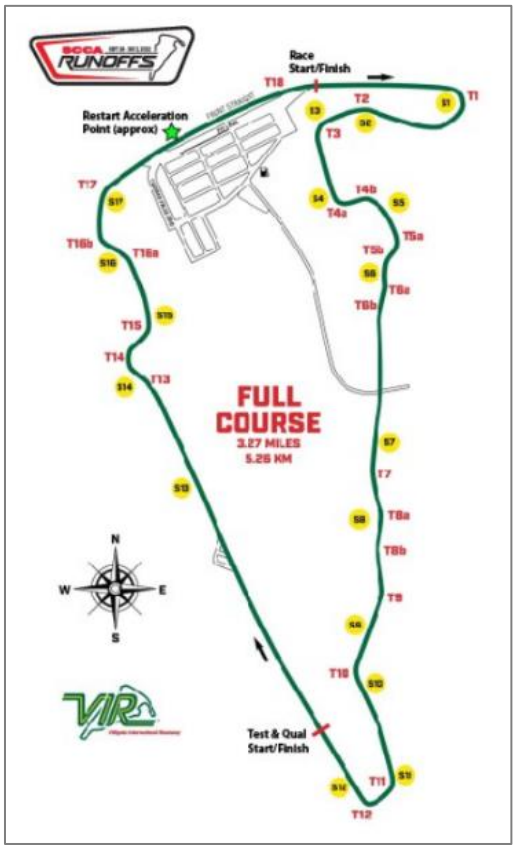
AiM Sports Users and the 2022 SCCA Runoffs 'Alternative Start/Finish Line'

For the 2022 SCCA Runoffs at VIRginia International Raceway (VIR), an 'Alternative Start/Finish Line' official timing loop will be used for all SCCA Test Days (Sept 24-26) and Qualifying (Sept 27-29). Then for the Hagerty Race Days (Sept 30 thru Oct 2) the conventional Start/Finish timing loop located at the north end of the track will be used for official timing.

From a pure data focused perspective, AiM Sports data users can simply ignore the SCCA's use of an alternative S/F line and create lap times and data analysis from the standard S/F line at the north end of the track. This will however create a situation where your lap times will NOT match the official SCCA lap times (and possibly teammates) and you will not realize the real benefits of practicing and qualifying while using the alternative S/F line.

There are several things an AiM Sport User can do to prepare for this event and then do during the event that will make this alternate S/F line a non-issue.

This document gives you information, some best practices, and specific solutions. Here is a hyperlinked Table of Contents to help you find the specific topic you need.



SCCA 2022 Runoffs - VIR Track Map

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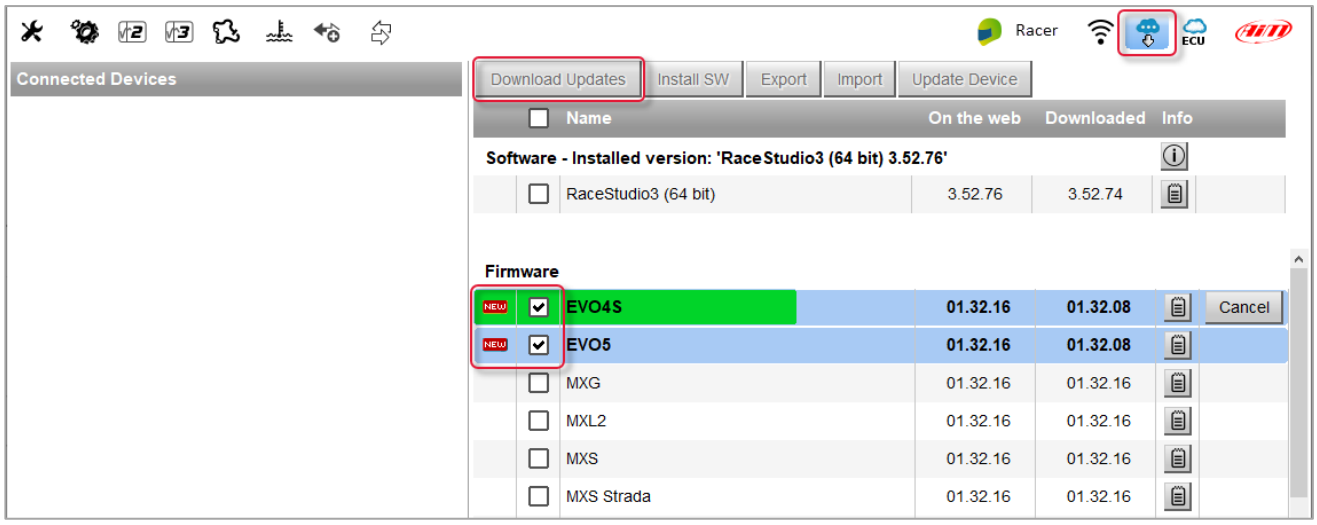
Pre-Event Preparation

Updating Your Race Studio 3 Software

It is suggested that before this event you update the Race Studio 3 (RS3) software on your PC and the firmware on your AiM hardware. Having the latest AiM software and firmware will make sure that your AiM system will perform correctly

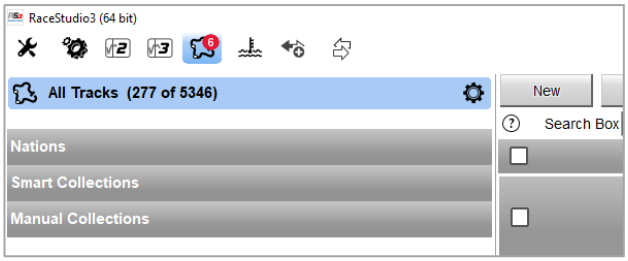
The RS3 software and firmware can be updated from directly inside of the program when your PC is connected to the internet and RS3 is open.

If any updates are available, the Web Updates icon (a blue cloud in the upper right corner) will include a download arrow. Click on the Web Updates icon to download and install the latest AiM Sports software and firmware.



