "Allow High Speed Remote Downloads" on the General Pref Download
	12/14/17	tab for this to work.
		Changed the Parking Lot System as follows:
		Added a "Auto Expand Lots" option box to increase the height of the parking lot
		display to fit all devices.
		 Fixed some bugs regarding processing of values (causing errors to appear sometimes)
		☐ Changed all the "fopen"'s to "_fsopen" for better compatibility.
	Build	☐ Changed Firmware Update to make sure it can access the file before sending out any
	#0003	ERASE commands (all counter links).
	11/20/17	☐ Changed the "Web Software Update" feature to use the new www.detllc.com website.
	Build	Changed the licensing to allow for 90 days free (instead of 30). Also issues warning
	#0001	messages at 30, 45, and every day from 60 on. Notes the need of YOURREG.TXT to
	11/11/17	receive a valid license file.
1.44	Build	☐ Added support for UPP V5.05 firmware:
1.74	#0018	 New File Create options: 12 hour, 6 hour, 4 hour, 3 hour, 2 hour, 1 hour
	11/07/17	 Ability to set the Directional Timeout value.

			Added a header line on the .set files for Iris Modems (to handle missing the initial line
			sometimes) Fixed bug not recognizing extended lane info (0x1x modules) when the extended
	Build	_	Fixed bug not recognizing extended lane info (0x1x modules) when the extended header data was not also included.
	#0017		Added new "Omega X3 PIR" monitor screen to the Telemetry View (to live view the IR
	10/23/17		output from the OPI device)
			Added remembering the COM port and Baud rate for the Telemetry Terminal window.
			Fixed a bug in not displaying TT-200-DL data in the database viewer with "Free".
			Fixed two "Check & Repair" errors associated with Bluetooth database entries.
			Made the DDS Monitor use the MEID number when no station is set (this allows just
			setting the MEID without setting the Station on sites with firmware < V0.90).
	Build		Fixed bug setting Info Lines with Station values in DDS Import. Fixed bug in lane assignments with DDS Import.
	#0015		Added new "Change DDS Monitor File" menu item to allow selecting a different DDS
	09/15/17		control file and to allow multiple different setups on the same PC.
			Fixed multiple issues with the DDS Monitor handling numerous sites, especially when
			using it without controlling the interval.
			Fixed bug setting the Counter Type through TSProcess (for Omega & Omega-G
-			counters)
		_	Added support for Iris Modem Standalone firmware V0.90 (and higher) including: o Can now enter in both the output file name and the IMSI value per site.
			 Shows the current firmware version number.
	5 "1		 Supports using the "Settings" sub-directory.
	Build #0014		 Can set interval times for each site independently.
	#0014 09/09/17		 Can choose to change firmware versions for each site.
	05/05/17		Fixed not allowing a "Link & Download Normally" from the RR3, TT-200, and Omega X3
			traffic counters.
			Fixed new reports switching from regular data to Bluetooth. Fixed date in Bluetooth Travel time (was only showing first two digits of year)
-			Fixed a bug in processing Timestamp data with Bluetooth (was confusing it with
			Bluetooth only binary data file). Can now import both types at the same time.
			peak count.
	5 "1		Changed the DDS system to handle anything for an IMSI name (not just 10 digit
	Build #0012		numbers) Fixed bug in setting the position of the DDS Manitor window in some situations
	08/26/17		Fixed bug in setting the position of the DDS Monitor window in some situations. Added a new "DDS Map" function that allows the placement, view, and printing of a
	00/20/17	_	complete map of the DDS Sites.
			Added updating database with Lat/Lon from setting inside of DDS Monitor.
			Redid database google map to use the TMS Map component (dumped using GMap).
			Changed the "Rate" line to be the "Port" value when connecting by SOIP in the direct
-			call or the Polling system.
			Added option to include a "total" column on bin tables when opening a binary file to view in the text editor. Shows up as "[xxxxxxx]" at beginning of line.
	Build		Added new "High Counts" Data Integrity check option.
	#0011		Fixed a bug in processing Timestamp data with Bluetooth (was confusing it with
	07/28/17		Bluetooth only binary data file). Can now import both types at the same time.
			The state of the s
			peak count, and also added optional Standard Deviation adjustments to count set.
