



Convert to Insight JSON User Guide

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Revision History				
Rev	Date	Section	Change	Author
1.0	27/09/23	All	Created	TAH
1.0	16/10/23		Typos	TAH
1.1	02/07/24	All	Added support for Houston Radar	TAH
1.2	25/11/24	All	Added support for simple volume-only CA DMP format files.	TAH
1.3	24/02/25		Added support for Q-Free DAT files	TAH/SL
1.4	19/11/25		Application will break large output into a series of smaller files.	TAH
1.6	06/03/25	Houston Radar	Added Armadillo Tracker and simplified export	TAH
	10/01/25	Install	Updated .NET installation screens	TAH

1 Introduction

Insight supports the importing of data files into devices. This is to allow users to use devices without communications or to pick up data from a device which has lost the ability to communicate for some reason.

This data can then be uploaded into Insight using either native format files or using an intermediate formats such as 'Insight JSON' or 'Binned JSON'.

Device	File Format to import into Insight
M680, M720 (VBV or Binned)	Native M680 file format
Connex (Traffic or Active)	Connex JSON (perhaps created by the NDC2Connex tool)
Tagmaster EasyData	Insight JSON
CA Traffic simple DMP (volume only)	Binned JSON
Houston Radar	Insight JSON
Q-Free	Insight JSON

The intention is that Insight JSON will be the format used in most future devices for VBV data and Binned JSON for Binned data.

2 Important things to know (VBV data)

An offline survey is one where a device is used to collect data about a site without having a connection to Insight. The idea is to extract the data from the device using the device's own tools, and then to manually import the file(s) to an Insight device. Data can also be retrieved this way if a device's connectivity fails.

The device and site to setup for an offline survey are the same as they would be if the device were directly connected to Insight.

NOTE: for VBV, it is important that a VBV Insight site and device is set up and enabled BEFORE the actual survey is carried out. This is because Insight provides protection against data being accidentally imported which was collected when the device was attached to a different site. Data with timestamps from before the device was last enabled in Insight is ignored. The data import may appear to succeed, but no data will be added to the database.

VBV reports show blanks rather than zeroes for the period before a device was attached to the site.

It follows that it is important that the device is usually disabled when removed from a site and the data processed through Insight, and then again attached to the new site and enabled prior to the survey starting on a new site. If a device is not disabled before moving sites, there will be no protection for the 'bleed' of data between sites and the user must be careful to clear down units.

Insight tracks devices for missing data, so that periods when a device is believed by Insight to have not been functioning appear as blanks in a report rather than zeroes. Insight does this the best way it can for each device type. For example, with EasyData devices, the external device suite used can be set to create a missing data condition if no vehicles are detected for a settable period of time. Other device types have sequence numbers that are used or deliver data in chunks of time. With manually imported data, alerts may not be raised, but it is used to show blanks in site reports rather than zeroes.

3 Insight JSON Converter

3.1 Install

Unzip the provided zip file and start the EXE.

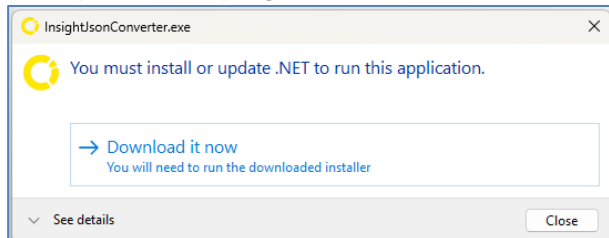
InsightJsonConverter_V1.0.zip

Search InsightJsonConve...

Name	Type	Compressed size	Password ...	Size	Ratio	Date modified
 InsightJsonConverter.exe	Application	468 KB	No	1,119 KB	59%	02/07/2024 13:17

3.2 Run the Tool

On first run, you may be required to install or update .NET. If required you will get the popup below when you run the program.



Clicking 'Yes' will open the webpage, shown below, and prompt the file download. Download the file and start the install process. The install process should be a single step



Once installed, run the InsightJsonConverter.exe program again, and it should open on the screen below.

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Select files to be converted and then click 'Start Conversion'. For simplicity it may be best if all the files come from a single device and have the device's external ID as part of their filenames.

The screenshot shows the 'Insight Data Converter' window. It has a title bar and a menu bar. The main area contains a 'Select Data Source Type' dropdown menu with 'Tagmaster CA Standard File Format (.dat)' selected. Below this is a 'Select Raw Data File' section with a 'Select File' button. At the bottom is a large 'Start Conversion' button. The footer displays 'Clearview Intelligence 760272 v1.0 - 15/08/2023'.

Select Data Source Type: chose between Tagmaster, CA DMP and Houston.

Select Raw Data File: use the file dialog to select files. The user may use ctrl-click or shift-click to select multiple files. The user may also use the button multiple times to select files from different folders.

External ID (Houston/ Q-Free Only): enter the Houston Silicon ID or Q-Free equipment number used as external identify when the device was setup in Insight. This is used to allow Insight Import to check that the data in the file belongs to the correct device.