Updating Race Studio 3 Track Database

Included in the RS3 software is the AiM Track Database that includes over 5300 worldwide tracks and is constantly updated. When Track Database updates are available, the RS3 software Track Database icon will include a small red circle. To update, click on the icon and follow the provided directions to update the Track Database.



Many tracks have more than one configuration. VIR has 5 official configurations, and they are Full, Grand, Patriot, North, and South Courses. AiM has recently added another configuration for the 2022 SCCA Runoffs Alternate S/F Line and it is named 'VIR Full Alt'. This is the same track layout as the 'Full' track configuration but uses the alternate S/F line location.

Track Map Information

When attending an event at a track with multiple track configurations, it is recommended to load only the track configuration that is being used for that day's sessions and remove all other tracks from the same facility from your AiM hardware (both your AiM data logger and also your SmartyCam if you use one). For this event you should remove all the VIR track configurations except the one being used for that day's sessions.

Here are the Sessions, Dates and AiM Track Maps that should be used for the 2022 SCCA Runoffs at VIR:

- Test Days Sept 24, 25, and 26 VIR Full Alt
- Qualifying Sept 27, 28, and 29 VIR Full Alt
- Race Days Sept 30, Oct 1, and 2 VIR Full

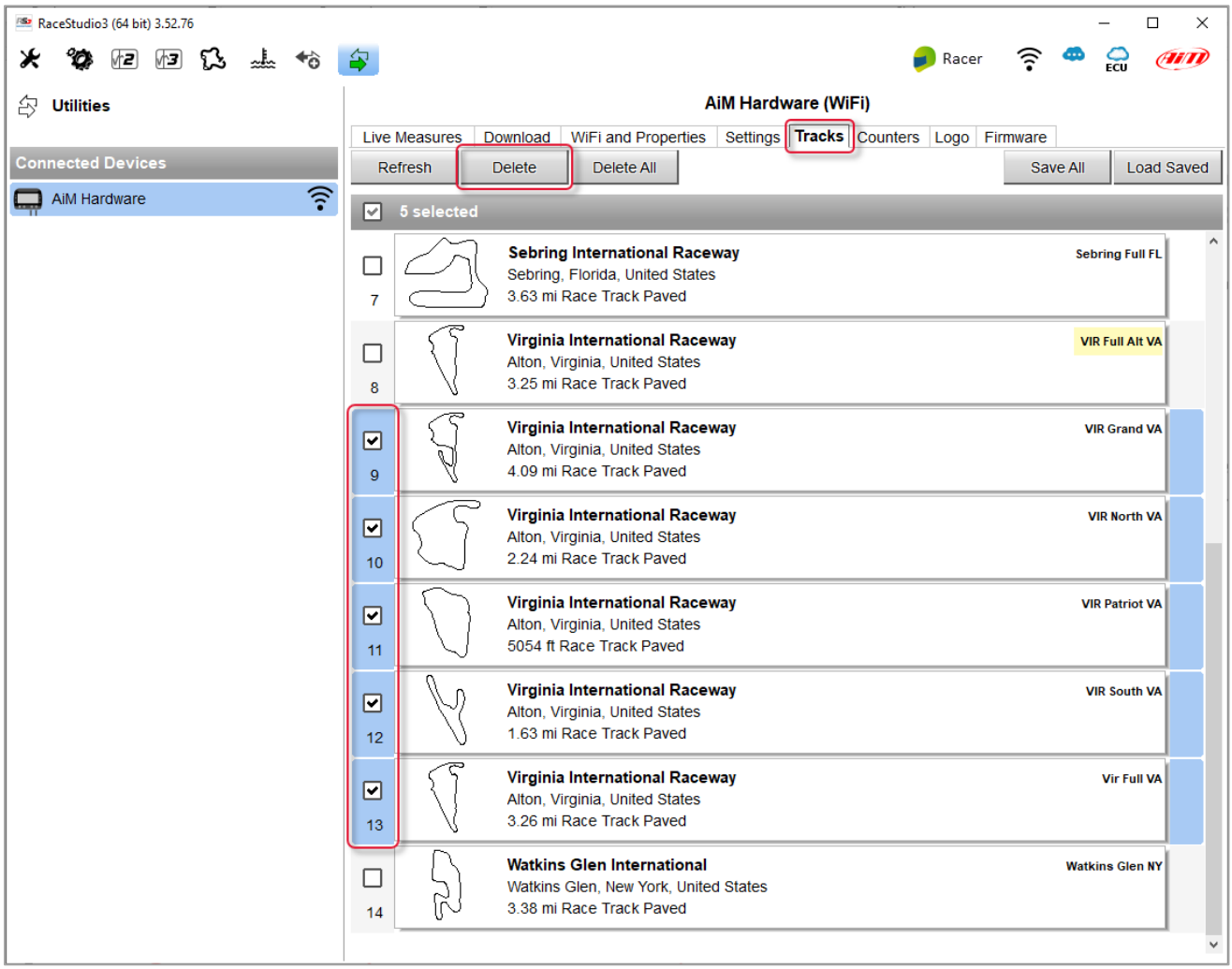
While this schedule may suggest that you must make several track map changes on your AiM hardware however this is not true. You should load the 'VIR Full Alt' track map prior to the start of the Test Days and Qualifying and then only change to the 'VIR Full' track map prior to your Race event.

Removing Tracks from Your Hardware

Open RS3 and connect to your AiM hardware. Select your hardware from the list of 'Connected Devices' and select the 'Tracks' tab. This will show you all the tracks you have loaded on your device. You can either select the 'Delete All' button to remove all the loaded tracks or if you have already updated and loaded current tracks, select all the VIR track configurations except the one you want to remain.

In the example below, all VIR track configurations except the 'VIR Full Alt' are selected and to finish deleting these selected tracks from your AiM Device, click on the 'Delete' button.

As you can also see in the example below, there are other tracks not being deleted (Sebring and Watkins Glen) and leaving these is OK. You can have many different tracks loaded in the AiM Device, but you should only have one track configuration from the track you are running on.



