Spatial data can be logged internally (as fields within the data set) or into an external file. If you are recording GPS (Global Positioning System) data as lines or polygons, your GPS data will be logged to a separate file. If you are logging point data you have a choice to select logging data to a branch record (internally) or to a separate file (externally).

In this example we will add latitude and longitude columns to point, line, and polygon. The point will also have an elevation column. It is assumed that the user has a built in or properly connected external GPS receiver and the manufacturers' software to select NMEA sentences.

Record Latitude, Longitude and Elevation in the Application

Point

1. Select desired level in the Hierarchy window.
2. Select the GPS under Branches Tabs.
3. In the Points area, check the box next to Enable.
4. Choose Log to branch record and check the box for Use elevation column.
5. Change Points to average to 10 and check the box next to Allow user to override average.

Note: The Required before level retreat option requires a GPS point to be collected before the level can be exited. The Required before moving from record option requires a GPS point before the user is allowed to move off the current record.

P. O. Box 31, Jerome, ID 83338
Ph: (208) 324-8006   Fax: (208) 324-8015   www.elecdata.com   support@elecdata.com

Line

1. Select desired level in the Hierarchy window.
2. Select the GPS under Branches Tabs.
3. In the Lines area, check the box next to Enable.
4. For line and polygon collection, you have to choice to collect GPS positions by time interval or by distance from the last position. Select Log position at minimum distance from prior positions (feet) and set to 3.
5. Check the box next to Required before level retreat.

Polygon

1. Select desired level in the Hierarchy window.
2. Select the GPS under Branches Tabs.
3. In the **Polygons** area, check the box next to **Enable**.
4. Select Log position at minimum distance from prior positions (feet) and set to 3.
5. Check the box next to Required before level retreat.

Configuring ILat, ILon and IElv Columns

1. New parameters will appear under columns: ILat, ILon and IElv (only if you have Use elevation column checked for Point collection).

By default these new columns will be hidden fields within the application and listed just below the key fields. These GPS columns cannot be moved, but they can be made viewable on the handheld if desired (choose the column, go to the Column Display tab, uncheck the "Hide" option).

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2. Select ILat in the Columns window.

3. Select the Column Display under Column Tabs.

4. Uncheck the box next to Hide.

5. Select the Data Entry under Column Tabs.

6. Click on the arrow for User Data Entry Type and choose View only.

7. Repeat steps for ILon and IElv on all levels.
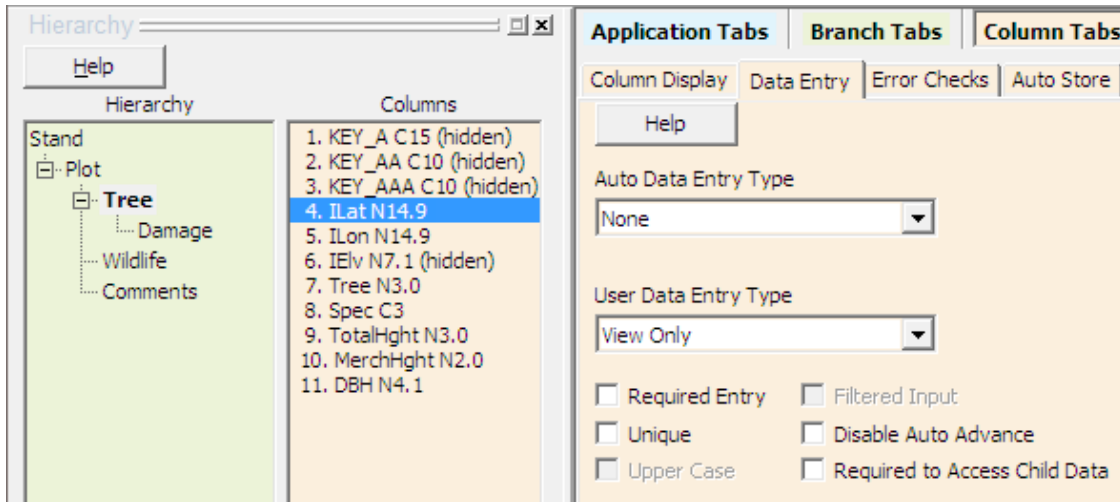
Test New Columns

1. Click the Compile icon in the toolbar.

2. Click the Test icon, click OK.

3. Press the F5 key to move through your levels

4. Observe the new Latitude, Longitude and Elevation fields.

5. Press F4 or Esc/Y until you return to the Application Generator.

Using the GPS

1. From the main screen of DataPlus Mobile on the mobile device, select the GPS icon and choose Port Settings.

2. Set the appropriate port settings for your specific GPS receiver.

3. After clicking OK, you will be asked if you want to open the GPS Port with new settings. Click Yes.

4. Alternatively, on main DataPlus Mobile screen, select the GPS icon and click Connect.
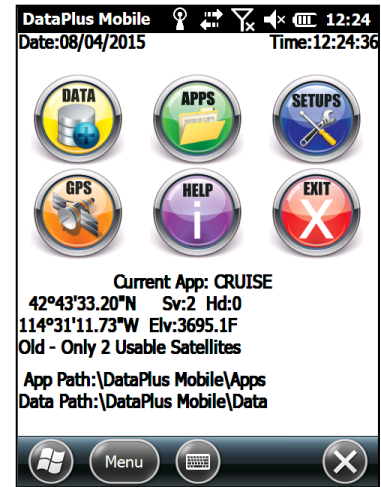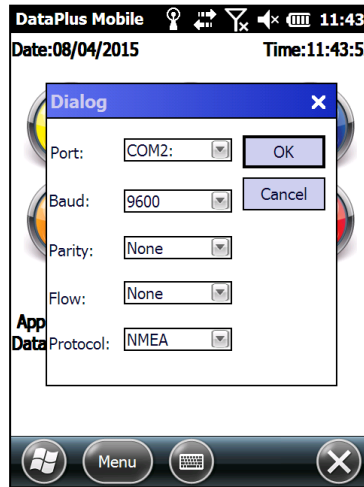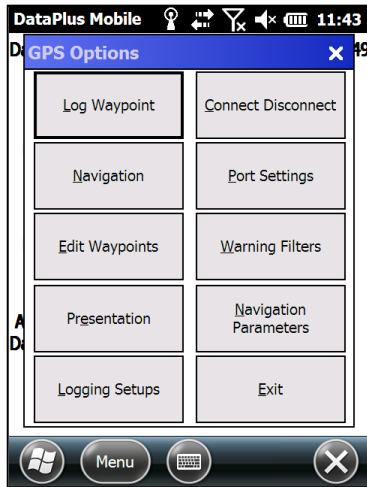
5. You will be able to see current GPS status information on the screen.

6. Within your application, when you are at the line and/or the field where latitude, longitude and elevation are required, press Ctrl G and the following screen will appear.

7. Select Yes and DataPlus Mobile will automatically advance to this screen.

8. If the box Auto Store after Averaging is checked DataPlus Mobile will automatically proceed to the following screen after the pre-determined number of points have been averaged. If this box is not checked the user must tap OK to proceed.

9. The fields: latitude, longitude and elevation are populated and will be included in the data download.