Speed Unit (Houston Only): enter whether the device records speed in KPH or MPH. It is **vital** that this is entered correctly as it cannot be fixed after importing into Insight.

Optional site prefix text (DMP only): enter an optional prefix to add to the DMP site name to ensure the Insight site name is unique across all customers.

Start Conversion: the tool will convert the files and places them in a folder called 'Insight JSON'. The tool will automatically open the output folder. Files may be broken up into smaller ones and zipped as insight Import has a maximum individual file size.

3.3 Prepare files for importing into Insight

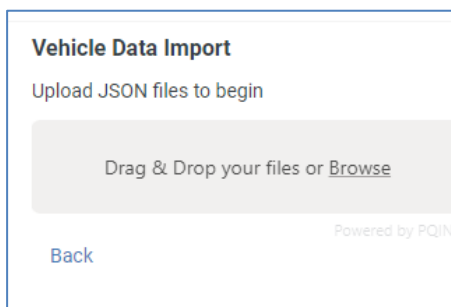
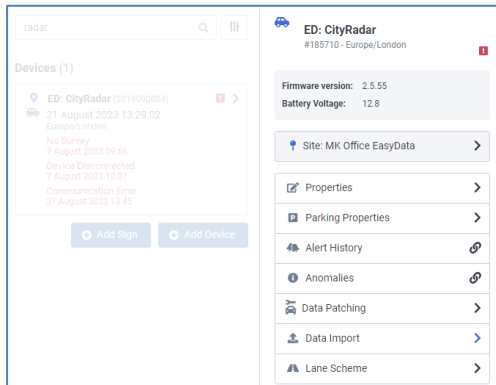
Select the files for a single device and, if necessary, make a ZIP format file from them, perhaps by selecting the files and using 'Send to ZIP', or some other method.

The screenshot shows a Windows File Explorer window with the address bar set to 'This PC > Documents > Insight/son'. The left pane shows a list of files: NTCIP MIBs.zip, Scoland.zip, Scotland.zip, SECTIONATTRIBUTES.zip, and VDA_lite.zip. The right pane shows a table of files:

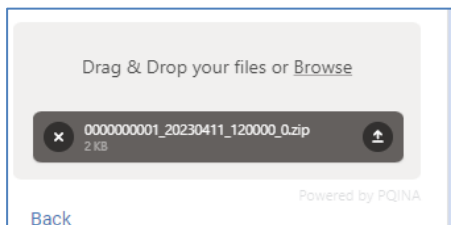
Name	Status	Date modified	Type	Size
0000000001_20230411_075054_0.json	✓	30/08/2023 11:06	JSON File	2 KB
0000000001_20230411_120000_0.json	✓	30/08/2023 11:11	JSON File	12 KB
0000000001_20230411_120000_0.zip	🔄	30/08/2023 11:13	Compressed (zipp...	3 KB

3.4 Upload the zip file into Insight (VBV)

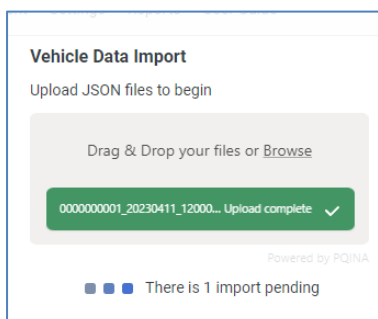
Open the device options screen of the device. The device type in Insight must match the type of the actual device. This is available from the Places Module Device or Sites screens. Use the 'Data Import' option.



Either drop the ZIP file containing the converted files from the device or use the Browse link to locate it.



Click the upload button for each ZIP or file.



The dialog shows the file has been imported and is now being processed. The dialog will give an indication of progress. Note that it can be some time to process. When the dialog is complete, it may also be some time before the data appears in reports.

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Vehicle Data Import

Upload JSON files to begin

Drag & Drop your files or [Browse](#)

0000000001_20230411_12000... Upload complete ✓

Back

All done. The data will shortly be available in reports. Reports and pivots that use the individual vehicle records will show the data first. Reports and pivots that use aggregated data will show the data later – potentially a few hours.

4 Upload the files to Insight (Binned)

Binned data must be uploaded into a V2 device (perhaps set up as an M680).

System Admin Version 3

Count & Classify 00000191 x

Details History Comments Diagnostics Validation Anomalies Data Ma

Settings
Validation not enabled

Configuration

To add or remove a configuration file, edit the device

- Specify configuration -

Upload to device View Download from device

Data import

Add (historic) data to 00000191

Choose Files 00000191.zip

Binned JSON

Import

Find and open the device Insight V2 County and Classify.

In Data Import, chose the Binned JSON file or a ZIP of Binned JSON files.

Select 'Binned JSON'.

Use the Import button.

Use the device history tab to view progress.