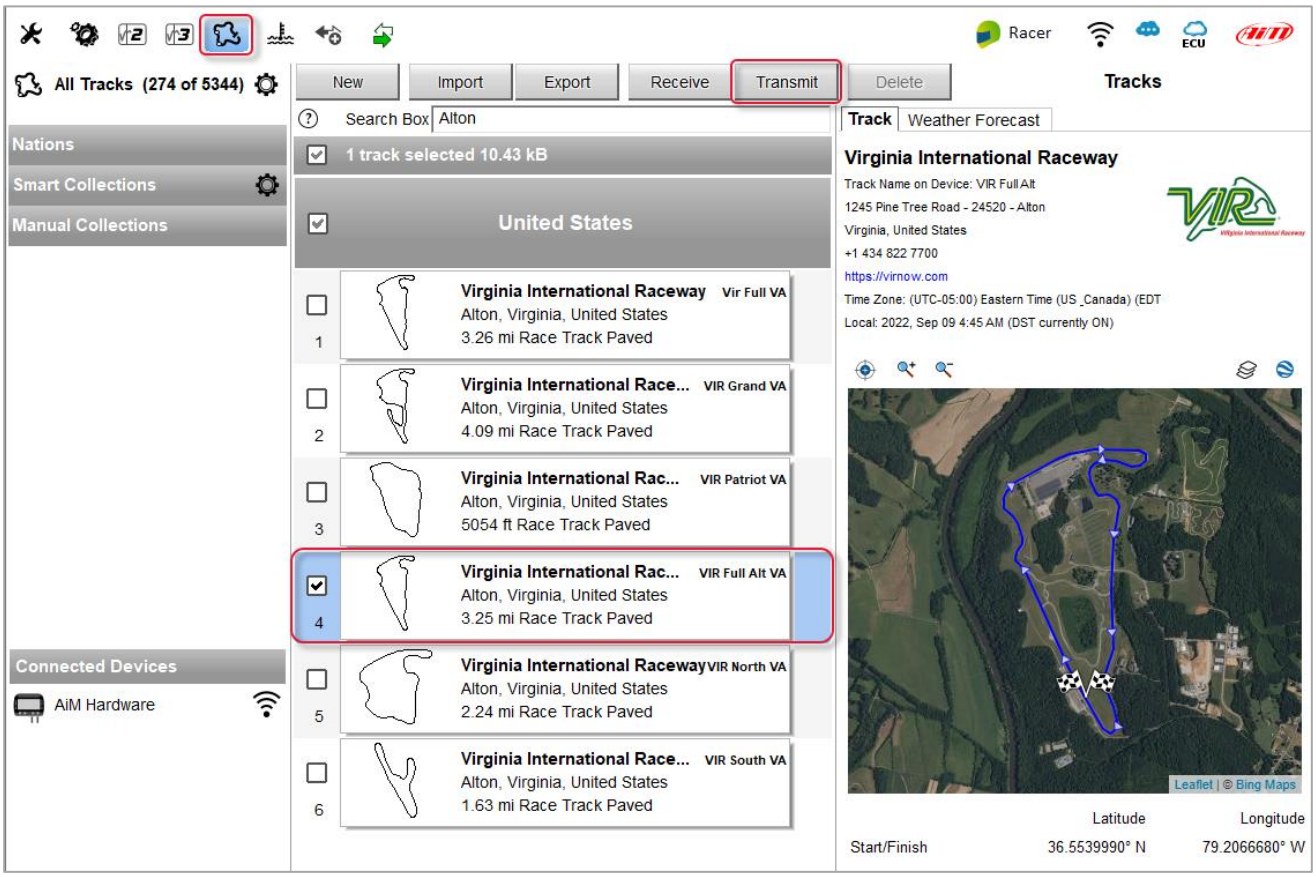
Adding Tracks to Your Hardware

Open RS3 and connect to your AiM hardware. Select your hardware from the list of 'Connected Devices' and select the 'Tracks' tab. This will show you all the tracks you have loaded on your device.

Click on the 'Tracks' icon in the upper left corner to open the Track Database and to filter the results, type 'Alton' into the Search Box and you will be shown all the tracks in Alton, VA.

Select the track you want to load onto your AiM device and then click on the 'Transmit' button and the selected track will be added to your device.

In the example below I have selected only the 'VIR Full Alt' track to be transmitted.



Track Maps in Race Studio 3 Analysis

When viewing data files in Race Studio 3 Analysis (RS3A) the software will use the S/F line that was used when the data was recorded. For this event during Test Days and Qualifying that will be with the track map 'VIR Full Alt'.

However, you may have data from earlier races or test sessions that was recorded with the 'VIR Full' track map loaded so you may have 2 sessions with different S/F line locations.