			Fixed bug catching Zero Counts and High SnMis counts with the Data Integrity check
			function and Raw (PerVehicle) Data. Added a version number, type of Centurion, and what checks were applied to the Data
		J	Integrity Check function (at end if any errors were found).
	Build		Added some color and font style changes to the Data Integrity list.
	#0009		Added check to see if Centurion is already running under a different user login (like the
	06/30/17		Auto-Polling system). If it is, a window appears asking what you want to do:
			- Run a second copy under current login.
			- Close other copy and just run it on current login.
			- Just exit and don't run Centurion.

		Fixed bug on main link screen downloading files without opening the counter connect window. This happens when the "When Linked" option is set to anything other than "Just go to Setup/Monitor".
		☐ Fixed several "exception" error messages when closing link to a traffic counter.
ŀ		☐ Fixed some field issues with both PLSytem and DDSMonitor and SQL output (would
		sometimes not update existing records).
		☐ Made sure multiple calls to DDS Monitor doesn't open the window more than one time.
		☐ Updated to LiteDAC (SQLite) V3.0.1.
		☐ Added "CMA File Processing" to the telemetry function (comma delimited output format
	Build	processing).
	#0007	Added setting B-Filter and all Loop ID Strings for V5.02 firmware (and higher) along
	06/08/17	with loop board firmware V1.75 (and higher). Can also set VOUT and VOUTBaudRate
		(or leave unset) for vehicle signature output on the loop serial port. ☐ Added "UPPHS" command line option to enable 115.2Kbps firmware updating (for V5.xx)
		and higher counters).
		□ Added current loop settings to UPP Setup Report.
		☐ Added "Reboot Counter" option on UPP Cold Restart screen for V5.02+ counters.
		☐ Added File->Preferences->General->PRN option to "Put '01' in PRN Export columns 1-2
		and 4-5 when no other value is specified" option. This changes the PRN exports to use
		"01" or "01 01" instead of "00" and "00 00" as previous versions have been doing.
		Added ability to set Omega X3, Omega-G, RR3 and TT-200 serial numbers from main
		link screen by double clicking on the "Serial #" value. Will only allow setting the last 5
		characters, and preserves the first 10 as they are set from the factory (with spaces
		added as needed between the first 10 and last 5). Fixed bug in "Simple" Omega X3 and Omega-G interfaces doing a firmware update
		(would lock at loading new program and not complete the update).
	Build	☐ Changed Data File Wizard Class Report to do a new page for Length data if Axle &
	#0006	Speed bins are both enabled.
	05/10/17	☐ Added option to File->Preferences->General->Export to "Export Binary with 'Extended'
		site info". This defaults to enabled, but can be turned off for customers like Kansas
		who need the export format to not use this format.
		Fixed bug that caused imports to stop when the data interval length is set to blank or zero on an existing database entry.
		□ Added new "DDS Interval Data Monitor" function from the DDS menu. This new
		function allows DDS Interval data to be collected outside of the Parking Lot Monitor:
		 Link to the DDS under user specified account.
		 Download Interval Data files at user specified intervals.
		 Process the data in real time into both Centurion and SQLite database formats.
	Build	Added reading/setting Incident detection options for UPP (V2.80 and higher). Link to
	#0005 04/30/17	the counter and then go to Set System Configuration->Incident Detection to configure the various options.
	UT/3U/17	☐ Added new "LCM" style SQL or Text database output of all Interval data collected by
	5	Parking System + Interval counters. New "LCM" button at bottom of DDS setup screen
	Build #0004	allows setup of this feature.
	#0004 04/22/17	☐ Fixed bug in creating LCM Database Directories (when they don't exist).
	07/22/17	Added ability to create SQL database that matches Centurion database when using LCM
		and Interval Data.
		☐ Changed so that new Time/Date records inside of OX3 & OAG files are not treated as fixed values. They are instead used as a reference only to indicate minute change so
	Build	that alterations to the clock from GPS does not change data flow.
	#0003	☐ Added new flag fields 0x07 and 0xFF05 which is GPS with Time/Date. This is to store
	04/12/17	new time/dates without affecting current time/date settings in the file (leave it up to
		Centurion to handle later on).
		Added ability to handle "Interval Data" posted from the Iris Modem
	Build	 Stand Alone product and collected from ROSIM devices. This includes:
	#0002	New "DDS" button on the Parking Lot Monitor New "DDS Setup" careen allowing configuration of DDS Sites (including MEID)
	04/06/17	 New "DDS Setup" screen allowing configuration of DDS Sites (including MEID, Description, In Lanes, Out Lanes, Time Zone).
