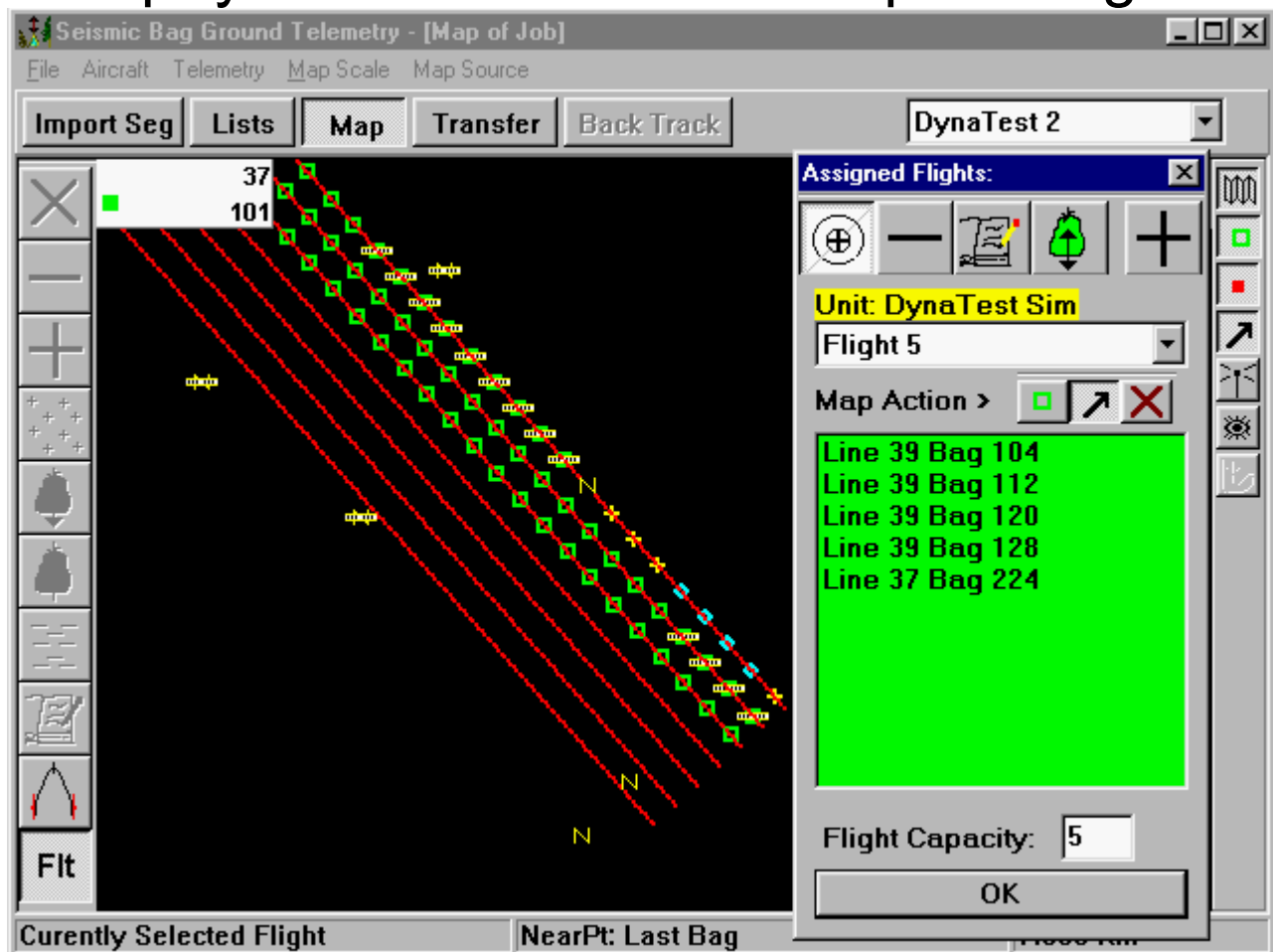






# THIS MANUAL CONTAINS INSTRUCTIONS FOR:







## Operation of SeisBag-Ground™

### Version 4.5

## SeisBag-Ground Asset Management system for Bag Deployment /Retrieval and Helicopter Navigation



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## Overview of the Software:

### Coordinators bag and Aircraft operations management tool

The primary role for the SeisBag Ground software is a bag management tool for importing the SEG P1 Receiver files, planning/marketing the bag placement locations and exporting to the helicopter DynaFlight-SeisBag navigation system for deployment and retrieval of seismic or other materials. Flight plans can be created for the sequence of bag locations for deployment and retrieval. Although the system is primarily used with a telemetry link to the helicopter for live transfer of data, the systems can operate stand-alone.

With the optional Navigation Module, the helicopter navigation points such as helipads, staging and emergency locations can be created on the ground software or by the helicopter and managed for each job location.

### What does the simulator mode do?

On starting the SeisBag Ground software, you are asked if you would like to run in simulator mode. Simulator mode does everything in licensed mode, except transferring data to the actual aircraft card. However, it does transfer to the c: drive for the operation of the DynaFlight-SeisBag simulator on the computer. After the job is created and transferred to the Air simulator, the actual job can be flown and bags deployed as a flight simulator on your computer. After quitting the air simulator, the job can be transferred back to the SeisBag Ground in simulator mode for review.

The simulator mode is a good place to practice naming, importing and planning the actual job data. This can be done with the pre-plot data well ahead of the job, and then when the post-plot data is available, it can be imported into the licensed mode for actual operations.

## Software Installation Instructions:

The following are the instructions for the installation of the SeisBag-Ground software.

### Cautions:

You will require some room on your **C:** hard-drive to install and run this program. In general if you are running with less than, say, 100 megs free space on your hard drive it is recommended that you not install any more programs on this drive.

You have to be running Windows 95, 98 or 2000 or NT for this software to work.

### If you have been e-mailed an “SeisBag Ground Install Image.exe” install image:

- In your e-mail program, save the attachment to a temporary folder. In your e-mail program, right-mouse click the attachment and select ‘save as’ or ‘save link as’. You will be asked to choose a temporary destination folder for the file. Chose any folder that you like, and hit ‘save’. You will have to remember where this attachment is saved, so write the folder path down if necessary.
- Go to this temporary folder with your browser (Windows Explorer) and Run the program “SeisBag Ground Full Install (date).exe” (double click on this image).
- Step through the install wizard, accepting the defaults are OK, you may be required to enter your name and company name.

- After this is finished, the program will be installed as a normal windows application and will be available to run by using 'Start – Programs – Dynanav Seismic – DynaNav SeisBag Ground'.

### **If you have downloaded an “SeisBag Ground Install Image.exe” install image from our web site:**

- Go to the folder that you stored the “SeisBag Ground Install Image.exe” with your browser (Windows Explorer) and Run this program (double click on this image).
- Step through the install wizard, normally accepting the defaults are OK, you may require to enter your name and company name.
- After this is finished, the program will be installed as a normal windows application and will be available to run by using 'Start – Programs – DynaNav Seismic – DynaNav SeisBag Ground'.

### **If you have CD ROM of the “SeisBag Ground Install Image.exe”:**

- You will find on the root of the CD drive the “SeisBag Ground Install Image.exe” with your browser (Windows Explorer). Run this program (double click on this image).
- Step through the install wizard, normally accepting the defaults are OK, you may require to enter your name and company name.
- After this is finished, the program will be installed as a normal windows application and will be available to run by using 'Start – Programs – DynaNav Seismic – DynaNav SeisBag Ground'.

### **How much of this manual will I have to read before I can begin using the Software?**

After installing and running the program on your computer, very little is required to run the program. To get the software to do certain things, you might have to read some of the stuff below, but much of the operation is obvious once you get started, so feel free to just try the simulator mode out any time you like, and read to fill in the blanks where necessary.

