Diamond Knowledge Base

Centurion Version History 1.48

- Major update to the Timestamp Processor (TSProcess) to improve the processing of data from RoadRunner 3, Omega X3, Omega G, and Omega Passive IR counters. Includes these new options to the Advanced Settings page: "Add Bins to Raw/PerVehicle Output File" - Will output PerVehicle binary data with the attached bin table class numbers for each vehicle. "Create Timestamp Detail Analysis File" - Will create a complete timestamp analysis file during any Timestamp PerVehicle data. This also adds a "View Analysis File" button to the results screen that displays all the decisions of TSProcess. "Include SnMis in Output File" - All SnMis (Sensor Miss) records will be included in the PerVehicle output file. This used to be controlled by the Database "Create SnMis Bins" setting however, it has been moved to its own setting here. "Auto Handle 2nd Miss:" - When checked the software will allow for a missing first strike on the second sensor. Normally you would get axle hits like this on a two-axle vehicle:
    A-B-A-B
The speed is determined from the time between the first A-B hit. However, if the first "B" is missed you will see the pattern:
     A-A-B
Then the speed will be wrong because it will be the time from the first hit on the first tube to the last hit on the second tube. The system can still figure the speed correctly though by using the time between the second hit on the first sensor and the only hit on the second sensor. Selecting this option lets the system do this. "Use Avg Speed for an 'All Miss'" - When checked the software will allow for a complete miss of one of the sensors. Like above, a typical two axle vehicle will give the following pattern:
    A-B-A-B
If instead it gets one of these patterns:
    B-B or A-A
Then there is no way to determine the speed. When this option is enabled, the software will assume the vehicle is going the average speed of the lane and generate a complete vehicle record based only on the hits from one channel. Note that for these conversions the lane number (when in directional mode) is simi-randomly set to direction 1 or 2. "Check for and fix 1st Miss" - When checked the software will look for vehicles where the first hit on the first sensor is missed. A typical two axle vehicle pattern would look like:
    A-B-A-B
If instead it gets this pattern and a very low speed:
    B-A-B
Then it knows that it missed the first A channel hit. In this case it will swap the lane number, recalculate the speed, and reset the spacings. "Be Suspicious of Class #1 Fixes" - Will avoid creating Class #1 vehicles from most of the advanced functions. This can happen too frequently (especially when doing bi-directional traffic) and skew the Class #1 count too high. When enabled, the function will either SnMis the vehicle or adjust its speed to make the spacings longer and avoid a Class #1 (motorcycle assignment). "Fix or SnMis 'Impossible' Vehicles" - will search for completely impossible axle spacings and either SnMis the vehicle or, if possible, correct it through speed and logical spacing adjustments. This function is relatively rarely activated, but it can eliminate some strange outputs especially when bi-directional traffic is present, and vehicles cross the tubes at the same time.