		DDS Setup screen also allows user to enter:
<u> </u>		2 220 Comp Co.

		- Account - Remote Polling Interval
		- Password - Database Storage Interval
		Default Time Zone
		 Advanced processing of input data to correctly populate a database.
		First version with support for the Omega-G - both an Advanced and Simple interface. Link
		is similar to the Omega X3, except there is only two inputs and you cannot enable Bluetooth
		MAC Address scanning. It also contains these changes:
		☐ Fixed bug in TSProcess that allowed "Divide By Zero" in certain cases.
	Build	☐ Fixed not being able to "View Results" of TSProcess when doing Import data (instead of
	#0001	when manually processing).
	03/21/17	Added an automatic Lot Reset time (defaults to "Never") to reset the lot count
		automatically at a particular time of day. Changed the report generator so that as long as the user does not click the button to
		Changed the report generator so that as long as the user does not click the button to select specific lanes, the generator always reloads new selected lane defaults and
		date/time ranges between multiple reports.
		☐ Fixed bug handling Lat/Lon with starting zero.
	Build	☐ Fixed setting Sensor Spacing and Loop Length on Lanes 3 & 4 with TSProcess.
	#0007	☐ Added a "Size" column to the DDS view.
	03/09/17	☐ Added "Example Only" to display as background of DDS Files when no credentials have
		been specified.
		☐ Added support for Omega X3 Iris Modem SMS/Texting Options (to go along with Omega
		X3 firmware V1.36).
	Build	☐ Changed to use the word "texting" instead of SMS so commonly (Ryan's suggestion to
	#0006	make it easier to understand)
	03/08/17	Added support for 0xFF0x04 (Text/SMS Message) inclusion in file.
		Added warning message if texting is enabled without setting at least one phone number.
		☐ Fixed not handling the DDS stuff in the Omega X3 simple interface.
		Added selecting "/2" to the Omega X3 setup (simple and advanced screens)
		☐ Added 4 tubes with directional to the TSProcess display screen.
		☐ Fixed problem with Omega X3 retrieve Unretrieved when it is not the entire memory.
		☐ Tweaked some of the Omega X3 simple and advanced start collecting stuff:
		 Added the "Hide Asking Storage Mode and Lane Configuration on keypad during
	Build	Start Recording" option to the settings screen.
	#0005	On volume views, the timestamps show up individually and the total count
	02/09/17	correctly handles if "/2" is turned on.
1.43	- , ,	Completed implementation of Lane Subtract and Directional on the Total Count display devices records and Volume data.
		display during monitor mode and Volume data. o Fixed handling reversed lane overlap. Also updated display of sensor layouts in
		TSProcess to include channel labels.
		☐ Fixed bug displaying error when New Reports button is clicked (was not handling
		Bluetooth vs. Non-Bluetooth data displays).
		☐ Made DDS Files do 3 retries on all commands (including the login procedure).
		☐ Fixed not setting DDSFiles status labels to black on new function starts.
		☐ Added setting the various Omega X3 configurations from the Start Collecting menu (in
		the Advanced Link Screen).
	Build	□ Added support for V1.35 Omega X3 firmware that allows complete lane configuration
	#0003	setup to be sent at start of Monitor.
	02/01/17	TSProcess changes:Fixed problem not handling overlapping lanes in PerVehicle data.
		 Fixed problem not nariding overlapping laries in Fervenicle data. Fixed ordering of vehicles on PerVehicle output.
		 Fixed minimum speed to actually be 5mph (7.3ft/sec)
		V1.43 Adds support for V5.00 of the UPP code (with support for the Iris Modem and the
		Diamond Data Server). It also has these changes:
	Build	☐ Added support for 115.2kbps firmware upload to UPP V5.00 counters that are direct link
	#0002	connected.
	01/26/17	Fixed OX3 saying DDS transfer at midnight instead of 1am.
		Fixed some left over references to the "Cascade" modem (changed to "Iris" Modem).