System Admin Version 3

Count & Classify 00000191 x

Details History Comments Diagnostics Validation Anomalies Data Management Missing Data Log No Data Monitoring

Refresh history

Timestamp	Type	Sub-type	Additional information
2024-11-22 13:19:27	Device Event	Data import complete	[JsonBIN] 00000191V0215-1.json ▲
2024-11-22 13:19:24	Device Event	Data import complete	[JsonBIN] 00000191V0215-0.json
2024-11-22 13:18:15	Drupal Event	Added	clearview_system_admin

When the data is imported, it will be available to use in reports.

5 Appendix: Obtaining Files from Tagmaster/EasyData devices

Use the Tagmaster supplied COLLECT software to obtain a VBV .DAT or .RTV file.

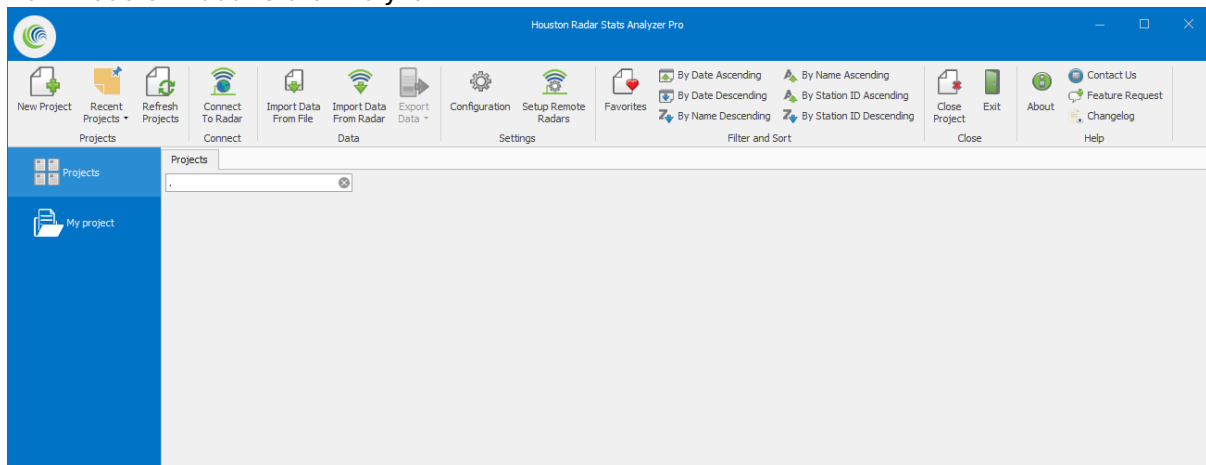
6 Appendix: Obtaining Files from Houston Radar

This is supported for both SpeedLane Pro and Armadillo Tracker.

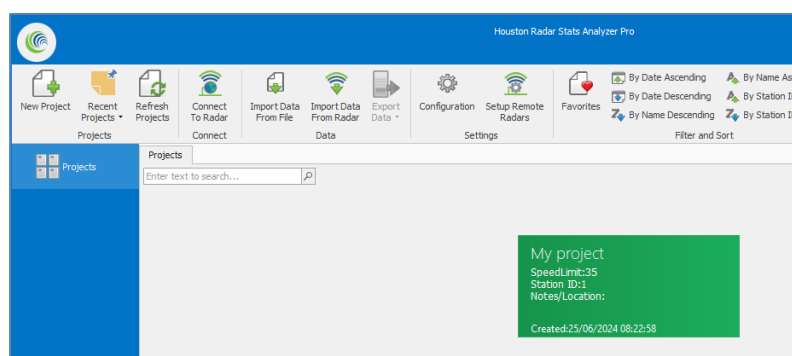
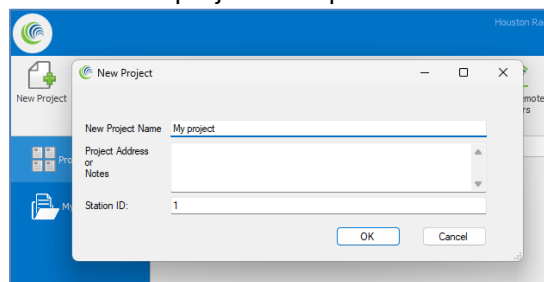
Download ‘Houston Radar Stats Analyzer’ from the URL below, select the ‘Houston Radar Stats Analyzer Installer’ option. Then install the program.

<https://houston-radar.com/products/software/stats-analyzer-configuration-software/>

Run ‘Houston Radar Stats Analyzer’.

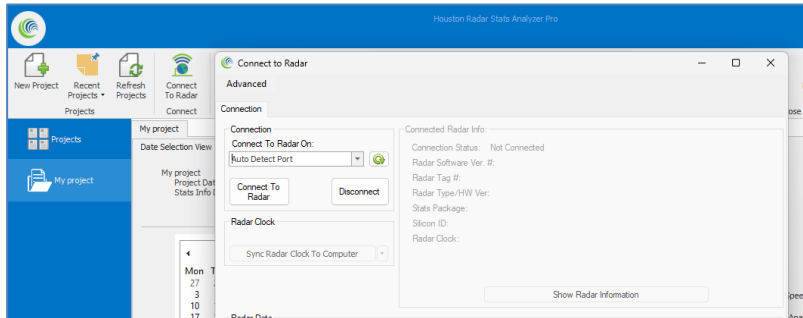


Create a new project to import the data into by clicking ‘New Project’ and giving it a name.