# Instructions for the use of the SeisBag Ground

## *Importing SEG files:*

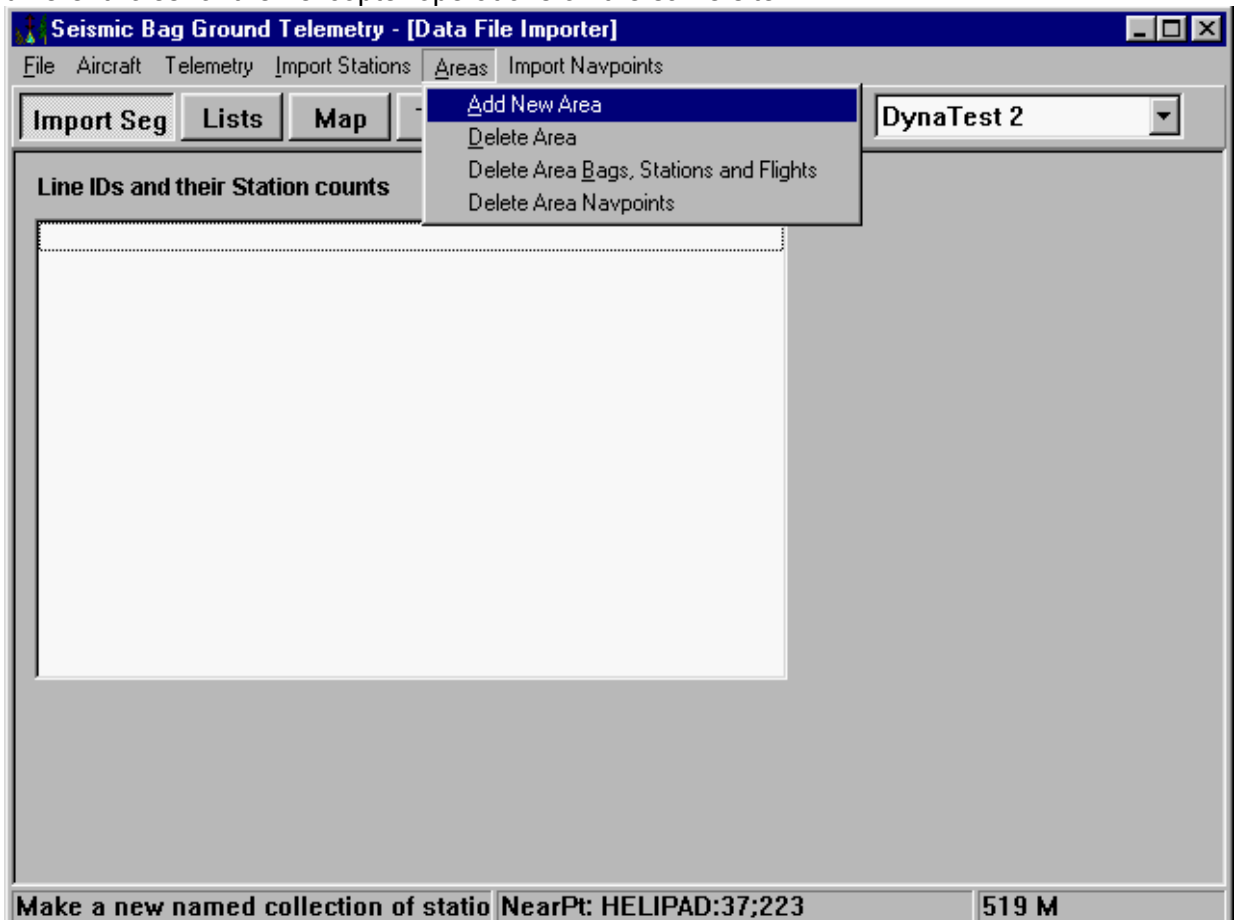
### **IMPORTANT NOTE:**

The SEG files must be in WGS84 or NAD83 datum. In order to maintain an audit trail and to qualify the survey data, our software does not allow for any datum shifts of the data. As the aircraft only operates in the WGS84 datum it is imperative that the data points that flow to the aircraft are in the correct datum.

The first objective on the job site is to set a bag location on a known survey point (one of the receiver points on or near staging) and get the helicopter to fly over this navigation point and make sure the survey point is directly below him. If this does not happen, then there is something wrong with the survey data. Some of the common problems are; survey data supplied is in the wrong datum; actual staking is located incorrectly; or actual survey is wrong.

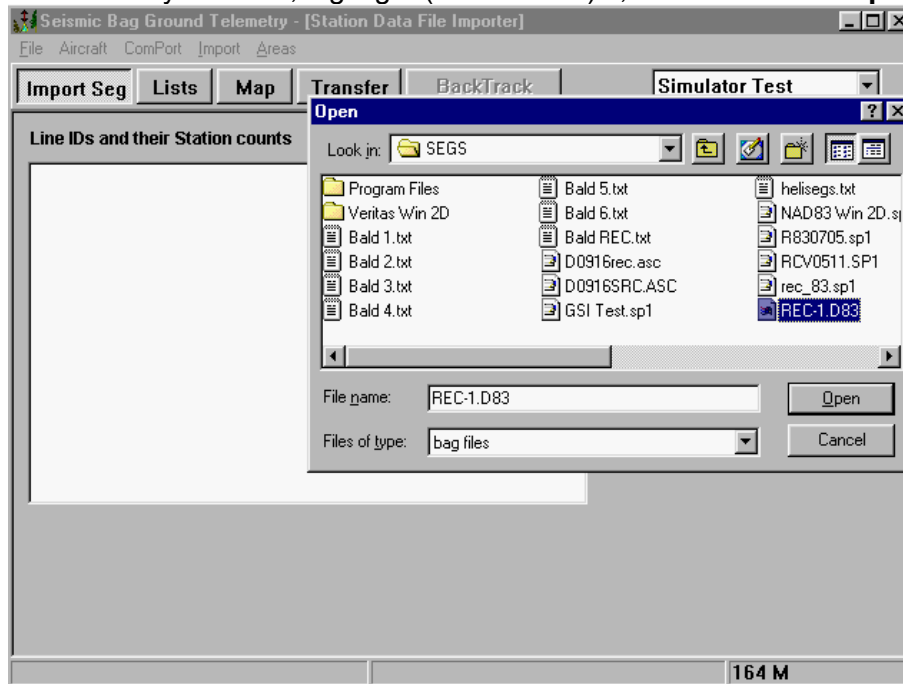
### **Creating and naming new Area for new job site**

- First mouse click the 'Import Seg' button on the top bar.
- Then add a new area name for the job. This is usually the same name as the job has been identified with e.g. Bottomless Lake 3D
- You can create multiples of areas (different names) to run more than one job or if there are different roles for the helicopter operations on the same site.



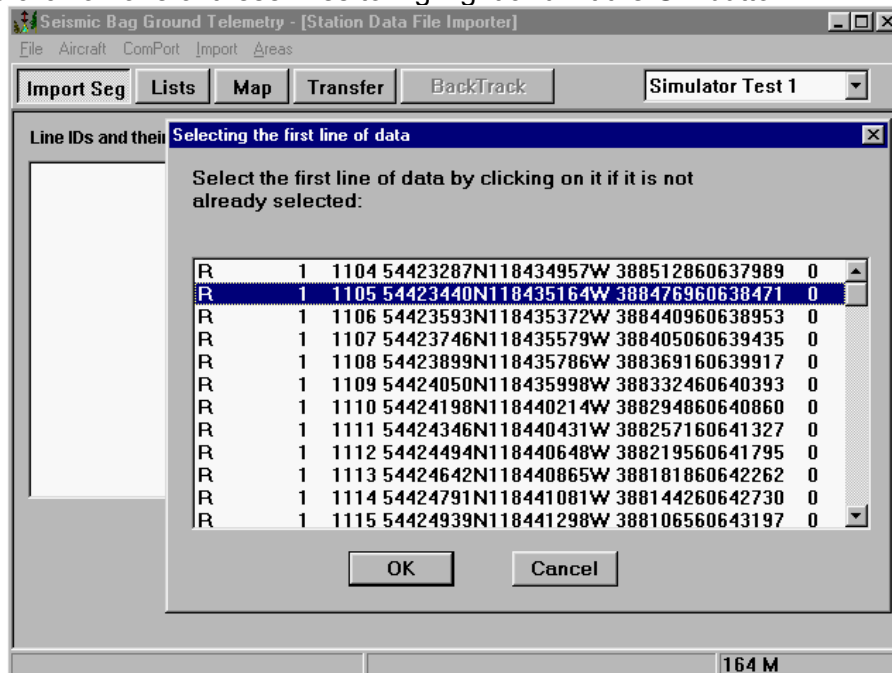
## Importing the SEG file into this area

- Make sure the area name on the upper right is the correct one you want to import to.
- On the pull down menu select '**Import Stations**' then '**Text**'
- In the mini browser find your SEG, highlight (mouse click) it, and then hit the **Open** button.