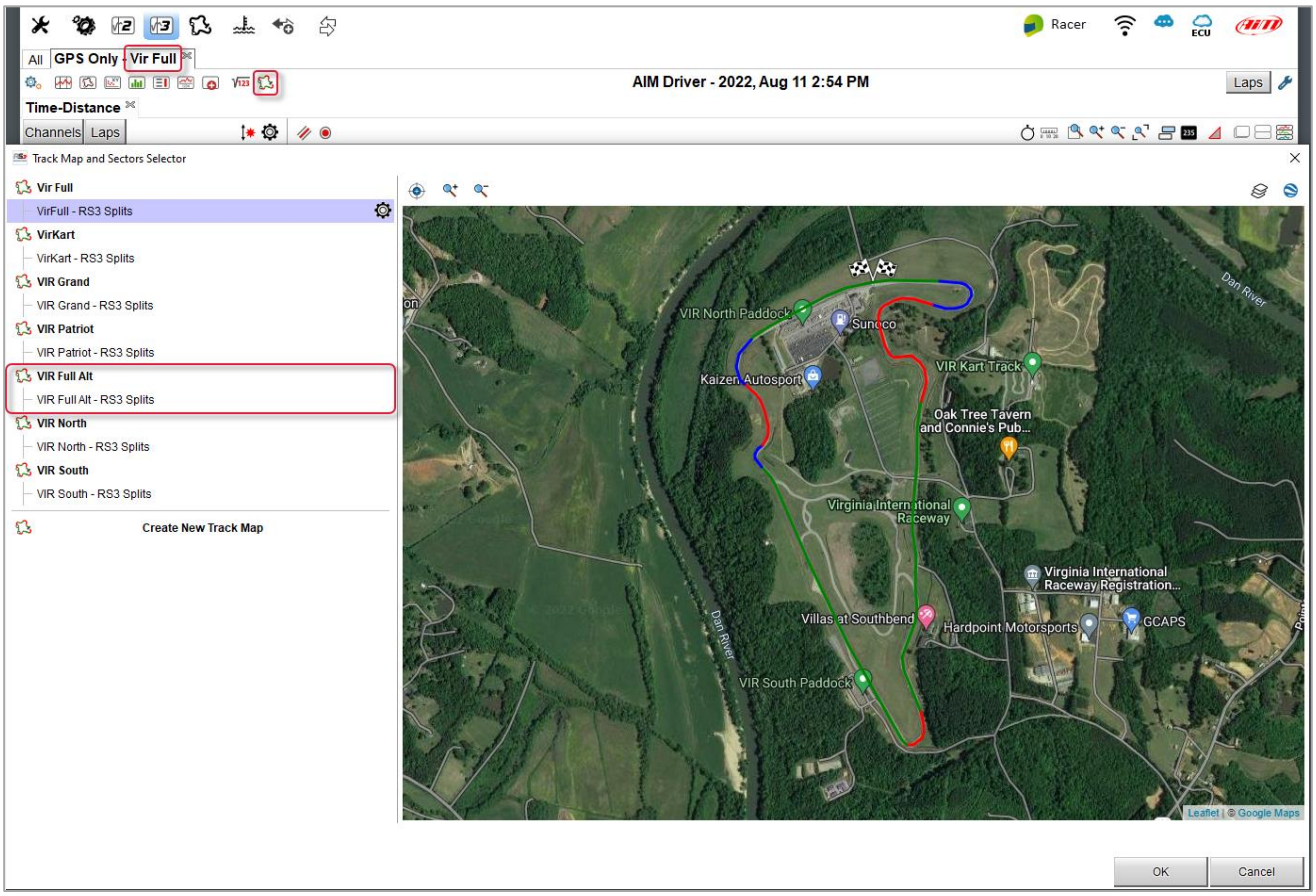
Changing the Track Map Assigned to Existing Data Files

With a session open in RS3A you can identify the track map assigned to the session by looking at the session tab. In the example below the track attached is 'VIR Full'.

If you need to change an assigned track map to an open session, click on the 'Open Track Map and Sectors Selector' icon and you will be shown all the track maps that are available.

In the example below the 'VIR Full Alt' track map has been circled and to select that map, click on the 'VIR Full Alt – RS3 Splits' text to select the map and then click on the 'OK' button. This will open a dialog box stating, 'Do you want to use Virginia International Raceway also for all sessions run on the same day?'.

This is a time saving option that typically you will answer with a 'Yes' so all sessions from that day will have the new track map used.



Loading Track Maps on Older AiM Hardware

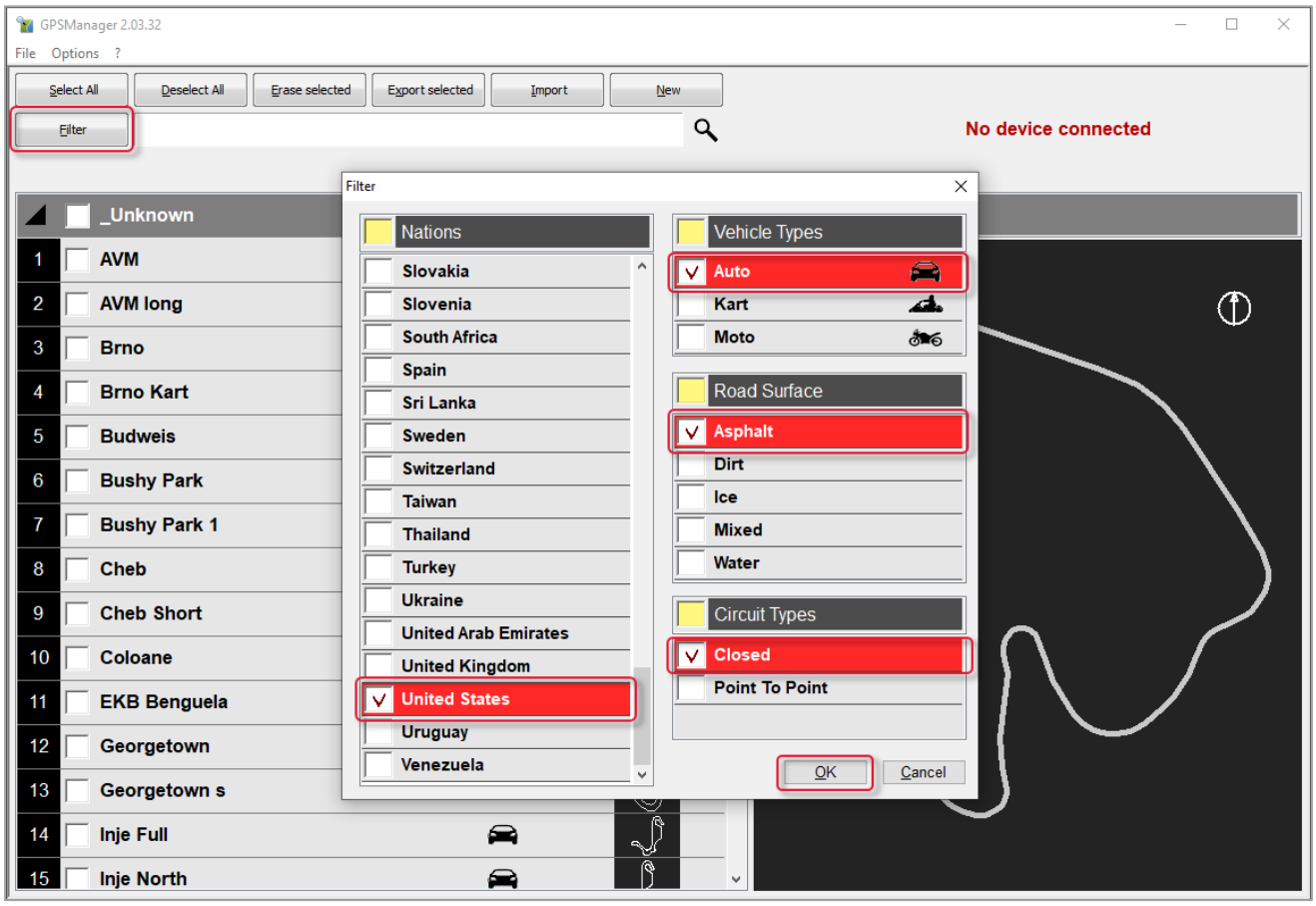
AiM Sports has also updated all the VIR track map configurations for the older Race Studio 2 and GPS Manager software. Here is a link to download the GPS Manager software. After downloading the file, install the GPS Manager software on your PC:

GPS Manager: https://www.aim-sportline.com/aim-software-betas/Software/Applications/GPSManager/release/GPSManager_20332_160826_WEB.exe

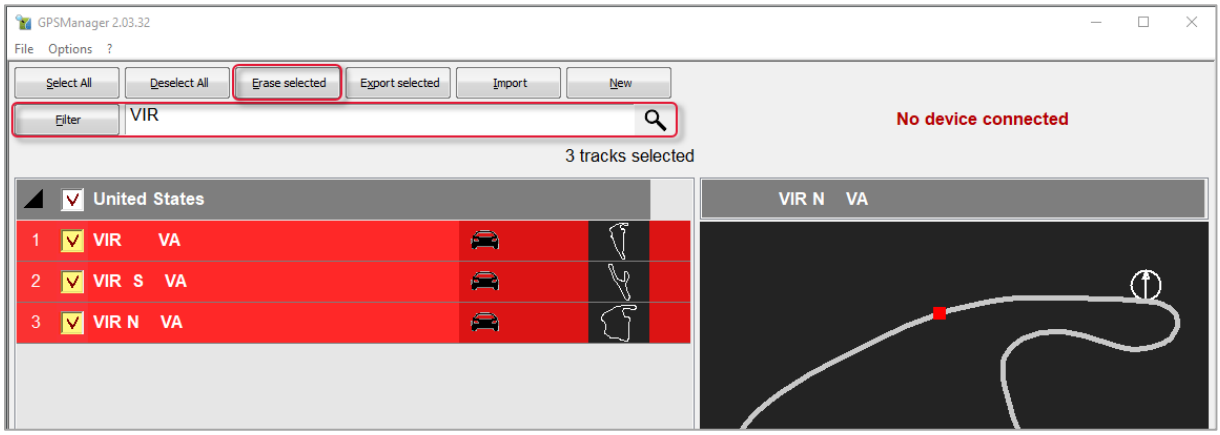
When you have downloaded and installed the GPS Manager software, the database will need to be updated so you will have the latest VIR Track map configurations. The first step is to download this small .zwd file that includes the updated VIR track configurations (click on the link below and save the file onto your PC where you can find it):

Updated VIR Tracks: https://www.aimsports.com/webinars/maps/Updated_VIR_Tracks_2022.zwd

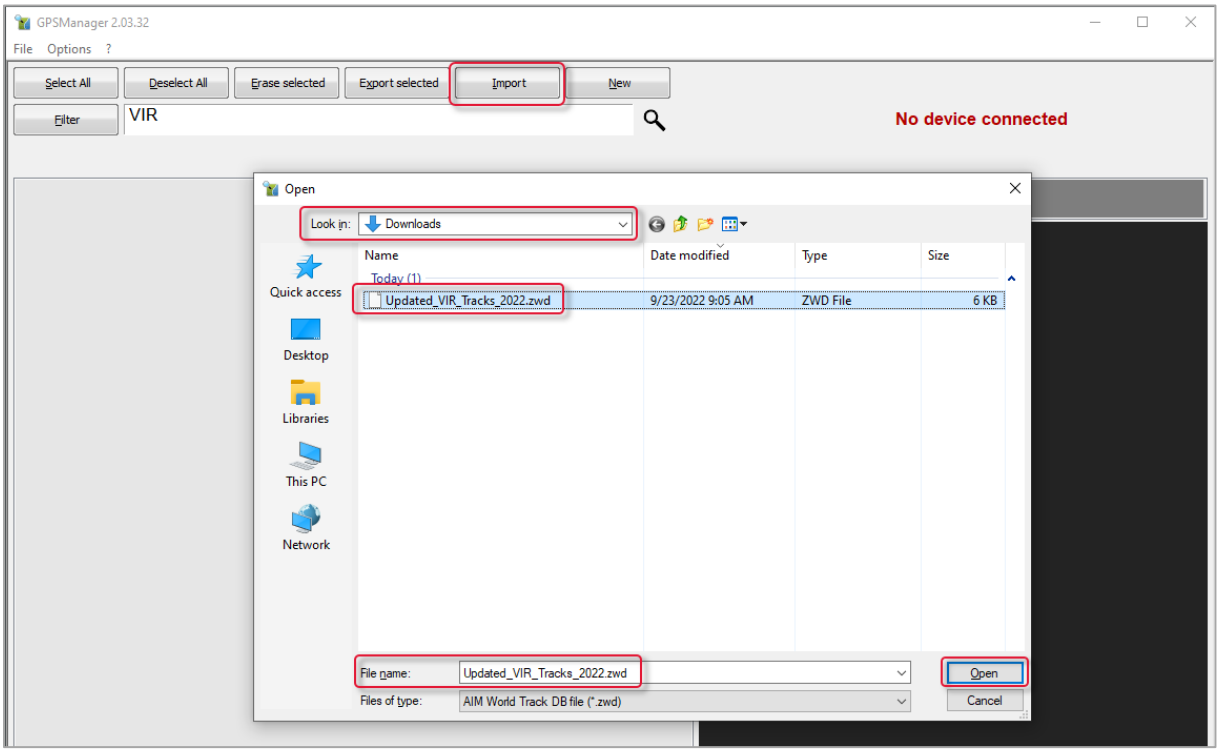
To update the GPS Manager track database to include the latest VIR track map configurations, open the GPS Manager software. The GPS Manager track database is a worldwide database so you may want to filter out tracks from other countries and track types. To do this click on the 'Filter' button and uncheck the 4 overall selection check boxes (highlighted in yellow) then under Nations, scroll down and select United States, under Vehicle Type select Auto, under Road Surface select Asphalt, and finally under Circuit Types select Closed. Yours should look like the image below and then click on the OK button:



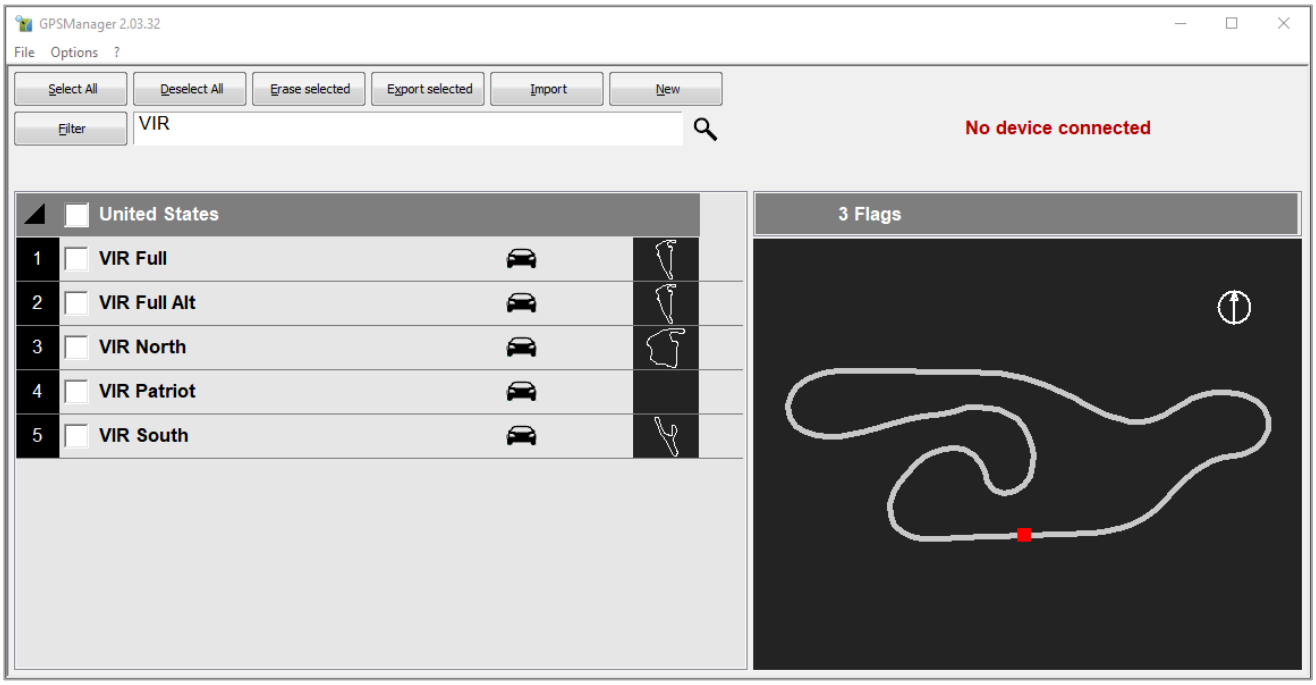
Next, we need to replace the old VIR configurations with the new VIR track configurations.
In the GPS Manager Filter bar, type in VIR and you will only be shown the tracks in the database that start with VIR. Select each of these older configurations by checking the box next to them and then click on the 'Erase Selected' button as shown in the image below. You will be asked to 'Erase all 3 selected tracks from the database?' and click on Yes.



Now we need to Import the 'Updated VIR tracks' configurations that you should already have downloaded from the link provided above. Inside GPS Manager, click on the 'Import' button and you will be given a dialog box to browse to the 'Updated _VIR_Tracks_2022.zwd' file you should have downloaded earlier. Once you have browsed to the file, click on the file name so it is placed into the File name box along the bottom of the dialog box, then click on the 'Open' button to finish importing the new VIR track configurations.



If you are still filtering the database with 'VIR' as shown below, your GPS Manager database will now show only the following 5 new VIR track configurations:



This finishes the installation and updating of the GPS Manager software. You can now use this to load the updated tracks onto your AiM hardware and this database of tracks is also used for the process we describe next where Race Studio 2 Analysis can easily compare data from different VIR track configurations.

GPS Manager Track Loading Tips

For tracks that have multiple track configurations (like this 2022 SCCA Runoffs at VIR) it is a good idea to only upload only 1 track configuration to your AiM hardware (both your data logger and SmartyCam if you use both). For the 2022 SCCA Runoffs this means before starting the events practice and qualifying sessions with the 'VIR Full Alt' track map loaded. Then when qualifying is over, connect to your logger (and SmartyCam if you use one) and remove the VIR Full Alt track and load the 'VIR Full' configuration for the race event.