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Build #0001 10/31/2018	Other TSProcess changes: Made the Adjusted Start Time/Date follow the Use Only Data value (not reciprocal). Changed the calculation of the "LastHitTime" to keep SnMis from extending too long. Added a new "View Axle Classes" button to the results page which displays a breakdown of the axle classes from the TSProcess. Improved the "missing" axle analysis function to better capture axle spacings when there are differences between the channels. Added a Metric/U.S. button on the Classification option to make it easier to switch between the two. Added the "~" character at the end of all the counter configuration files (.scf). This prevents accidental deletion of ending spaces from an editor. Made sure .scf files have the .scf extension. Fixed config files not changing the Loop ID values. Added new V3 Axle Class Table that supports a minimum-maximum total length for each definition. Can also add a fixed amount to Axle-Axle (no presence sensor) vehicles. Is enabled whenever table version is 3.00 (or higher). Added ability to specify an External Editor Program to Open all text files (new tab on General Preferences "External"). This works with both regular text files and binary conversion files. Changed from using ShellExecute to ShellExecuteEx to support Windows 10 machines (ShellExecute no longer works on Win7/8). Fixed a bug in the Length Class number generation from PerVehicle data (was offsetting it by one).
Build #0002 03/05/2019	Added link to Notepad++ and option to auto-set external editor to download and run this program from its default location. Also added default link to using windows Notepad for external editor. Finished implementing Min/Max length on V3 class tables. TSProcess changes: Added '*' in front of timestamps. Made sure added timestamps when doing axle spacing comparisons show up in the Timestamp Results page. Added a % of total traffic corrected on the View Axle Classes window. Fixed problem allowing it to sometimes create a 17-axle vehicle. Changed to use Minimum Axle spacing as the "close enough to average together" value in the basic axle analysis function. Changed so 2nd Miss does not reset vehicles that the new calculated speed is less than 1/2 of the average speed. Will report "2ND MISS OVERRIDDEN" in analysis file if the happens. Added check to block 2nd Miss if first spacing is less than the sensor spacing. Added an Impossible Vehicle check if any of the axle spacings are more than the Maximum Axle Spacing. In some cases, it will just trim the last and allow it through. Omega Passive IR Changes: Added support for Permanent/Portable distinction. Increased serial number length to 20 characters. Moved the "Add Total Column to Text Views of Binary Data" to the Download table of preferences.
Build #0003 03/11/2019	Added .2 bit on the Special Vehicle Markers to indicate when a vehicle is questionable. If it is, then a Special Vehicle Marker (SVM) is added to the processed data so that later imports can set the class location. The text "Ques" appears at the end of the vehicle record when the system is not sure of the vehicle. Added "Spacing Mismatch" warnings to the analysis file and to the various TSProcess checks. Added ability to move "Questionable" vehicles to a specific bin category on importing. Major new feature to display "Step Analysis" and "Step Questionable" at end of processing. This allows step-by-step editing of the data file generated along with displaying timestamps and other info. Once editing is complete, all changes can be written to the disk file for later submission or importing. Made the lines on the Raw Data Editor a brighter Red if they are marked as "Questionable".

Build #0004 04/17/2019	Added support for Enabling/Disabling Daylight Savings Adjust on RR3 and TT-200-DL with firmware version 1.34 and higher. Eliminated flashing white at start of program run. Increased the size of the ANSWERSTRING to 50k (from 30k) to allow for longer file directory responses (up to 1000 files). Added several warning and error messages to the UPP link system to warn users when file count gets above 900 and when it passes 1000 files (where it can no longer be read by Centurion). Omega Passive IR Changes: Added new "Connect to Omega Passive IR" menu option (found under the Menu Counter). This automatically tries a connection to "192.168.4.1@333". Added new "Omega Passive IR Settings" menu option (found under the Menu Counter). This displays options with the settable link address and a "Use Live V Monitor" option. Added ability to handle SBAT (Second Battery/Temp) readings from an Omega Passive IR which has SBAT=ENABLED sent. Changed the PIR storage format to include the original counter settings. Can switch between the two with the Override button (original and user modified settings). Added complete support for the Live V Monitor (both direct from the counter and as stored in a file for playback). Added multiple changes for the new VIDEO and IMAGE file directories and processing files from those directories. Added "PAssive IR Video" Directory to the directory preferences. Changed the file retrieve to put image and video files into the appropriate IR Video sub-directory. Changed the standard file open to recognaize .pir and .pfi type files and to open the Counter Link Camera Replay window to show these types of files. Also updated the menu bar Save, Save As, Close, and Print buttons to work with this window. Added complete playback support of "Live V Format". This includes fixing several issues with all plabyack and allowing frame 0 to always be a complete black screen. Changed Magnification Levels to be x1 to x500 (non-linear). Revamped the image replay so that it is quicker, smoother, and does not take so long to load. Added ability to instantly download and view anything captured from the "Record" video/image button (don't have to manually download and view). Added new "Greyscale", "Fusion", and "Fusion Relative" display modes to the full image (to make it easier to see what the camera shows). Changed the Camera Level to go 1, 2, 4, 6, 8, etc. Added "Size of Last Image File" to the STAT command (V0.92). Added a File Rename ability to any file in the counter directory. Made the play function auto show the first frame if doing a difference view and only one frame was collected. Changed maximum file name length to 60 characters (can go up to 80 when directory also included). Now indicates open video file when looking at the /Video sub-directory (shown in italics). Added "| Restart" to Camera Replay. Add print to the Passive IR View (gives screenshot of current frame or image being viewed along with all settings). Added a bps rate on the download screen. Implemented own XModem Download that makes sure not to exit prematurely in case of error or other issue. Added ability to back up or move forward one block if necessary in XModem Transfer (works with v0.93 firmware). Added support for 10 digit length file lengths (up to 9.9GB size). Made navigation of larger video files faster. Made aborting the download automatically delete the data retrieved. Added different frame rates selects for the playbacks (0.025 frames per second to 45.0 frames per second). Added ability to set the storage mode from the main Settings page. Added showing vehicle records at bottom of "View/Set Camera" and at botton of Open/Relay function. Added US/Metric selection to the settings screen. Only shows Record Interval if (a) modem is installed or (b) are collecting Volume Data. Added ability to swap storage mode on the live view screen. Added counts to All Zone view on direct camera view. Added two different types of display on PIR playback: Bold Difference & Smooth Difference. Added ability to handle embedded Vehicles and Date/Teime data in the storage format. Also can display this data in both normal and override modes and can separately save vheicle data when doing View Camera Mode. Override function on replay now implements the Vehicle generation function.
Build #0005 04/19/2019	Omega Passive IR Changes: Eliminated the word warp casing vehicle view to corrupt. Fixed play bar reveerse and one step back catching on vehicle records in the play file. Moved the count total to the left on the main display. Added support for "Lane Direction Code". Added support for "Retune Veiw" button.