		☐ Added support for direct link to the Diamond Data Server for customers to access their

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		uploaded data files: New "DDS" Main Menu item with "DDS Configuration" and "DDS Files" options. DDS Configuration allows programming the account number and password, and also allows the user to "Test" their configuration. DDS Files is much more comprehensive and will go out and load a complete list of files that can be easily downloaded into Centurion with a variety of options. Modified the GEOCOUNTS format to: Changed to use feet instead of inches on all US formats. Changed to use semicolons after each axle spacing on per-vehicle Added auto-conversion of North, South, etc to numbers on the "SC" record. Added new "SE" records for Station Equipment and Lane Configuration Added new "SL" records for describing the bin tables Added Bluetooth to the V; record output Made time three decimal points (Bluetooth and PerVehicle) Added a "SC 0" record for Bluetooth Changed MAC Address to "long long" value (instead of separate hex numbers). Changed Bluetooth "qc" tag to "rssi" tag. Changed Bluetooth "bttype" to a numeric 0-Standard, 1-LE Public, 2-LE Random Fixed having two underlines at end of file name. Tweaked the Volume/Binned formats to use non-zero for the period when interval is not 60 minutes. Added the Axle and Length class (TC and TL) lines with per-vehicle output.
		☐ Added a new "Bluetooth -> Volume" Import function from DBView window.
		☐ Changed the Export dialog to only list the formats available for the particular type of
		data (Binned, PerVehicle, Volume). Added new "TMG PerVehicle" export format.
		☐ Added a "Filter Command/Responses" from counters option.
	Build #0018 12/05/16	 Added new feature to set which class types to export during any Classification export. Added "Diamond Data Server" button and dialog box of settings for controlling the Omega X3 Iris Modem connection. Fixed bug with "Capture" mode not working when linking through Winsock connection. Disabled the search for Excel (program just assumes Excel is installed always and leaves it up to the Windows API to handle opening files in this format). Fixed "LoopLabel4" being hidden behind loop image (making it impossible to click the image and set loop values). Changed the position of all Start Collecting Next/Prev buttons to be manually set locations (not relying on Windows positioning for different window sizes).
1.42	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 Unicorn/Phoenix/Pegasus causing sensors to not display correctly in "Test Sensors".
	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 run against 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 new Omega X3 V1.30 firmware including changes to support the new Iris Modem installation:

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		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 Iris Modem installed.Added "File Create" option box to Settings panel (Manual or Daily).
		Added ability to call up Omega X3 traffic counters from the Direct Call Directory or
		the Centurion Map (to make SOIP links to 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 table and are a TCD assessment fixed by a 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.
		☐ Added a "Length" bin export format for PRN files.
		Got rid of the extra blank page on Basic Volume 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).
		☐ Fixed clearing upper bits of Advanced Settings on Omega X3 link.
		☐ Added support for Omega X3 V1.20 firmware changes:
	Duild	+ New "Cell Modem/RS232 Baud Rate" setting
	Build #0012	Added command line option to run TSProcess and then exit. This is done by using "TSPROCESS" on command line followed by the input file(s) and then the output path.
	06/08/16	See Chapter 13b of Centurion manual for more information.
		☐ 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 Pref->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
	Build	the Omega X3 (window only appears once).
	#0011	☐ Changed so that V1.15 Omega X3's label it as "Hide Asking Axle Collection Mode" for the bit .1 setting. Works with OX3 firmware V1.15.
	05/24/16	
		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" functions 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.
		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
	Build	'Radar' format). Supports all the different modes.
	#0010	☐ Added "Ignore Bike Indicator:" to TSProcess
	05/19/16	Fixed corrupted error from Omega X3 file (wasn't handling 0x06 import flag properly).
		Fixed multiple issues with Last Study that occurred when collecting volume only data. Now auto-calculates totals and ADT for Volume only data for Last Study (previously only
		showed for PerVehicle collection).
		☐ Modified the Omega X3 link to go back to using the standard Airswitch circuit (now
		called Normal / O.C. Input).
		 Changed so that Free version will process TT-200-DL input files. Made sure Free version doesn't import Peek, Geocount, TMG, or other kinds of files.
		☐ Increased the number of COM ports you can select in the Terminal Window (to a full
		COM1-COM255).
	Build	Added a "COM Ports (found)" bar to the Open Terminal window. This is linked to the
	#0007 05/07/16	"COM Ports (all)" bar so that user can select from either list box and have the Telemetry Window open to that port.
	03/0//10	Modified all COM port selection bars that list found ports to now include the full name of
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			Increased to full 255 ports all COM Port selection boxes.