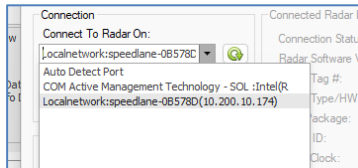


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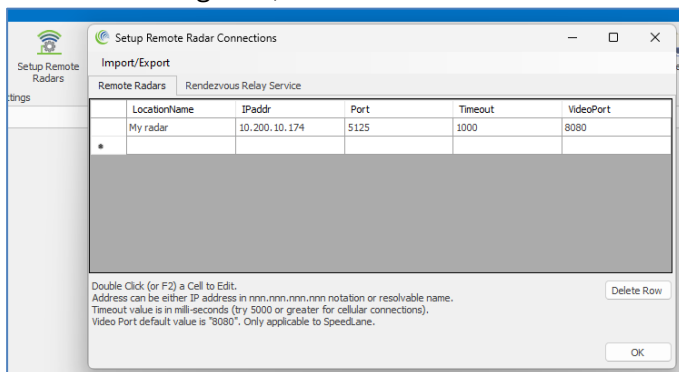
Connect to the radar using the 'Connect To Radar' option in the navigation. The popup below should then appear.



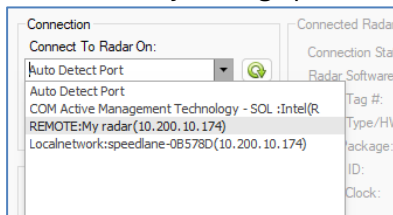
If on the same network as the radar, it should be listed in to select.



If not on the same network, it is necessary to use the radar IP address and port to manually add the radar to the list first. Close the 'Connect to Radar' popup, then click 'Setup Remote Radars' option in the main navigation, and enter the radar details in the popup below.

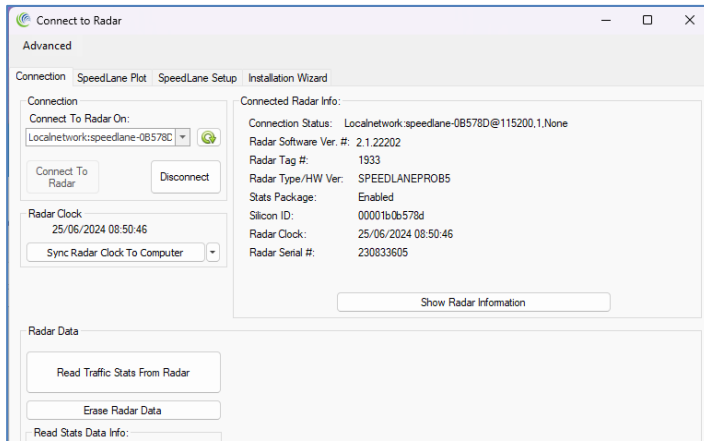


After manually setting up the radar, it will be listed for connecting.



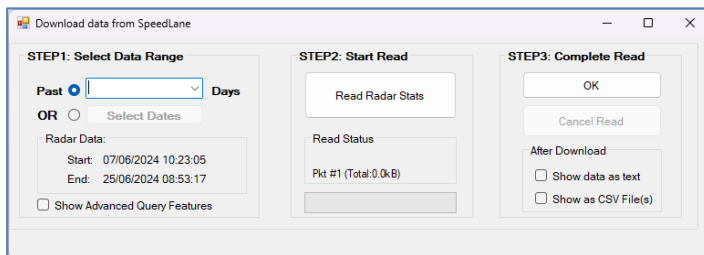
Select the radar and click the 'Connect To Radar button', which will then open the popup below.

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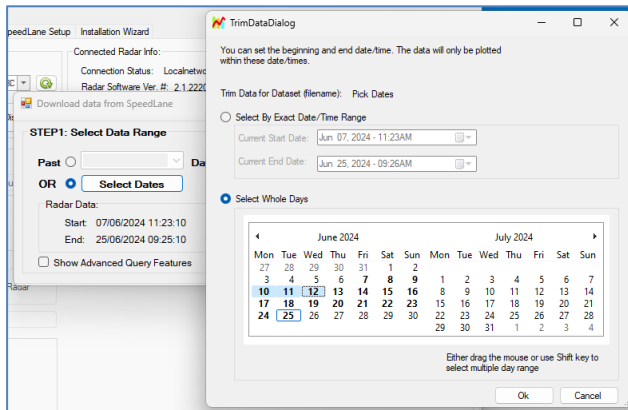


To export data, click 'Read Traffic Stats From Radar', this will open a file browser prompting you to save a .dat file, save this file for the software to export the data into it.