## Selecting first line of the SEG data file

- In the selection window scroll the window until you see the actual data files with line/station number and the Latitude/Longitude numbers.
- Then mouse click on one of these lines to highlight and hit the **OK** button



## Highlighting the Line, Station, Latitude and Longitude

- Using the mouse cursor, place between the numbers then click down and hold down the mouse button and wipe the mouse to highlight the values for each of the Line, Station, Latitude and Longitude. You can also hold the shift key down and use the arrow keys to highlight. Normally, if the data is correct, the Latitude and Longitude will already be highlighted. When highlighting the Latitude and longitude be sure to include the N (or S in southern hemisphere) and the W (or E in the Eastern Hemisphere).

**Finding the corresponding Items**

Highlight the following items: How?

Line Number: R 93 **93101** 54355114N118563086W 374546860517406 0

Station Number: R 93 **93101** 54355114N118563086W 374546860517406 0

Latitude: R 93 93101 **54355114N**118563086W 374546860517406 0

Longitude: R 93 93101 54355114N**118563086W** 374546860517406 0

**Test Highlighted Values:**

Line Number: 093

Station Number: 101

Latitude: N 54.597539

Longitude: W 118.941906

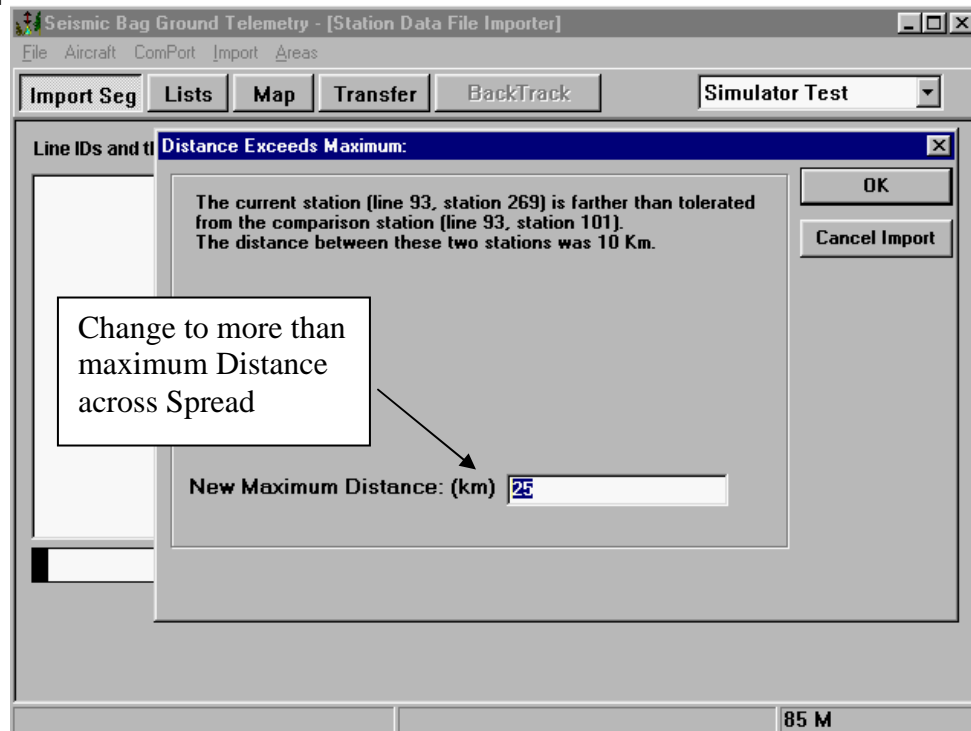
Use Decimal Seconds  
 Use Decimal Minutes  
 Use Decimal Degrees  
 Special Decimal Degrees  
 Change Sign of Long  
 Change Sign of Lati

OK  Cancel

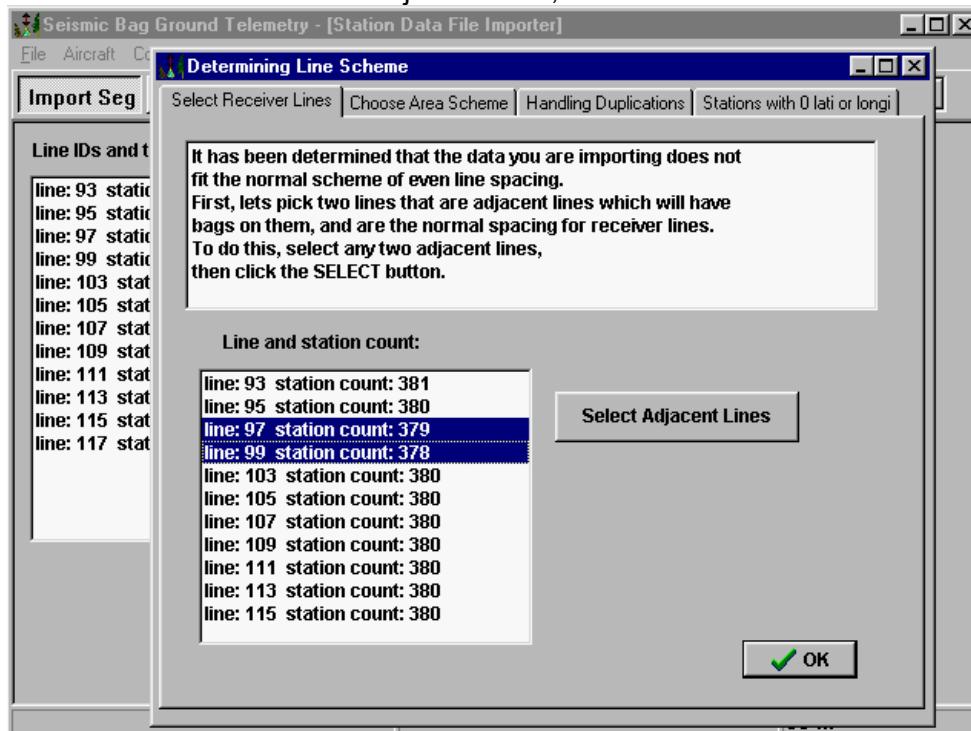
- Make sure that the number of digits highlighted matches the total number to describe the line or the station number. E.g. as in the above example the line numbers go beyond 100, therefore there are 3 digits to be highlighted, that being the preceding blank space in front of the 93 (note the test shows 093).
- Traditional SEG files are usually supplied in Decimal Seconds which is set as a default. If the receiver points on the map do not look exactly like the spread should, the possibility is that the SEG file supplied to you is in a different Decimal format. Please check with the surveyor to confirm the format.
- When this is done, mouse click the **'Test Highlighted Values'** and make sure the values match the real job including the N and W for the North West quadrant of the world. When satisfied, click the **OK** button.

## Processing the imported data for parameters and errors

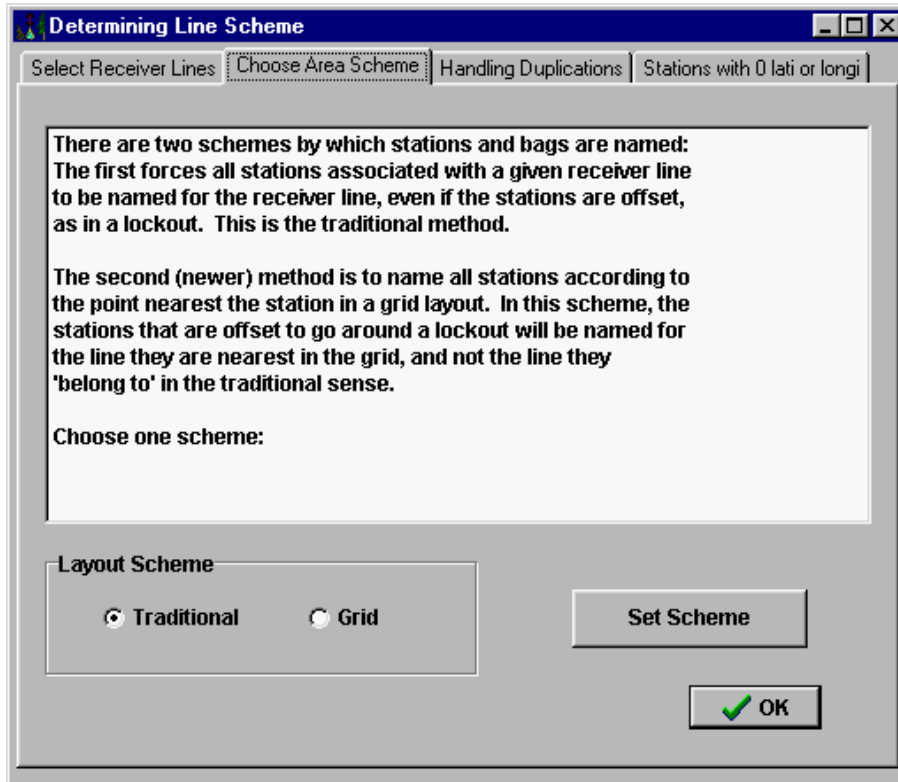
- The software processes the data and does many checks for errors. The first check is the dimensions of the points relative to each other. If it finds a point farther than 10km from the first point, it will pop up a window to inform you and let you specify a new distance for the size of your spread.