			Changed CC & Parks to include the Telemetry->Open Terminal Window option.
			Added a "Port Assign" page to the Preferences->Communication option page that
			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 was not actually enabled in the counter.
			•
			Modified TSProcess to correctly identify "O.C. Input Data" from OmegaX3 counters
			when Axle Collection Type = 0 and firmware >= 1.11 (this is for counters with new
			O.C. Input port).
			Added some analysis to Bluetooth Travel Time 1 Report.
			Parking System Changes:
			 Completed support for the ROSIM WAP-348x device connected to multiple WVD
			devices for magnetometer based vehicle detection.
			 Added ability to select SOIP for all counter and sign connections (also added a new
			SOIP Address box for entering the IP address @ port).
			Added new "Type of Device" selection for counters which includes:
			+ Diamond (UPP)
			+ ROSIM (WAP-348x)
			Also have a "Type of Device" select for signs.
			 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 8 to 16
ŀ	D:L-J		Added parsing for WAP-348x data flow Changed to support Oreas V3.V1.11 firmways and always using the A/D system to
	Build		3
	#0006		process road tube axle strikes (AxleCollectMode=0 is now for O.C. Input).
	04/12/16		the state of the s
			Added "Bluetooth Travel Time 1 Report" which analyzes up to 100 different sites and
			creates a travel time report.
			Added new suite of counter connection options to "TT-200-DL" device (which is a RR3
			with "TT-200-DL" firmware attached to a TT-200 Loop Detector). This includes a new
	Build		'simple' style interface and adjustments to the advanced interface to handle Loop-Loop
	#0005		style inputs.
	#0003 04/06/16		Fixed handling 7 character response from IFA command with older V3.10 firmware UPP
	04/00/10		counters (has an extra '0' at the end for some reason).
			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:
			< 20' long - Class #2 < 50' long - Class #4 All others - Class #9
			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 following functions to support Bluetooth dataset:
		_	- Site Copy Dialog
			- Site Delete Dialog
	Build		Added new Bluetooth data editor window.
	#0004		Added new Bluetooth Export function with following formats:
	03/18/16		+ 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).
	☐ Fixed bug creating initial Per-Vehicle directories for database.
	☐ Fixed bug selecting Per-Vehicle database from DBView (was using '==' instead of '=').
	☐ Added Report Generation for Bluetooth data (new Bluetooth Data Dump Report)
	Added Report Export Generation for Bluetooth (exports Bluetooth Data Dump). Includes
	some simple total calculations at end of export.
	Fixed a bug in not importing stored GPS Addresses.
	found in the import file, it auto-sets the station to this location.
	Fixed bug with New Reports not displaying correctly when Bluetooth data is brought
	into the database.
	Completed support at the database level for Bicycle data. This is a major update that
	effected all reports, exports, editors, and other functions of the software. Some changes
	have also been made for Bluetooth data (but full support will be in V1.42 Build #0002).
	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 Class" option to Class Data Dump and Basic Class Report
	- Added support for Bicycle class data to Class Data Dump
ם:ום	- Added support for Bicycle class data to Class Summary Report
Build	- Added support for Bicycle Class data to Basic Class Report
#0001	- Changed background color for bicycles on PerVehicle Data Dump
03/07/16	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 table).
	Added Bicycle data (both PerVehicle and Classification) exporting to:
	- Binary - CSV - New ASCII
	Fixed issues exporting Bicycle data (no SVM, import problems)
	Fixed issue when exporting "New Ascii" format not clearing out upper bin values.
	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.
	☐ 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 into 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/Black
	- Bicycles are White/Green

		 Bluetooth are White/Blue Changed the calculation for vehicles that are "bikes" to be any vehicle with a Bike Axle Count >= Axle Count. Added the "Ask Bluetooth Scanning" question. Added setting Axle Collection Mode and USB/BT/GPS options to the MO command. Added text file capture (Start & Stop) popup option to 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 seconds 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.