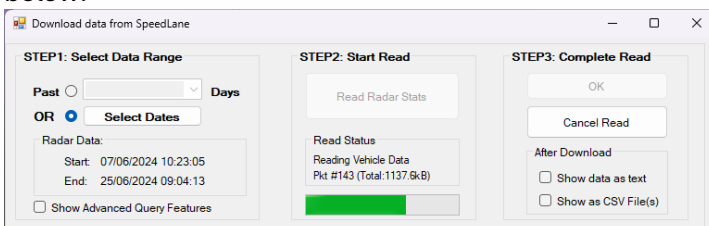
It will then popup another window to configure the dates and time range for your data, as shown below.



The dates and time range selector as multiple options, for example the past X days for specific dates and times. Below shows how June 10th to 12th could be exported.

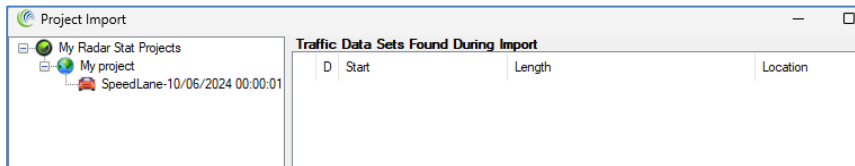
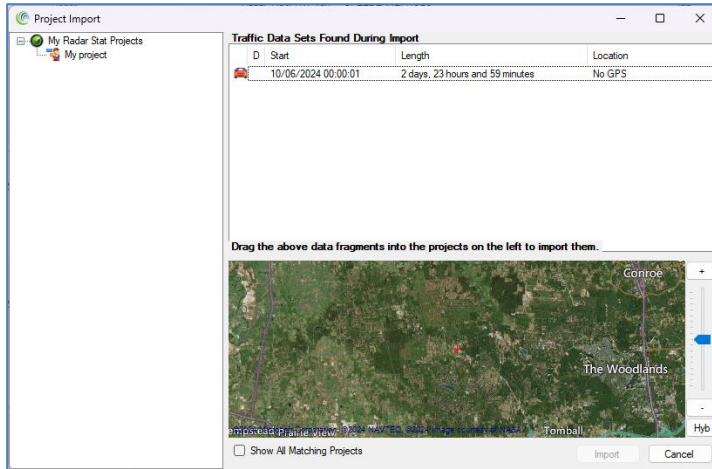


Click 'Read Radar Stats' and it will export the data into the .dat file and show a progress bar, see below.

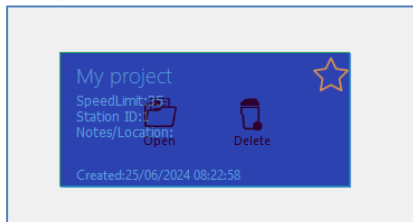


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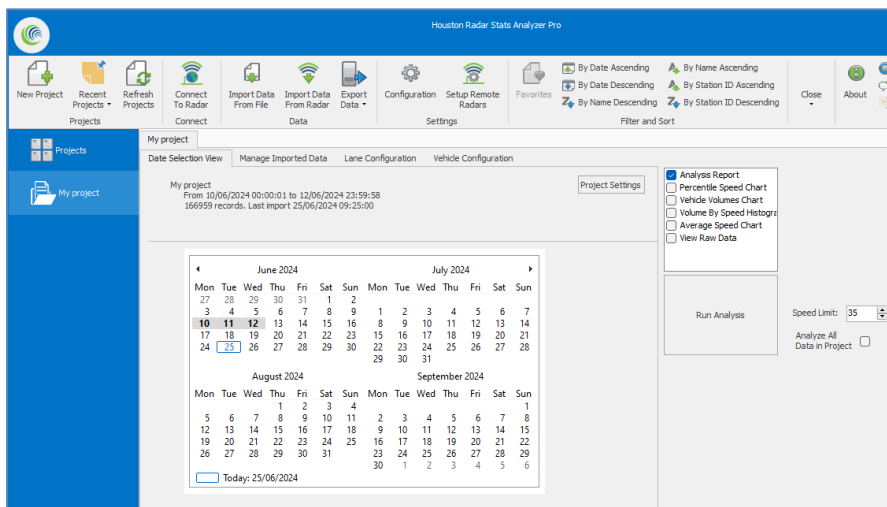
Once the reading step is complete, click 'OK' in step 3 and it will prompt to import the data into a project, agreeing to this will give the popup below. Select the data set in the top right window, and drag it into the project on the left sidebar, then click the 'Import' button in the bottom right corner.



After importing the data to the project, open the project from the main 'Houston Radar Stats Analyzer' screen.

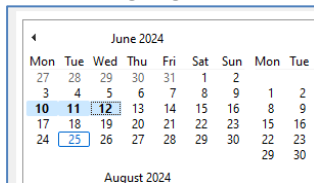


This will then show as below, and illustrate the days on the calendar that have data by making the dates bold.