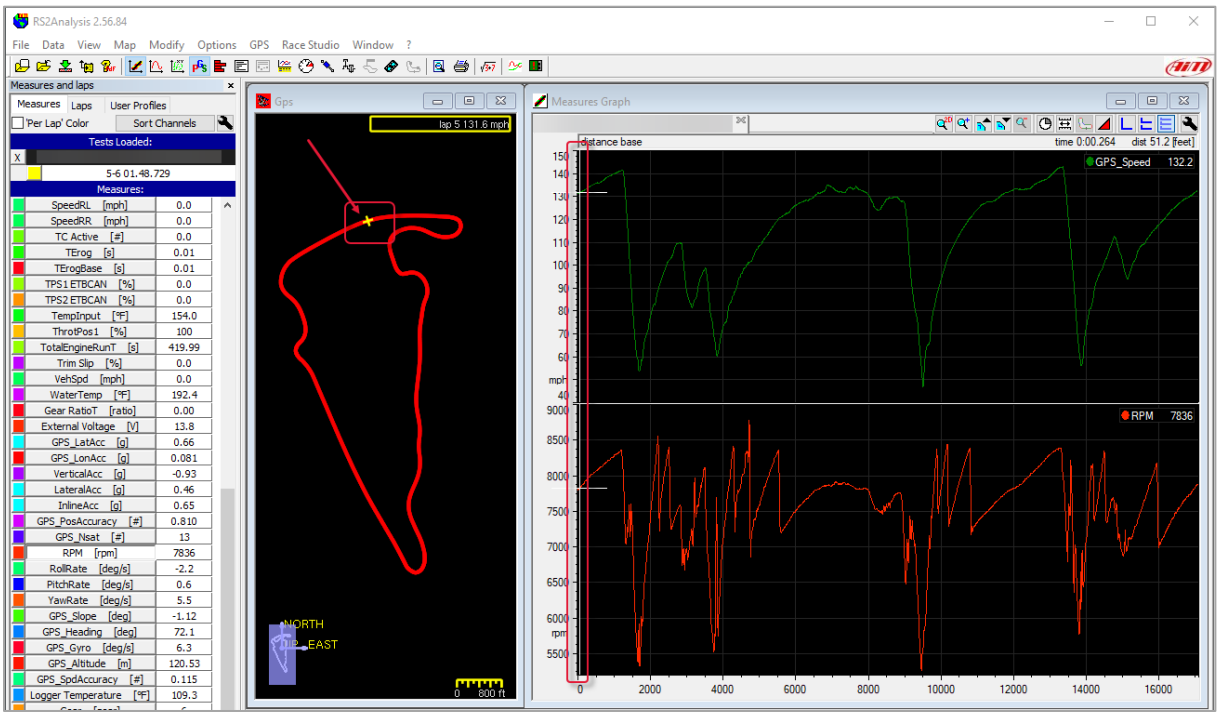
You can load multiple configurations but if you load multiple configurations that are from the same facility, you will need to go into the AiM logger (and SmartyCam) menu system and turn off the automatic track selection and select the correct track map configuration manually. This is an issue only because VIR has multiple track configurations on the same property.

Track Maps in Race Studio 2 Analysis

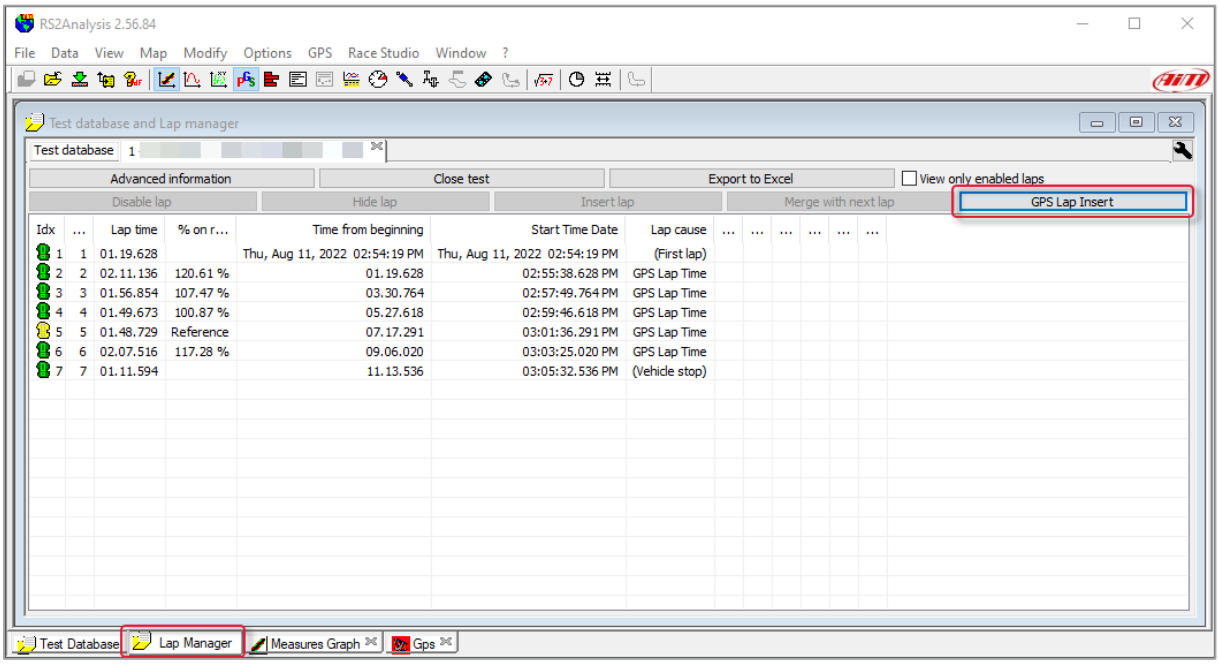
During the 2022 SCCA Runoffs at VIR you may find the need to compare data collected using the new ‘VIR Full Alt’ track configuration that is using the alternate Start/Finish line coordinates at the southern end of the facility with data collected using the ‘VIR Full’ track configuration using the Start/Finish line coordinates at the northern end of the track. This is an easy task now that you have loaded the GPS Manager software and updated the VIR track configurations. If you have not done that already, please go back to the prior chapter in this document and do this because Race Studio 2 Analysis (RS2A) and the ‘GPS Lap Insert’ function shares the GPS Manager database so GPS Manager must be loaded and updated for the following process to work correctly.

