

G2X Instruction Manual Update Section

The following section is for future updates to the G2X Instruction Manual. Each update will be accompanied by a cover sheet detailing the updated information. All updates will be available online at www.g2extreme.com or may be obtained by contacting the Racepak office.

If desired, the G2X Instruction Manual can be installed in a three ring binder in order to allow insertion of future updates.

G2X Instruction Manual Updates - June 13, 2006

1. Chassis Scaling Runlog Page
2. Export the Start / Finish Position Runlog Page
3. Tire Data Runlog Page
4. TrackVision Export Runlog Page
5. Delta (Difference or Slip) Math Channels

Note: Exporting the Start / Finish Position feature requires G2X firmware version 36 or higher.

Chassis Scaling Runlog Page

By using the G2X_Config file found in Version 2.6b or greater of the DatalinkII software the user may now access the Chassis Scaling Runlog page. The Chassis Scaling Runlog page reproduces the functions of chassis scales. By inputting the four corner weights of a scaled vehicle, the Chassis Scaling page can calculate the following information:

1. Total Weight
2. Cross Weight
3. Cross Weight Percentage
4. Left Side Total Weight
5. Left Side Total Percentage
6. Right Side Total Weight
7. Right Side Total Percentage
8. Front Percentage
9. Rear Percentage
10. Total Left Side Lead
11. Total Right Side Lead

The screenshot shows a software interface for chassis scaling. It features a grid of input fields and labels for various weight and percentage measurements. The labels include: LEFT FRONT WEIGHT, FRONT %, RIGHT FRONT WEIGHT, LEAD, LEAD, LEFT SIDE %, CROSS WEIGHT %, CROSS WEIGHT %, CROSS WEIGHT %, LEFT REAR WEIGHT, TOTAL WEIGHT, RIGHT REAR WEIGHT, TOTAL WEIGHT, LEFT SIDE %, RIGHT SIDE %, RS TOTAL, and REAR %. There are also fields for Total L.S. Lead and Total R.S. Lead. The interface has a menu bar at the bottom with options: Run Log Menu, Tire Data, and Chassis Scaling.

Again, this information may be entered into the Chassis Scaling Runlog page, prior to the start of testing. This Runlog page can also be used to calculate the set up information, while at the shop. Simply input the corner weights and the Runlog page automatically provides the above 11 items.

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Application: DatalinkII Version 2.7b or higher

Delta (Difference or Slip) Math Channels

By using the G2X_Config file found in Version 2.6b or greater of the DatalinkII software, the user may now access the following pre-defined math channels:

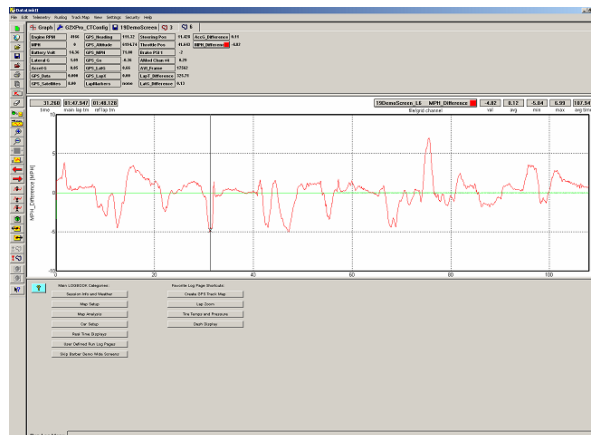
1. LapT_Difference
2. LatG_Difference
3. AccG_Difference
4. MPH_Difference

Each channel provides a graphical representation of the difference between two channels. These channels are often referred to as Slip or Difference channels. The DatalinkII software defines this type of math channel as a Delta channel. The user can utilize these channels either through downloading data using the updated G2X_Config file as indicated above or by copying and pasting the Delta channels into existing data files.

To utilize the difference channels by downloading data through the updated G2X_Config file:

1. Open single or multiple Runfiles that contain the Delta channels.
2. Open at least two Lapfiles.
3. Select a Reference and Main lap file as outlined in the G2X Instruction Manual.
4. For this example, graph the MPH_Difference Delta channel for both the Reference and Main lap file.