Build #0006 04/29/2019	Added ability to use corrupted file directories "As Is" or to retry getting them on the Phoenix. Added a Merge function to combine (analysis) files and the Peek PVR data. Access by right clicking the "View Anaylsis File" button. Added new TSProcess "short {Spacing (Head)" value to control the first spacing on a tailgating vehicle (did default to using the "Short"). Now there are three different checks to insure a vehicle is tailgating. Fixed a bug in saving Axle Class Tables not applying the Min/Max adjustment when saving too (was allowing some error to creep in on close spacings). Made ".int" files directly importable (both count and per-vehicle). Works like any other binary file import except Volume data is treated differently (can be any time/date and will automatically merge correctly into existing Centurion and optional external databases). Other Omega Passive IR changes: Moved the OPIR Setup to the preferences sub-menu and changed the RS232/RS485 link settings to be on this dialog. Also added a "Show OPIR Link Button" option so there is a new "OPIR RS232/485 Connection" button under the current "Start Connections..." button if enabled. Fixed count totals and lane # showed in Camera Replay Added popup to the Playbar that allows jumping to specific frame and displays the location in the file for the frame. Added support for V0.96 "Use Neg Change" setting. When checked, camera treats negative difference values the same as positive. Added support for Live X storage directly into microSD card (and modified vehicle record storage for playback). This includes changing the format to support embedded vehicle records.
Build #0007 05/13/2019	Added a "Print Multiple Frames" option to the passive IR replay by right clicking the print quick button. Fixed Jump To Frame function (was offset by one). Fixed bug in showing error of "too many files" (left over test change).
Build #0008 05/20/2019	Omega Passive IR CHanges: Now supports V0.98 OPIR "Lense" option (25, 50, or 57 degrees). This includes checking the high bit of on .pfi and .pir files ot indicate which model data was stored under. Also identifies which devices have a shutter and/or radiometry. Fixed error message when closing the OPIR link and the camera view is showing (also when unplugging the USB cable). Added option to double click the camera status text to display and optionally change various camera configuration options.
Build #0009 06/26/2019	Eliminated the NOOP command for FTP keep alive (was not working). Changed the Parking lot Monitor and the Interval Data Monitor to keep the connection closed while waiting to do a new polling. It now opens and closes the connection only as needed. Added the Hologram Bridge and the Spacebridge as valid link options in the Parking Lot Monitor. Added major new feature to be able to post-process video data into actual Volume or PerVehicle data. Users can use the default counter settings or modify any setting and create from that. Created data can be viewed or imported as desired. Other Omega Passive IR Changes: Added ability to create/store data with Centurion Processing the video data. Fixed stopping playback if Magnification is adjusted. Fixed not showing zone totals when add/remove is selected. Added new screen for Setup Parameters when selecting to record video data. This allows for storage of all setup info in the video file for later post-processing. Added selecting the "Direction Code" value for each lane. Also improved the layout of the Zone Lane Setup page. Changed the playbar label to show total number of frames. Always uses "STarting Time" inside of Setup Info frame and then auto calculates the time. Updated the zone manipulation of both playback and live view to be more intuitive and easier to use. Added Advanced settings to IR Processing. Added support for Scan For What Types in counter setup (v0.99). Add support for Speed Limit in counter settings (v0.99).