1.41	Build #0018 02/09/16	Also fixed issue with not being able to load certain older tables. Fixed auto display of map view when system first starts (was not seeing a manually closed map view). Added ability to use TSProcess with Omega data files. Note that the Omega does not record the system setup (other than Volume vs PerVehicle), so the default values displayed are not always going to be correct. Added Preferences option to use TSProcess to handle Omega data files during a standard import. Fixed a bug that caused invalid time/date error to appear when exporting to the "New ASCII Format" and the date format set to "DD-MM-YY". Lined up the tops of the bin tables in the Bin Table Editor. Changed the bin table version numbers to be editable. Fixed not importing TSDP processed files that are Titan II as "Titan II". Fixed width of lane numbers on Data File Wizard Classification report so that lanes > 9 display correctly. Added a "Swap A/B" and "Swap C/D" check box to the TSProcess function to handle if the sensors have been reversed. Major changes to Omega X3 to support new Bicycle and Axle Detection functionality of V1.10 firmware: + New "Collection Options - Axle Collection Options - Axle Detection Options - Bicycle Detection Options Added ability to set the Font Name, Size, Color, and Background color on the DCD entries. Changed TMG 3/4/C export to use new File Naming convention of the 2013format if this is enabled and "Individual Files" is checked. Changed the TMG 3 format to include partial days (before and after) if doing 2013 format. Deleted left over Doing Length in Class C function which accidentally was set to use
	Build #0017 01/26/16	 Length bins instead of Class bins for TMG Card 4/C export. □ Added ability of Uni-Lim, Apollo, and CSprite imports to have their lanes auto-renumbered from 1/3 - 2/4 to 1/2 - 3/4 when directional is found and when "Auto renumber directional" is enabled in Preferences->Import. □ Added new dialog box which asks "Direction?" and choice between North/South and East/West when importing new site. If choose North/South, Info line 2 is auto-loaded with "20xxxxxx", East/West loaded with "13xxxxxxx". This option is enabled in Preferences->Import Options □ Fixed bug that caused the Data File Wizard to not always appear when first opening a new report (especially from Volume data side). This also showed up as the Start Date being "2222". □ Cleaned up some possible cases where Divide By Zero could occur on PerVehicleFlowReport and PerVehicleSummaryReport.
	Build #0016 01/19/16	 □ Fixed spelling on Checksum on Communication setup. □ Changed to not allow changing "Do High Speed Downloading" to affect the current download.

	☐ Also modified the Live Counter Monitor function to set the DoingRemote value to
	prevent high speed downloading during a link.
	☐ Added reporting the MAC Address to the registration file.
	Added a "Delay between Links" value to the Parking Lot monitor. Turning this on greatly
	slows down the scanning process. Note than when system is delaying, a little clock icon appears on the top of the monitor window.
	Added new "In Count/Out Count" as a pop-up to the parking lot monitor system. Also
	has a "Reset" function. These are accessed by right clicking the Lot Capacity, Spaces
	Used, or Free spaces values.
	☐ Added "SL" output record to Geocount format (SiteID and Lane Info lines).
	Fixed tab order on UPP Battery screen.
D :11	Fixed problem not allowing you to re-click on the Report Preview and then be able to
Build #0015	scroll up/down with the mouse. Added the MMC/SD card size to the UPP Counter Setup Report.
01/08/16	Changed the "Yearly Site Summary" to auto-sync to the first or last year of data if the
01/00/10	selected year is outside the data range for a site.
	Fixed Divide by Zero error on "Yearly Site Summary" with any report that has no count
	in it.
Build	☐ Changed the "FactoryFunction" to Ctrl+Alt+A to keep it from interfering with Ctrl+Alt+F
#0014	for Firmware Update.
01/03/16	Added ability of UPP V4.92 with Piezo Firmware V1.50 (for hardware V4.00 & V4.01)
	and V2.50 (for hardware V4.10) to do signal capture display during "Test Sensors". Updated the TGMMap (Google Maps Library: http://sourceforge.net/projects/qmlibrary/)
Build	to the latest version which fixed issues with scrolling and moving location.
#0013	Changed the wait time on file directory retrieves to auto-extend the time with each new
12/30/15	character.
Build	☐ Added "UN_Weather" as a field in the GEOCOUNTS Export Format
#0012	Added Tailgating Detect to the TSProcess function.
12/20/15	Fixed bug in TSProcess which does not move the start time of data when "Only use" is modified but Adjust Start time to is not.
	Fixed "script error" on the Google Maps GPS Editor
D:I.d	Added check for RR3 issue with daylight savings fall-back and getting stuck in a
Build #0011	continous loop on 11/01/15.
12/08/15	☐ Modified the export function to always use "59.99" as the seconds on the end time
,,	calculation.