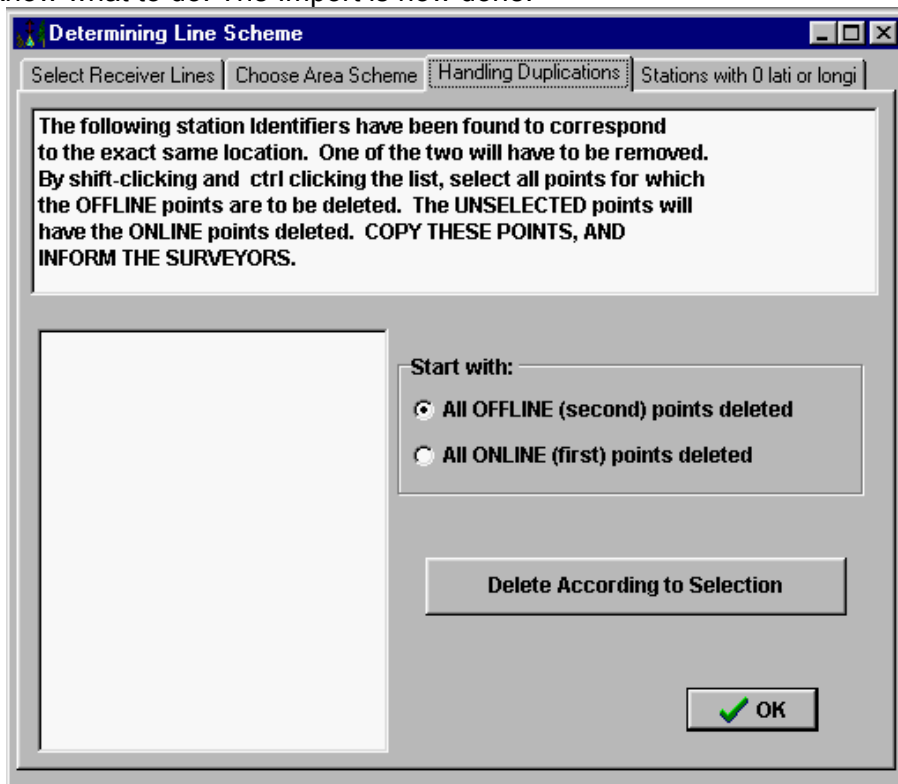
- The next check for error is the consistency of the line spacing to process for correct line numbering relative to orientation etc. If it finds inconsistencies, it will pop up a window to check and select with mouse clicks 2 adjacent lines, then click OK.



- The next software check is for Area Scheme. Depending on how the spread was designed is what gets selected here. The most common is the traditional scheme, which is the default. However, if the scheme is to put the line and station number relative to a grid then that should be selected. Then click **OK**.



- After this the software checks for duplications. If there are any duplications, the instructions will let you know what to do. The Import is now done.



## Importing NavPoints files:

### IMPORTANT NOTE:

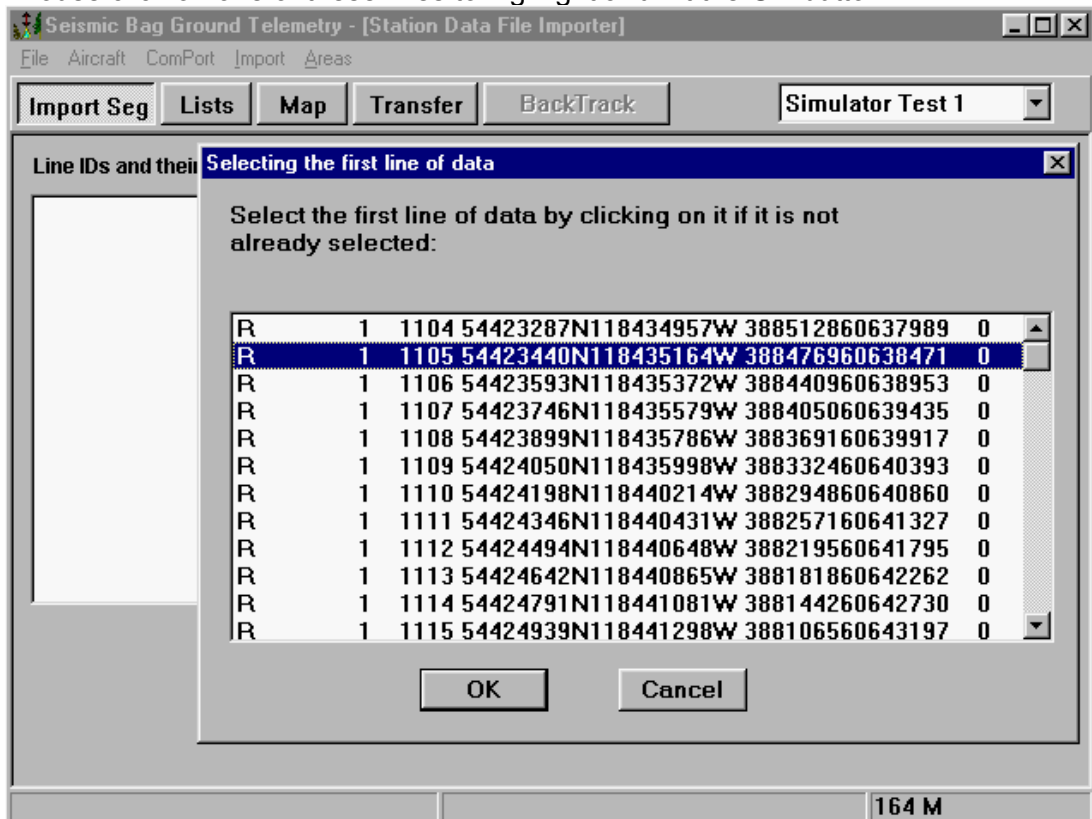
The NavPoint SEG files must be in WGS84 or NAD83 datum. In order to maintain an audit trail and to qualify the survey data, our software does not allow for any datum shifts of the data. As the aircraft only operates in the WGS84 datum it is imperative that the data points that flow to the aircraft system are in the correct datum.

### Importing the NavPoint SEG file into this area

- Make sure the area name on the upper right is the correct one you want to import to.
- On the pull down menu select 'Import NavPoints' then 'Text'
- In the mini browser find your NavPoint SEG, highlight (mouse click) it, and then hit the **Open** button.

### Selecting first line of the NavPoint SEG data file

- In the selection window scroll the window until you see the actual data files with line/station number and the Latitude/Longitude numbers.
- Then mouse click on one of these lines to highlight and hit the **OK** button



## Highlighting the Latitude and Longitude for the NavPoints

- Use the mouse cursor (click and hold) and highlight Latitude and Longitude. You can also hold the shift key down and use the arrow keys to highlight. Normally, if the data is correct, the Latitude and Longitude will already be highlighted. When highlighting the Latitude and longitude be sure to include the N (or S in southern hemisphere) and the W (or E in the Eastern Hemisphere).

**Finding the corresponding Items**

Highlight the following items: How?

Latitude: 20282177 37360315N109335212W25606919 3459633 0

Longitude: 20282177 37360315N109335212W25606919 3459633 0

**Test Highlighted Values:**

Use Decimal Seconds  
 Use Decimal Minutes  
 Use Decimal Degrees  
 Special Decimal Degrees

Change Sign of Long  
 Change Sign of Lati

105 M

- Traditional SEG files are usually supplied in Decimal Seconds which is set as a default. If the receiver points on the map do not look exactly like the spread should, the possibility is that the SEG file supplied to you is in a different Decimal format. Please check with the surveyor to confirm the format.
- When this is done, mouse click the '**Test Highlighted Values**' and make sure the values match the real job including the N and W for the North West quadrant of the world. When satisfied, click the **OK** button.
- You will now be asked to Name the type of NavPoint they are. You can select from the existing list or you can type in the name that fits the best for naming in your operation. Each Type of NavPoint type should be imported separately and named accordingly e.g. HELIPAD LIGHT, HELIPAD HEAVY, STAGING, MINI STAGING, etc.