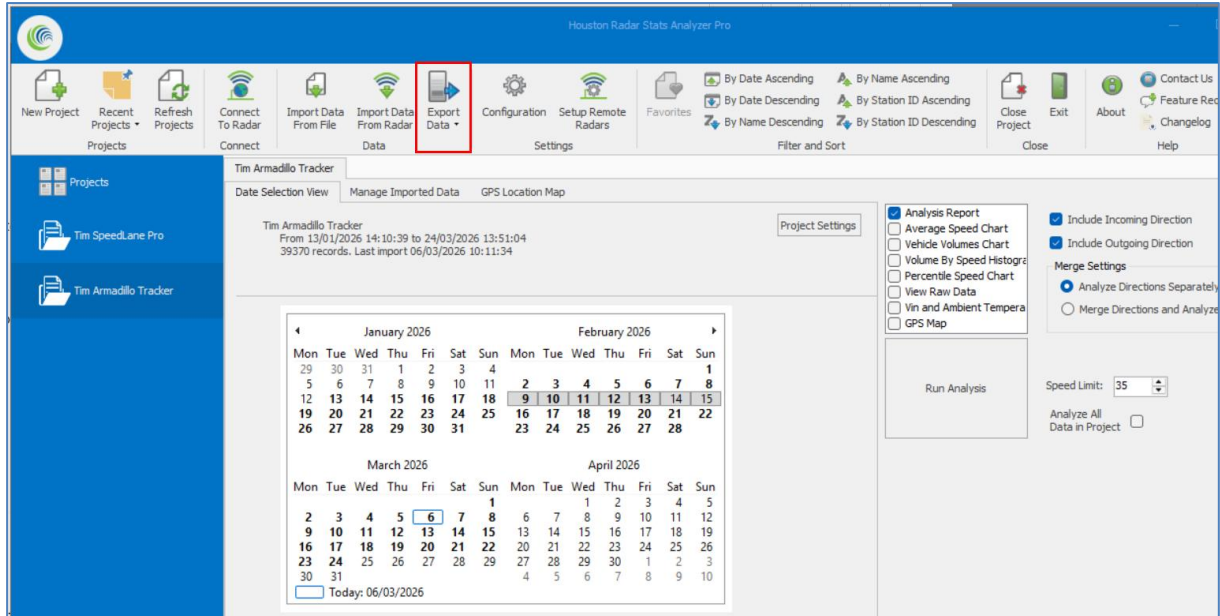


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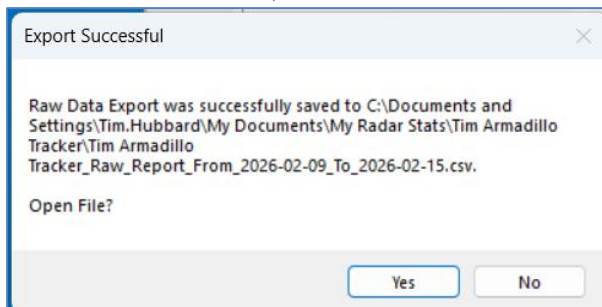
Select the dates, by dragging and holding the mouse button, or holding the shift key and clicking, this will highlight them in blue.



Once your desired dates are highlighted, use the Export Data option to export a CSV file.



To see the file in Excel, chose 'Yes'.



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After opening the CSV in Excel, your raw data must look like this for:

Armadillo Tracker:

	A	B	C	D
1	Date&Time	Speed	Class	Direction
2	09/02/2026 05:53	37	Medium	Outgoing
3	09/02/2026 05:54	37	Medium	Outgoing
4	09/02/2026 05:56	36	Medium	Incoming
5	09/02/2026 06:01	34	Medium	Outgoing
6	09/02/2026 06:03	37	Large	Incoming
7	09/02/2026 06:10	43	Large	Incoming
8	09/02/2026 06:20	37	Large	Incoming
9	09/02/2026 06:26	23	Medium	Incoming
0	09/02/2026 06:30	43	Large	Incoming

For SpeedLane Pro:

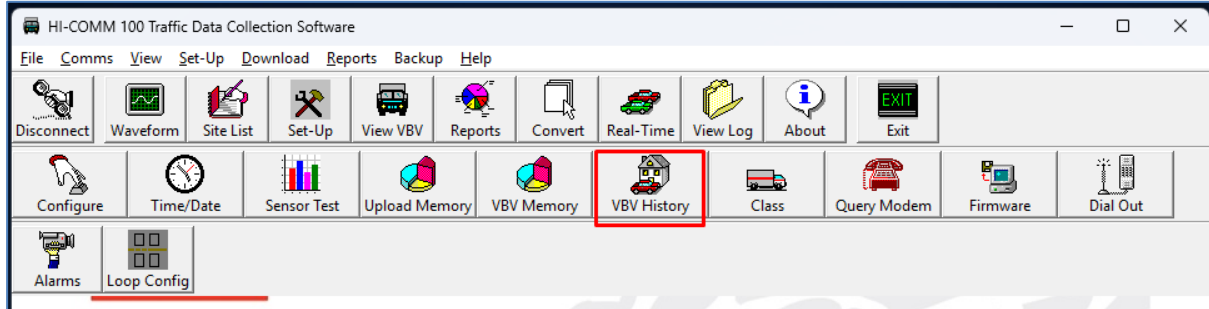
	A	B	C	D	E	F	G	H
1	SpeedLane Raw Report							
2	Tim SpeedLane Pro		from Mon-Mar-18-2024-01-00-PM to Tue-Mar-19-2024-12-59-PM					
3								
4								
5	Timestamp	Speed (km/h)	Length (M)	Lane	Direction			
6	18/03/2024 13:15	88	5.18	4	1			
7	18/03/2024 13:15	70	3.96	2	2			
8	18/03/2024 13:15	85	5.49	2	2			
9	18/03/2024 13:15	78	6.1	4	1			
10	18/03/2024 13:15	78	4.57	4	1			
11	18/03/2024 13:15	81	5.49	4	1			

DO NOT SAVE the file from Excel and this will remove the seconds from the timestamps and prevent the conversion occurring correctly.

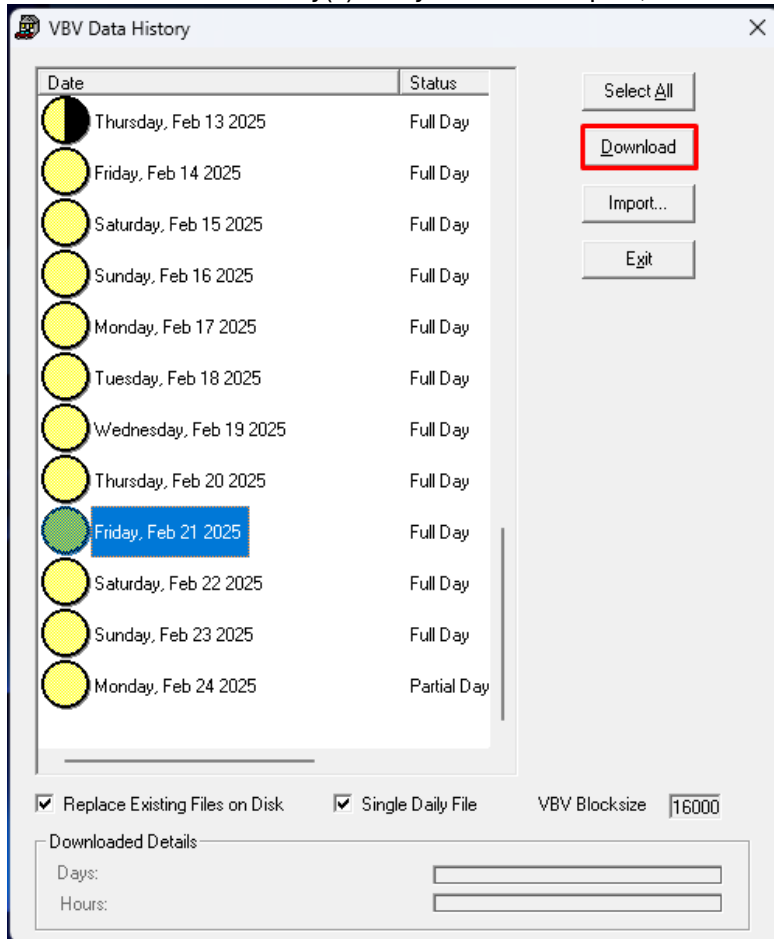
Note: we have noticed that on at least some versions of the Houston Stat Analyser, data from SpeedLane Pro does not get exported for vehicles where the lane is unknown. It may be that a small number of vehicles are not exported.

7 Appendix – Obtaining files from Q-Free HI-COMM 100

Connect to the unit locally using HI-COMM, then click the 'VBV History':



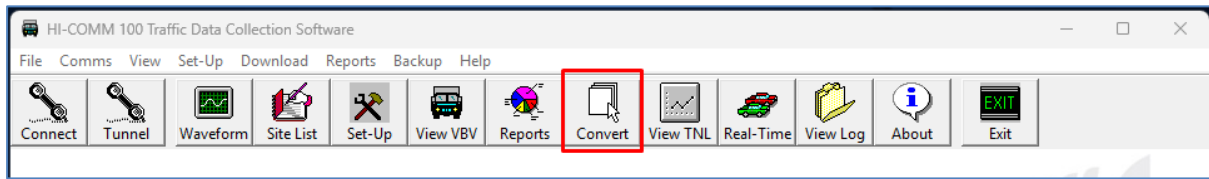
a. Select the day(s) that you want to export, then click the download:



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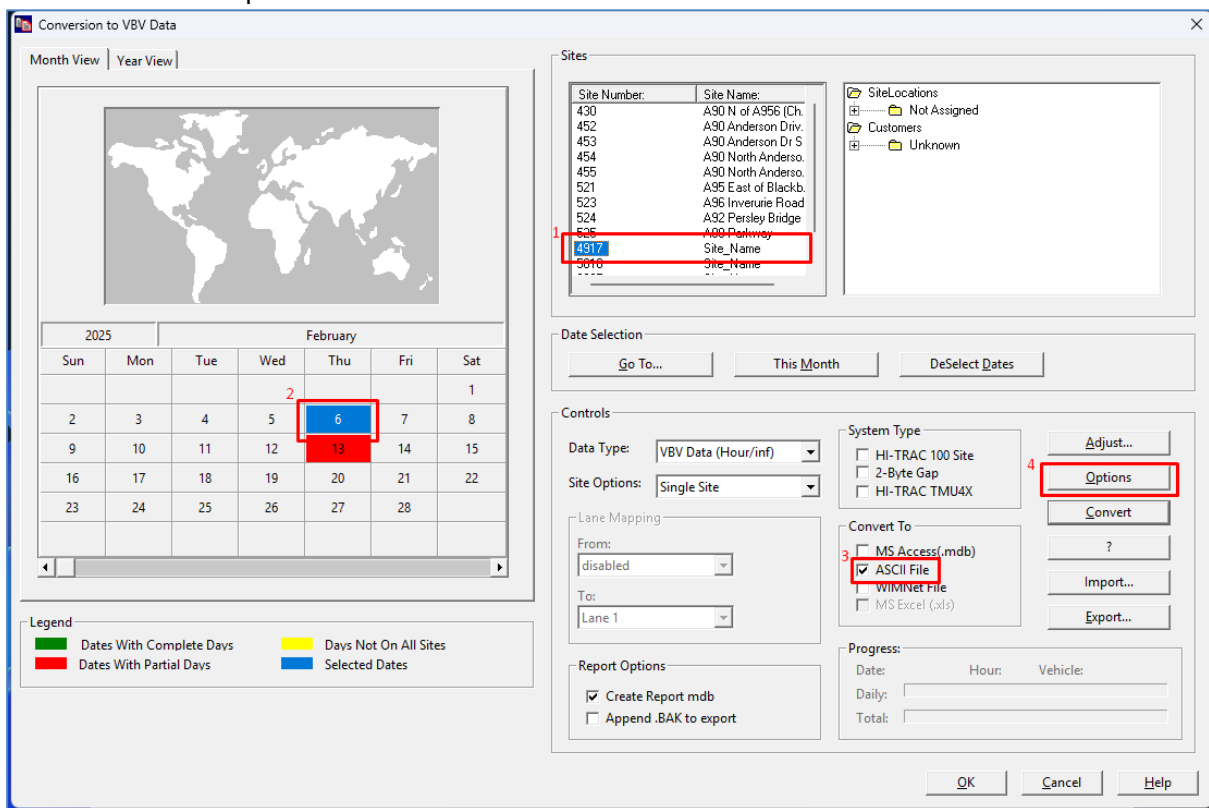
b. Extracting data from HI-COMM 100

To export the data, select 'Convert' from the menu bar options



Then select:

1. The device you want to export data from
2. Select the date, can be multiple days
3. Set to ASCII for the conversion to option
4. Click 'Options'



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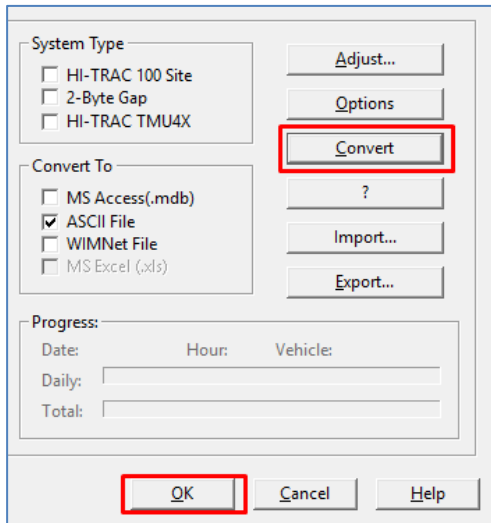
Under the 'Options' popup select Conversion Type to ASCII File, and make sure 'Fixed Number of Fields + Headings' has been selected.

Ensure the 'ASCII/WIMNET Output Format' and 'End of record delimiters' are set as shown below.

When done click OK.

To generate the output file, click either 'Convert' or 'OK' which will do the export then close the form after a confirmation popup indicating the eport has completed.

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The export file is saving in a folder under where the HI-COMM 100.exe is located. In this example device 4917 was used and the file is located as shown below:

Name	Date modified	Type	Size
06022025.dat	21/02/2025 09:04	DAT	5,707 KB

The file is given a '.dat' extension but it is a text CSV file. The file can be converted as is using the Insight Json Converter tool.

End of Document