	 Added GEOCOUNTS export format. Added multiple new warning messages during importing that pops up during the import
	process (including not finding 0x01 modules and other errors)
	Added support for file explorer drag & drop into Centurion:
	 Dropping a file(s) onto the DBView window will import the data into the database.
	 Dropping a file(s) onto any other part of the program will cause the file to be
Build #0010	opened (text view).
#0010 12/03/15	TSProcess changes:Now allows importing of data after processing (in all but Field).
12,00,10	 Will also just run one file at a time.
	 Added preferences setting to specify using TSProcess (instead of TSDP) for
	processing RR3 data imports.
	New command line switch "INCLUDETIMEOUTS" will include the timeout discarded
	values in the total timestamps count (by default it now excludes these values)
	Modified the Caltrans TMG Export Format according to latest changes. This adds to the Setup->General->Export tab a new option "CalTrans TMG Format Mode" a combobox
	with new item "New (2015)"
ام نام	Added checkbox to support the "TMG September, 2013, Format" as a base format for
Build #0009	TMG outputs. This adds the following:
#0009 11/18/15	All - Year is now four digit
,,	Card C - Adds new 'Classification Data Time Interval' character Adds new 'Destrictional character (also Feetnates) after total Adds new 'Destrictional character (also Feetnates) after total
	Adds new 'Restrictions' character (aka Footnotes) after total. Card D - Adds new 'Speed Data Time Interval' character
	Adds new 'Definition of First Speed Bin' character

	 Card L - Adds new 'Length Data Time Interval' character Added support for the AUSTROADS style of vehicle classification for data imports (does
Build #0008 11/05/15	not work inside of counters). Editor for this format is the standard text editor. It is auto-selected whenever a file with extension of ".VCLS" is specified in the Site (or general) setup.
	Fixed a bug in the report generator (and Data Wizard) when switching from reports with single line versus dual line axle class headers causing the values to be overwritten.
Build #0007 10/26/15	 Added check for ERR#12 message from RR3's (indicating no data in file). Added RR3 check for current Date/Time matching the Release Date/Time which indicates a unit that has just been \RESET. When this is detected, system displays a warning message (which can be disabled).
Build #0006 10/22/15	 Rebuilt with new LiteDAC V2.6.19 to try and fix problem with installation on some Windows machines. Also moved the "LCMSystem_DatabaseSetup" form to not auto-create on startup. This form will be created automatically by "LCMSystem" instead.
Build #0005 10/08/15	 Omega X3 Changes: Added support for OX3 style GPS coordinates. Fixed bug in setting Bluetooth power options for OX3 Added support for seconds value in Bluetooth timestamp record. Fixed bug in setting the temp offset. Added new Timestamp record formats: Advanced Timestamp Format (with two extra bytes per record) New GPS Location (0xFF 0x02), BT Address (0xF4), & A/D Input (0xF5) Added new options for V0.70 OX3 (saving GPS in file, Flash file write options, etc). Added "Clear Window" and "Send String" to the Terminal Window. Added "4K,8K,16K,32K,& 64K" for download block sizes in a new preferences question for Omega X3 Downloading Added "Type of BT Address" and "RSSI" value to the Timestamp Bluetooth address value. Added 1MHz, 2MHz, and 4Mhz to baud rate selection on terminal window
Build #0004 07/31/15	☐ Added display of actual primary & secondary battery voltages with V0.60 OX3 PCB.
Build #0003 07/23/15	 Fixed some issues with OX3/RR3 Timestamp processor as follows: Fixed setting hour on SnMis wrong. Added a SnMis Clear function to require 0.5sec of clear sensor time before doing a new vehicle. Also requires this time after a 16 axle count sequence. Fixed issue with setting start time of vehicle (sometimes would use second hit of first sensor as time of vehicle). Issue with multiple vehicles right at the end of a day criss-crossing the date line
Build #0002 07/19/15	 Added support for Bluetooth and USB firmware version in Omega X3. Changed the TT-2/4/6/8-BT file processing so the original binary file is left in a root Centurion directory named "TT2468BT.ORG".
Build #0001 06/25/15	 Added built in support for Timestamp data processing of Omega X3 data. All functions previously in external TSDP executable are now part of Centurion (for OX3 to start, other counters down the line). First release for HLE with TSDP built in for Omega X3 files. Changed all "fopen" to "_fsopen".