**Selecting Default Navpoint Name**

Default Navpoint Name:

HELIPAD

# Planning and Managing Bag Locations using Map Page

## Map Screen Overview

The following Diagram describes the different components on the Map page. When your mouse cursor is placed over each of the buttons, a temporary pop up window, will display a short description of their control function.

The screenshot shows the 'Seismic Bag Ground Telemetry - [Map of Job]' window. The interface includes a menu bar (File, Aircraft, Telemetry, Map Scale, Map Source), a toolbar (Import Seg, Lists, Map, Transfer, Back Track), and a main map area. A search box contains 'DynaTest 2'. The map displays a grid of red dashed lines and various icons representing bags and stations. A status bar at the bottom shows 'NearPt: HELIPAD:37;223' and '144 M'.

**Area Selected**

**Line and Station number closest to mouse cursor**

**Latitude & Longitude of mouse cursor**

**Operations Control Buttons**

- Clicking Map Center
- Deleting Single Bags
- Adding Single Bags
- Adding Multiple Bags
- Marking Bag Deployed
- Marking Bag Retrieved
- Deleting Multiple Bags
- Adding Notes to Bag Location
- Measuring Distances on Map
- Adding Flight Plans

**Map Display Buttons**

- Toggle Background Map
- Toggle Bag Icons on/off
- Toggle Stations on/off
- Include Nav Points
- Live Helicopter Tracking
- Set Visible Aircraft

**Map Icons**

- Receiver Points – Red Dot ●
- Bags to be Deployed – Green □
- Bags Deployed – Yellow Plus +
- Bags Retrieved – Blue Diamond ◆
- In a Flight Plan – Yellow Bar □

41  
214

N 054d 42m 23.35s  
W 118d 53m 28.20s

NearPt: HELIPAD:37;223 | 144 M

## Map Screen Cursors

The mouse cursor will change depending on the mode of operation you are in. The following are the icons and their explanation:



Add a Bag Point Cursor. This cursor is used while in the Adding Bags Locations mode. This cursor is placed over the Station location on the map that you want to start adding from.



Add a NavPoint Cursor. This cursor is used when in NavPoint map view and Add a Nav Point Button is selected. This cursor is placed anywhere on the map that you want to add a NavPoint to.



Add a Bag to Flight Plan. This cursor is used when in Flights window and with 'Add Bags to Flight' button selected. This cursor is placed over the Bag location on the map that you want to add to Flight Plan.



Add a NavPoint to Flight Plan. This cursor is used when in Flights window and with 'Add NavPoint to Flight' button selected. This cursor is placed over the NavPoint location on the map that you want to add to Flight Plan.






Delete a Bag. This cursor is used while the Delete a Bags button is selected in Bags window. This cursor is placed over the Bag location on the map that you want to delete.

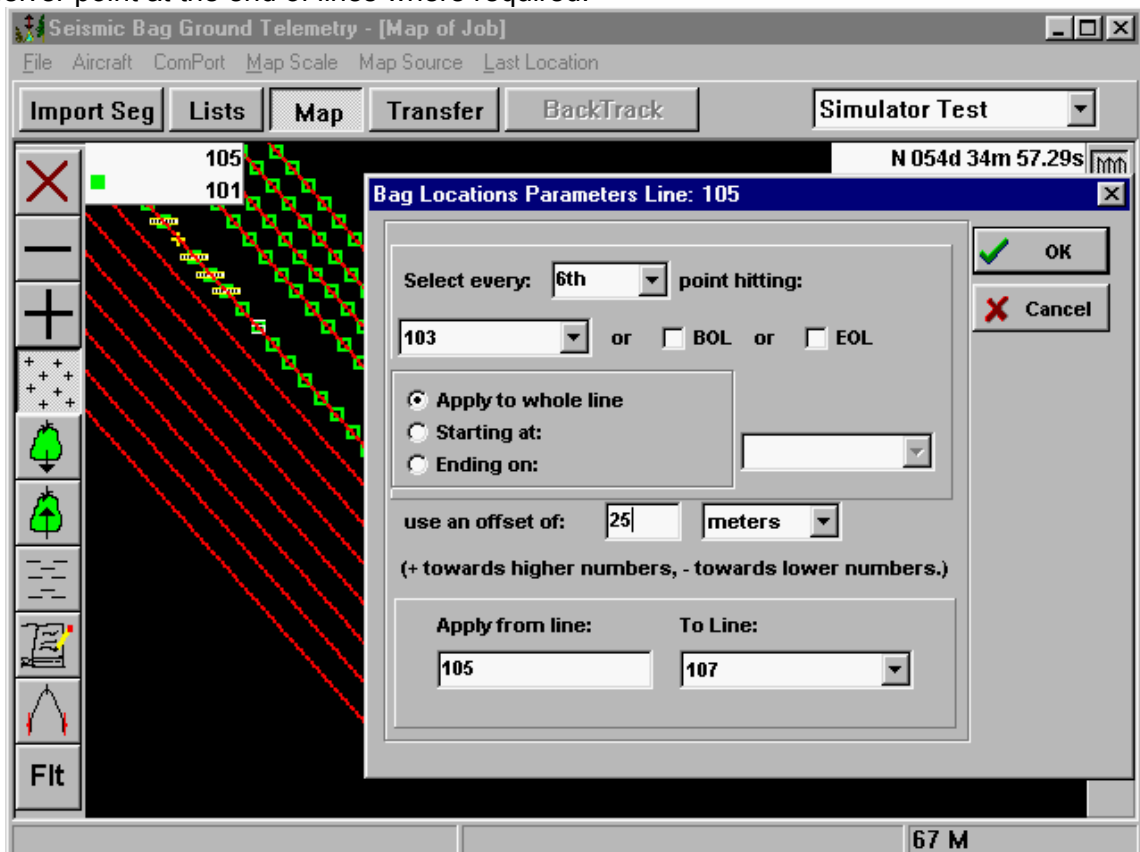


Delete a NavPoint. This cursor is used while the Delete a NavPoint button is selected in 'Include NavPoints' window. This cursor is placed over the NavPoint location on the map that you want to delete.

## Adding Bag Locations

### Adding Multiple Bags


- First set the Map Scale in menu pull down to see the zoom on the map for viewing individual receiver points.
- At this point, if you do not know the distance between stations, you can use the measurement tool  on left bar and mouse click on one receiver point then place mouse over next receiver point and read the distance on the bottom right bar. Zooming the map scale to 0 or 1 and measuring multiples will give an accurate measurement.
- Use the map-centering button  to put in view on the map, the first line and point to start your layout from. (Usually the first line and station).
-  Next, select the “Add Multiple bags” button on the left bar. Then click on (or near) the receiver point you want to start laying out the bags from.
- This will pop up the Bag Locations Parameters window. This tool is rules based for creating multiple bag drop locations for the spread. These settings comply with the traditional layout schemes and can be used to layout the whole spread at one time. This commonly done and, after this, any bag adjustments are then done.
- There are some automatic features built in to do such things add bag location points on the receiver point at the end of lines where required.



- Simply use the pop down selectors with the mouse point and click to select the parameters required and then enter the offset distance (in feet or meters depending on what you select).


- The selections are dependent upon the equipment you are using and the methodology of layout. A typical layout would be: every 6<sup>th</sup> receiver point; starting on the 3<sup>rd</sup> point up; applying it to the whole line; with an offset equal to half the distance between receiver points; apply from first line to last line. This will put bag locations on the whole spread at one time.
- When completed setting the parameters, hit the **OK** button and the computer will process and display the green bag location boxes in the exact location described by the above parameter settings.