When using Delta channels, the graph for the Reference lap file will appear as a straight line. This straight line is considered zero and provides a reference point for the Main lap data. In this example, the Reference lap file data will appear as a straight line, while the Main lap file data will graphically move above and below the Reference zero line.



This up and down graphical movement represents the GPS MPH difference between the two selected laps. Any data above the zero line indicates a greater Main lap speed in comparison to the Reference lap, while graphed data below the zero line indicates less Main lap speed in comparison to the Reference lap.

It may be necessary to adjust the minimum and maximum scaling settings for the Delta channels according to the users needs.

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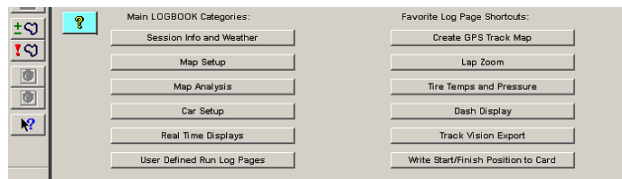
Application: DatalinkII Version 2.7b or higher

Exporting the Start / Finish Position Runlog Page

The G2X_Config file found in Version 2.7b or higher of the DatalinkII software provides the ability to export the start / finish location (as set in the GPS Trackmap) to the G2X compact flash memory card. When the card is re-inserted into the G2X, this start / finish location is automatically installed in the G2X, thus eliminating the need to set the start / finish location with the G2X Display Dash.

To export the GPS Trackmap start / finish location to the G2X data logger:

1. Open a Runfile that was downloaded utilizing the updated G2X_Config file found in Version 2.7b of the DatalinkII software.
2. Insure a GPS trackmap has been created for the selected Runfile, following all four steps found in the Create GPS Track Map Runlog page.
3. Remember to place the start / finish of the GPS trackmap in a location that will be both familiar to the driver and in an area that laptime data will be easy to read, when on the track. Typically this will be on the front straight of most tracks, as that affords the driver a bit of time to glance at the lap time and lap number.
4. Select the Runlog Menu tab found at the bottom of the DatalinkII software.
5. Locate the Write Start/Finish Position to Card button as found under the Favorite Log Page Shortcuts area.
6. Connect the G2X compact flash card to your PC via the method used when downloading data to the users PC (typically a USB flash card reader).
7. Select the Write Start/Finish Position to Card button.



This action automatically places the GPS trackmap start / finish position on the G2X compact flash card. Following this action, simply insert the compact flash card into the G2X and power the G2X up.

The start / finish is now set in the G2X, which will allow the display dash to provide lap time and lap number information. This start / finish location can be re-set by using the Display Dash method or by exporting another start / finish location to the compact flash card (as taken from the GPS trackmap).

WARNING: Do not make any changes to the start finish file that is saved to the G2X compact flash card. Editing the name or file type will result in failure to write the start / finish location to the G2X.

IMPORTANT: This feature requires G2X firmware version 36 or higher. Updated firmware is available for free at www.g2extreme.com

Tire Data Runlog Page

By using the G2X_Config file found in Version 2.6b or greater of the DatalinkII software, the user may now access the Tire Data Runlog page. The Tire Data Runlog page was designed to provide an area to input tire temperatures and pressure build up, during track test events. Following a test run, if tire temperature readings are obtained by means of a hand held probe, the individual temperatures can be inserted into this Runlog page. By doing so, the system will calculate and provide the following information:

1. Left Front Tire Temperature Average
2. Right Front Tire Temperature Average
3. Overall Tire Temperature Average Front
4. Left Rear Tire Temperature Average
5. Right Rear Tire Temperature Average
6. Overall Tire Temperature Average Rear