Build #0010 07/19/2019	Added showing timestamp violations on data file conversions of timestamp data (shows with an asterisk at end of time in the text file). Enabled in General Preferences. Added OX3/OMG timestamp option that will show timeout hits in red when enabled in the General Preferences and linking to that counter. Added new Scrolling View to capture sequential airswitch strikes on OX3/OAG counters. Enabled by right clicking on the A/D chart in either the Start Collecting process or during the main screen monitoring. "Scrolling View" can also print a report based on the images received. Completely changed the PIR Video processing to sue the "TState" method. This looks at vehicles completely differently than prior methods and can be used with settings like this: Scanning Method: Individual Pixel Minimum Detect: 20 Dropout: 10 DER: 4 DRR: 10 Fixed exporting of DDS Interval data (Physical Lane number was set to a non-zero value). Added "PIR Video Analysis File" and "PIR Traffic Analysis File" creation options to the Advanced settings screen. When enabled these two files create detailed description files of the video file processing. Added support for "Version 2" formatted data that now includes the full fX1, fY1, fX2, fY2 values.
Build #0011 09/02/2019	Now hides the "Step Questionable" option if none are found. Fixed problem showing % of total questionable that are trucks if only one lane is collected. Added a "Data File Wizard (entire site)" selection to automatically select the whole site range instead of each import. Added ability to select an unidentified COM port as allowable (to make certain modems accessible). This is called an "Extra Port" and is set in Communication Preferences. Also changed the modem configuration to allow COM ports up to 255. Added a "Text File Compare..." function to the main menu. This will compare multiple text files and produce a report as to the differences. Added a "Reset Last Update Version" function on the help menu to clear the old update out (and allow new updates to proceed). Omega X3/Omega G changes: Added showing "Normal" or "A/D" mode on monitor screens to indicate which type of dat is being collected. Added option for V1.50/V1.13 to "Store signatres with Enhanced Mode". Can now set one or both sensor spacings in specific values Auto disables /2 if start collecting in Per/Vehicle mode. Added support for Iris Modem "Re-initialization" and "Initialization" commands to be programmed in as support by UPP firmware v5.36 Fixed problem with not always doing Block Retrieve correctly. Added a red break line between sites when there is missing data on the processing report. Added specific menu selections for Daily, Monthly, & Yearly process reports and process CSV Files. Fixed not being able to print the DDS Processing Reports. Added new DDS Error Log view which now shows missing files since the previous check (or range selectable). DDS Error Log can also be exported as a text file. DDS Error Log can be set to automatically popup if any missing data files are noticed (selectable in the DDS Configuration page). Changed to support a "0" RSSI value to show as "unknown" on all places. This goes along with UPP Firmware v.537 which better supports this and more frequently updates the RSSI value. Added system for handling "Processing" without importing and still tracking which files have been downloaded. The "Not Imported" folder becomes the "Not Downloaded" folder instead, and wheather or not a file has been downloaded is the main tracker. This is now automatically active when running Centurion-Field or can be turned on in DDS Configuration on the Data Archive page.

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