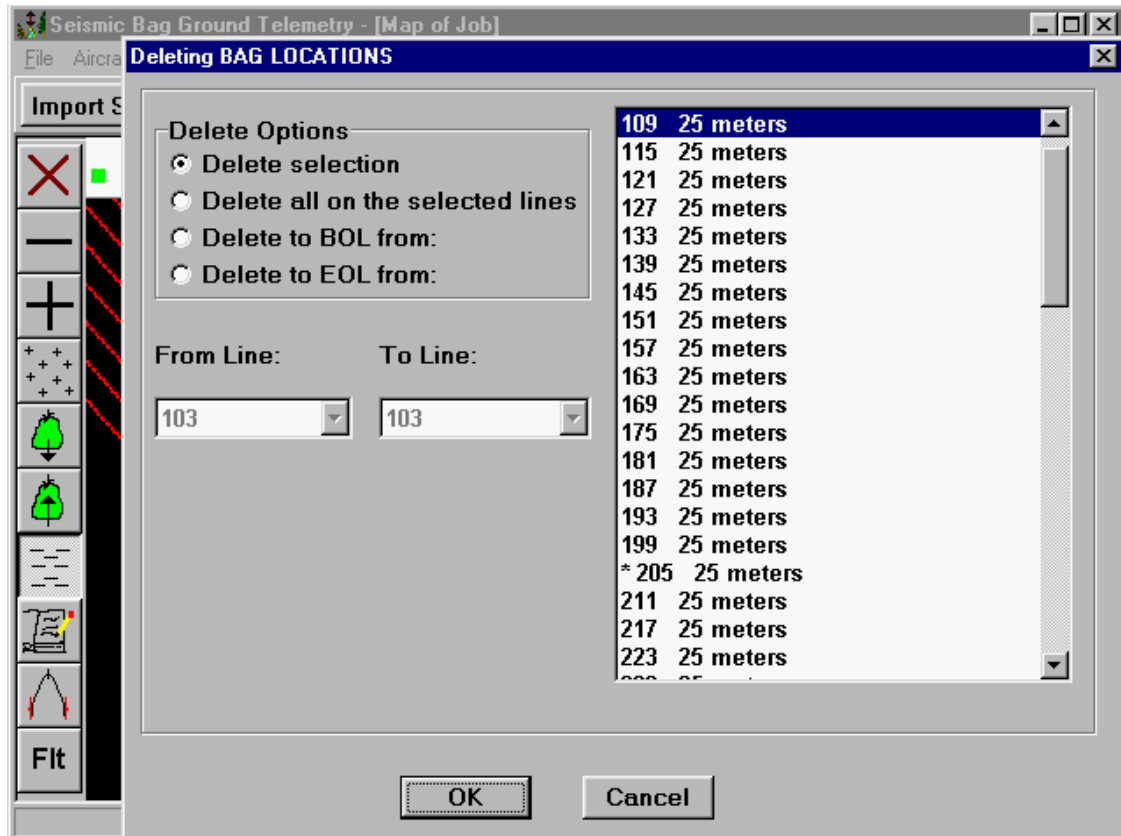
## Adding a single Bag at a time

- Set up the map scale and location as described above for the ‘**Adding Multiple Bag**’ section above.
-  Click on the Add a bag button on the side bar.
- Mouse clicking on a receiver point (station) will now create single Bag locations. The receiver point location (on tip of mouse pointer) is shown in the upper left corner box of the map. The upper number is the line and the lower number is the station.
- A window now pops up to let you input the offset distance. When this is entered, hit the **OK** button and the Green bag location will appear on the map.


## Deleting Bag Locations

### Deleting Multiple Bags

- Set up the map scale and location as described above for the ‘**Adding Multiple Bag**’ section above.
-  Next, select the “Delete multiple bags” button on the left bar. Then click on (or near) the Bag point you want to start deleting on.
- This will pop up the Deleting BAG LOCATIONS window. This tool is rules based for deleting multiple bag drop locations from the spread.
- For deleting multiple bags either use the rules to delete or the ‘Delete selection’ to delete specific bags in the list on right side of window.
- For ‘Delete selection’, select the bags you want to delete by Shift clicking with the mouse (hold down the shift key and click down the list) down the list for a series or Control clicking (hold down the Ctrl key and mouse click any of the bags to be deleted).
- When the rules or the selection is done, hit the OK Button and the bag icons will disappear off of the map.



### Deleting a Single Bag at a time

- Set up the map scale and location as described above for the ‘**Adding Multiple Bag**’ section above.
-  Next, select the “Delete a bag” button on the left bar. Then click on (or near) the Bag point you want to delete.
- **WARNING:** While in this mode, every time you click the mouse a bag will disappear (the closest one to the mouse pointer).

### Toggle Bag Placed in Map



When this button is selected, each bag location that the mouse cursor is placed over and clicked on the map will toggle a bag to be deployed as deployed. By mouse clicking on a deployed bag will toggle it bag to a bag to be deployed.

### Toggle Bag Retrieved in Map



When this button is selected, each bag location that the mouse cursor is placed over and clicked on the map will toggle a deployed bag as retrieved. By mouse clicking on a retrieved bag will toggle it bag to a bag to be retrieved.

## Using the Measuring Tool



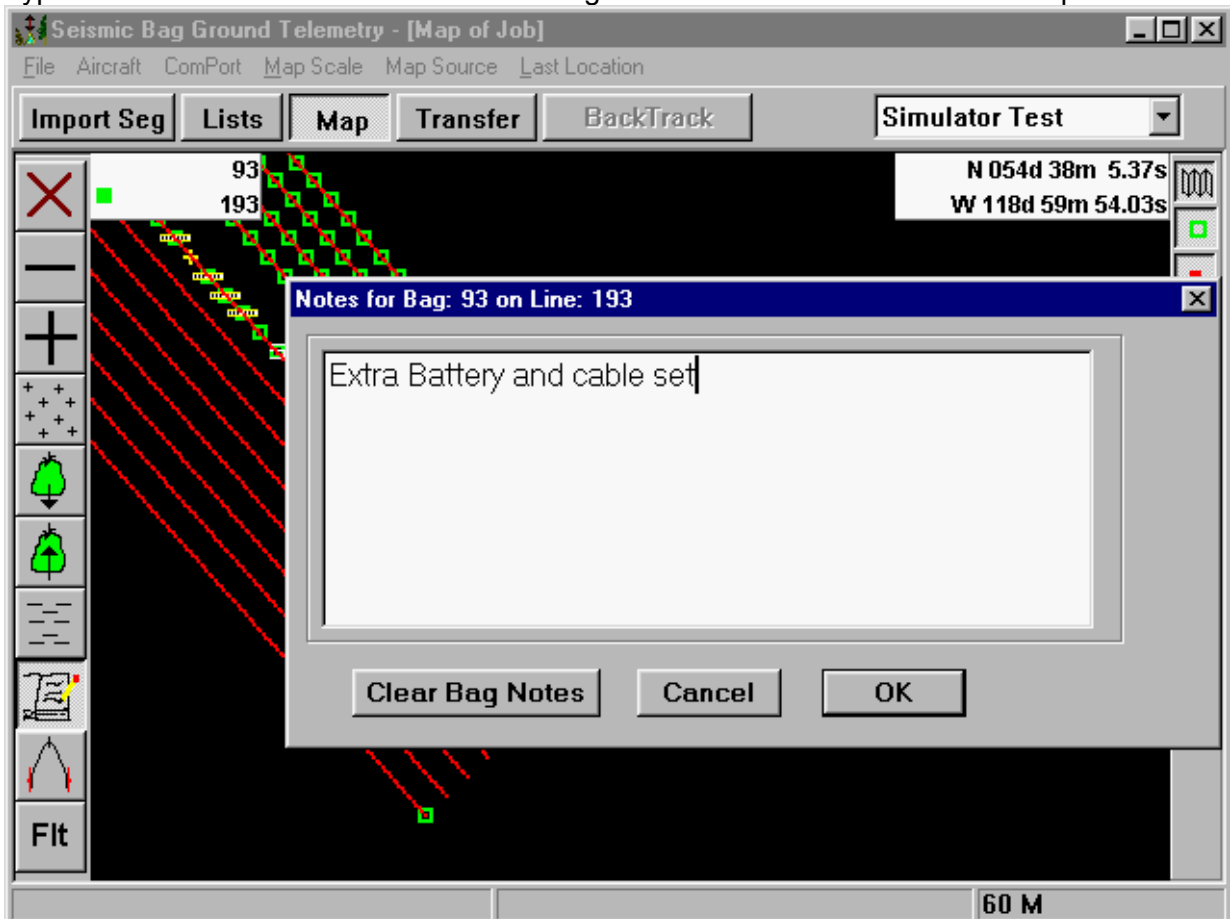
When this button is selected, you mouse click on the point you want to measure from, then move the mouse to the point you want to measure to and the distance (in meters) is displayed on the bottom right side of the screen.