In the RS2A software, your downloaded data files will use the S/F line location based on the track maps that were loaded on the AiM hardware when the data was collected. Once the data is in RS2A we can use a very powerful and fast function called ‘GPS Lap Insert’ to recalculate any AiM data files (that have GPS information) to have the S/F line location changed to another track configuration’s S/F line location. After you do this then you can easily and accurately compare multiple data sessions.

Below is an image of a data session that was collected using a VIR track configuration with the northern S/F line. You can see that the cursor is at the start of the data and the GPS map shows the S/F line location:



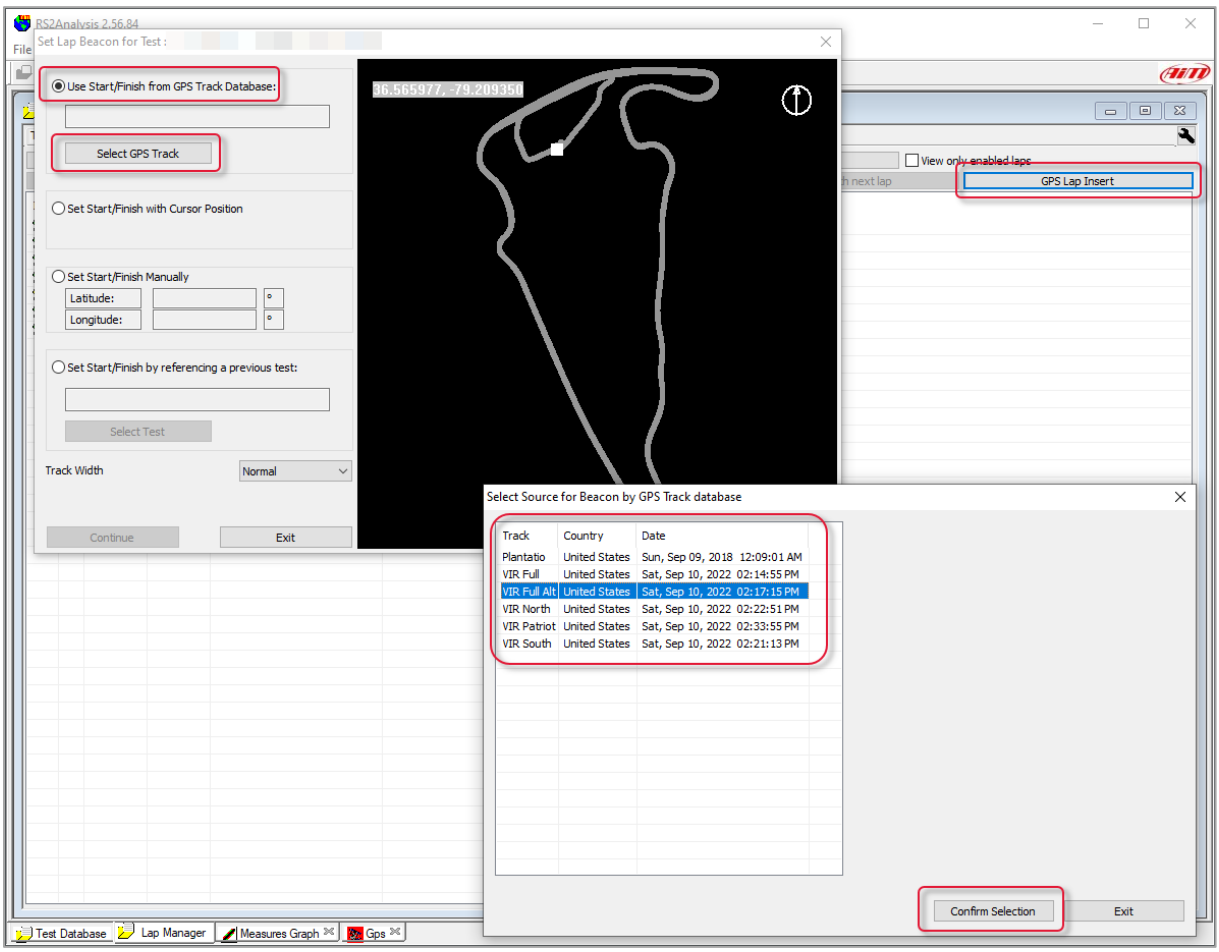
To recalculate any AiM data files (that have GPS information) to have the S/F changed to another track configurations S/F line location, the first step is to click on the ‘Lap Manager’ tab and then you will find the ‘GPS Lap Insert’ function:



When you have an AiM data session open and you click on the 'GPS Lap Insert' button, a dialog box will open giving you 4 different options to change your S/F line location, allowing the RS2A program to recalculate new laps for the session. In this case we are going to show what most find the fastest and easiest method, the top option of 'Use Start/Finish from the GPS Track Database'.

Click on this top option and set the radio button and then click on the 'Select GPS Track' and when you do this a list will be given showing all the tracks from the GPS Manager database you should have already updated. If you have not done this already, go back earlier in this document and find the instructions how to do this. Occasionally you may need to close and reopen RS2A to have it update the tracks shown if you recently updated the GPS Manager GPS tracks database.

Select the track that you want to use to set the new S/F line with from the list and then click on the 'Confirm Selection' button as shown below:



You will be presented with a ‘Confirm Lap Times’ list showing you what your lap times will be if you confirm this final step. If they look correct, click on the ‘Confirm’ button.

The Race Studio 2 Analysis software will then take just a few seconds to recalculate your data to move the S/F line to the track configuration you selected. This change will persist until you do the same steps again to change to another track configuration in the future. Do these same steps for any data sessions you may want to change the S/F line location.

Below is an image of the data session used as an example here showing the cursor placed at the beginning of the Measures Graph and showing that location on the GPS map confirming this data now has the ‘VIR Full Alt’ track configuration used for the S/F line location and all laps and times calculated from this line.