The screenshot shows a software interface for entering tire data. It is organized into a grid of input fields. The top row contains 'LF PRESSURE' and 'RF PRESSURE', each with 'Cold', 'Hot', and 'Gain' fields, and 'LF Tire Diameter' and 'RF Tire Diameter' fields. The second row contains 'LEFT FRONT TEMPS' with 'LF AVG' and 'FRONT TEMP AVG' fields, and 'RIGHT FRONT TEMPS' with 'RF AVG' and 'FRONT TEMP AVG' fields. The third row contains 'LEFT REAR TEMPS' with 'LR AVG' and 'REAR TEMP AVG' fields, and 'RIGHT REAR TEMPS' with 'RR AVG' and 'REAR TEMP AVG' fields. The bottom row contains 'LR PRESSURE' and 'RR PRESSURE', each with 'Cold', 'Hot', and 'Gain' fields, and 'LR Tire Diameter' and 'RR Tire Diameter' fields. A navigation bar at the bottom includes 'Run Log Menu', 'Tire Data', and 'Chassis Scaling'.

In addition, if the cold and hot tire pressure data is inserted, the system can provide the following information:

1. Left Front Pressure Gain
2. Right Front Pressure Gain
3. Left Rear Pressure Gain
4. Right Rear Pressure Gain

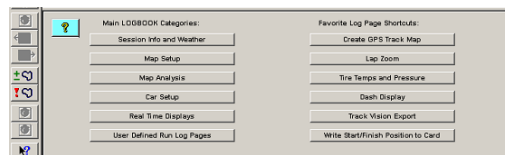
TrackVision Export Runlog Page

The G2X_Config file found in Version 2.7b or higher of the DatalinkII program allows the user to quickly export data from the DatalinkII software for use in the TrackVision video software. This is accomplished through the use of our TrackVision Export Runlog page. This page can be accessed by selecting the Track Vision Export button found on the Runlog Menu page, under the Favorite Log Page Shortcuts heading.

The TrackVision Export Runlog page enables the user to quickly export a list of standard TrackVision related data channels. In addition, the user can also create a customized list of data channels to be exported for use in the TrackVision software.

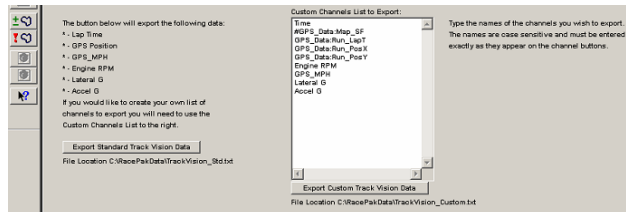
Exporting pre-defined TrackVision data channels:

1. Open a Runfile that was downloaded utilizing the updated G2X_Config file found in Version 2.7b or higher of the DatalinkII software.
2. Select the Run Log Menu Runlog tab at the bottom of the DatalinkII software.
3. Select the Track Vision Export button found under the Favorite Log Page Shortcuts heading as shown below.



The user is presented with two options:

1. Export Standard TrackVision Data
2. Export Customer TrackVision Data



Exporting Standard TrackVision Data:

1. Select the Export Standard Track Vision Data button.
2. Data is automatically exported to the following file folder location:
C:\Program Files\Apex Visualizations\TrackVision\projects\LoggerFiles\Racepak_Std.csv
3. Data is now saved and ready for use in the TrackVision software.

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Application: DatalinkII Version 2.7b or higher

Exporting custom defined TrackVision data channels:

The custom export function allows the user to create a custom list of data channels to be utilized in the TrackVision software. Any G2X channel that is producing valid data may be included in this list. A partial list of channels is included in the Custom Channels List to Export. To export custom data:

1. Determine if any of the currently listed channels will be used.
2. To erase existing channels, place the mouse cursor at the beginning of the channel name, left click to select and use your computers Erase button to clear the channel name.
3. To add a channel, place the mouse cursor below the last channel in the list and left click.
4. Type the channel name EXACTLY as it appears in the Runfile. Include any upper or lower key strokes, underscores, etc.
5. Select the Export Custom Track Vision Data button.
6. Data is automatically exported to the following file folder location:
C:\Program Files\Apex Visualizations\TrackVision\projects\LoggerFiles\Racepak_Custom.csv
7. Data is now saved and ready for use in the TrackVision software.