## Adding Notes For a special bag point

This feature is to add notes to special bags that have something different than the normal, such as extra cables and batteries. The notes are for coordinator management issues or events. These Special Bag notes are included in the report that can be generated at any time – see Reports Section.



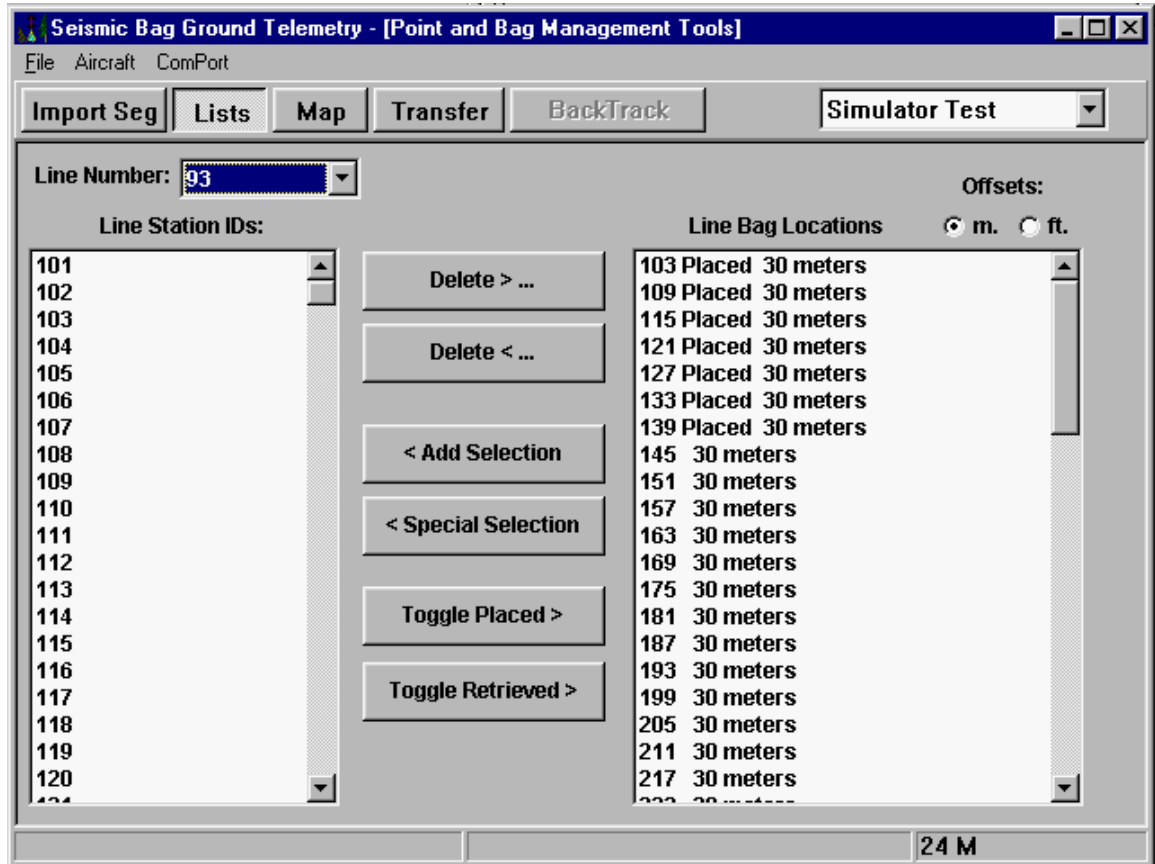
- Select the 'Add or Edit Special Bag note' button on left bar. Then mouse click on the bag location for notation.
- Type in the information and click **OK**. The bag icon will now have a white 'S' on top of it.




# Planning and Managing Bag Locations using List Page

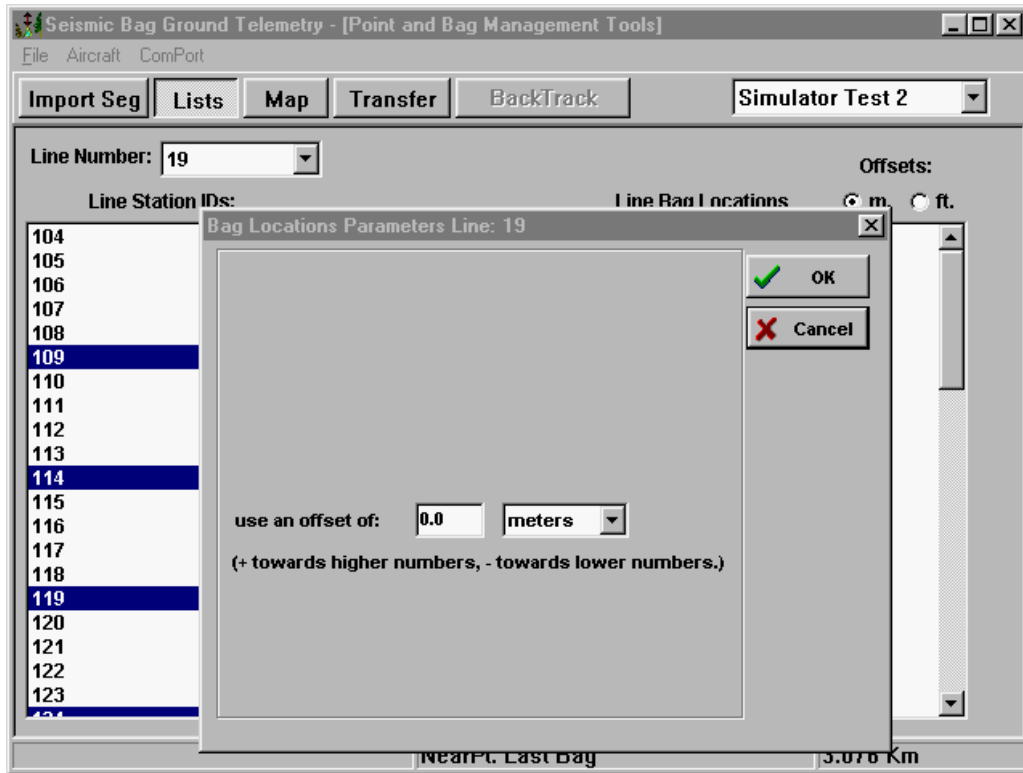
## List Page Overview

This Page can be used to do most of the Bag point management as done in the 'Planning and Managing Bag Locations using Map Page' above, except it is done using the old standards of lists. For those of you who are comfortable using lists (usually well seasoned computer users) can use this methodology instead of the Map Page.



## Using Add Selection Method

- The left side of the page contains all of the imported stations selectable a line at a time. From this list you select Bag locations using Mouse Click for only one bag or Ctrl-Mouse Click for multiple selections. Once the desired stations are highlighted, you then click the 'Add Selection' Button .
- This will prompt a pop up window for you to set your bag offset from the station. Enter in the offset (can be in meters or feet depending on your selection). When the offset is entered hit the OK button. At this time the Bag locations will appear in the right hand window showing the offset you have selected.



- This process is continued for each line until complete.

### Using Special Selection Method

< Special Selection

Clicking this button will bring up a window that is the same as in the section above- 'Planning and Managing Bag Locations using Map Page' – 'Adding Bag Locations' – 'Adding Multiple Bags'

### Deleting Bag Locations

Delete > ...

Clicking this button will bring a window that is the same as in the section above- 'Planning and Managing Bag Locations using Map Page' – 'Deleting Bag Locations' – 'Deleting Multiple Bags'

### Toggle Placed in List

Toggle Placed >

First select and highlight the bags to be placed (usually when placed by ground crew), and then hit the '**Toggled Placed**' button.

### Toggle Retrieved in List

Toggle Retrieved >


First select and highlight the bags to be retrieved (usually when retrieved by ground crew), and then hit the '**Toggled Retrieved**' button.

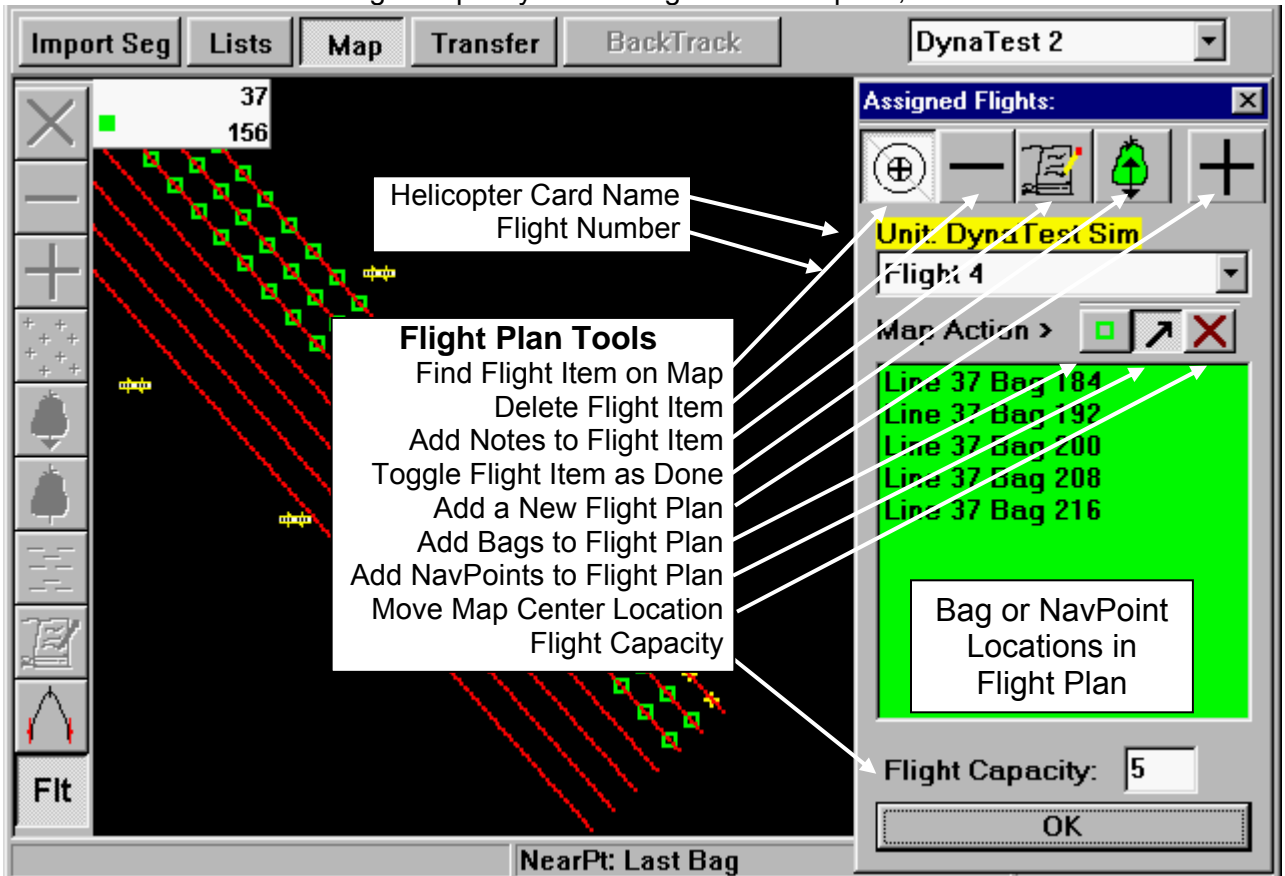
# Creating Flight Plans

## Overview of Flight Plans

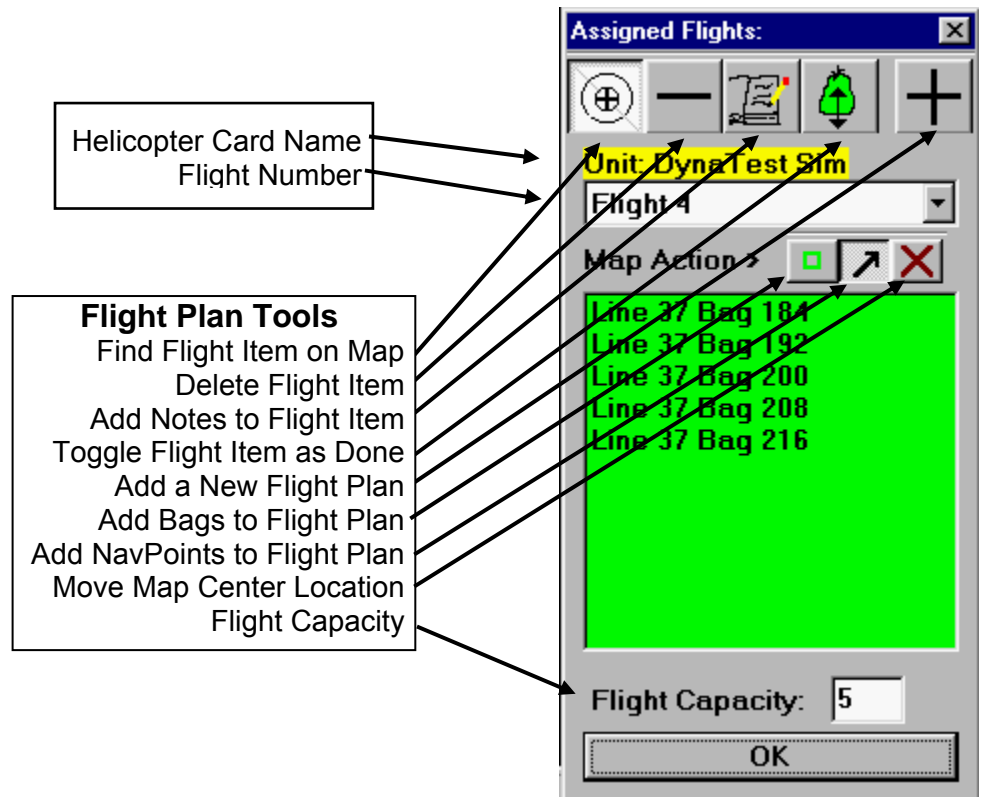
Flight plans are created for specific Bag drop or retrieval sequences. Each of the Flights are assigned to the specific helicopter in your area. The pilot will be given an automatic guidance to each of the locations in the exact order that the flights were created. The Flight Capacity setting is for normal number of hooks available on the helicopter carousel. The helicopter navigation will automatically sequence from Nav Point to Nav Point in the exact same order as the “Flights” are created in the Flight Plan.

## Adding Bag Locations to Flight Plans

-  Select the ‘Build a Flight’ button (Fit) on the left bar. When selecting this button, if there is more than 1 helicopter assigned to this area, you then be prompted to select which helicopter ID to send the plan to.
- The flight Plan window then pops up for adding points to the individual Flight Plans. You then select the Map Action you want to do i.e. ‘Add Bags to Flight’, ‘Add NavPoints to Flight’ or ‘Bump Map Location’. You then mouse click over the Bags or NavPoint to add one to the Flights. When you reach the Flight Capacity of the plan, the window will go green.
- You can continue adding Bags or NavPoints to the Flights and it will automatically create a new plan after reaching the Flight Capacity. At any point you can create a new Flight plan, even if it has not reached Flight Capacity. When Flights are complete, hit the **OK** button.



## Using the Flight Plan Tools



### Find Flight Item on Map



When this button is pushed in (default), and you mouse click on the flight item in the list, the map will automatically center to this location. Note if Helicopter Tracking is on, the map will jump back to the helicopter location in center of map.

### Delete Flight Item



When this button is on, each item you mouse click on in the list will be removed as a Flight Item.

### Add Notes to Flight Item (Flight Notes)



When this button is on, a Flight Notes page pops up to add information to that specific bag or NavPoint location. This is a message to the pilot for that specific location. Note: Bag Notes are not transferred to the aircraft, only Flight Notes.

### Toggle Flight Item as Done



When this button is on, each item on the list can be marked as completed. This will take the item out of the pilots automatic flight list. Normally the pilot flying to and accepting this part of the flight as completed automatically does this change through Telemetry. However, if the ground crew, for an example, has completed the job, then this will update the pilots' flight plan to exclude from operations.


## Add a New Flight



When this button is pushed, a new Flight Plan will be created, even if the previous flight is not to full Flight Capacity.


## Add Bags to Flight Plan



When this button is selected the map cursor  will allow you to add Bag locations to the Flights by clicking the mouse cursor over the Bag point you want to add.

## Add NavPoints to Flight Plan



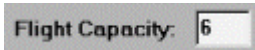
When this button is selected the map cursor  will allow you to add NavPoint locations to the Flights by clicking the mouse cursor over the NavPoint you want to add.

## Move Map Center Location



This Bump Map mode allows you to bump the map to the location on the map to add Flight Points to.

## Flight Capacity

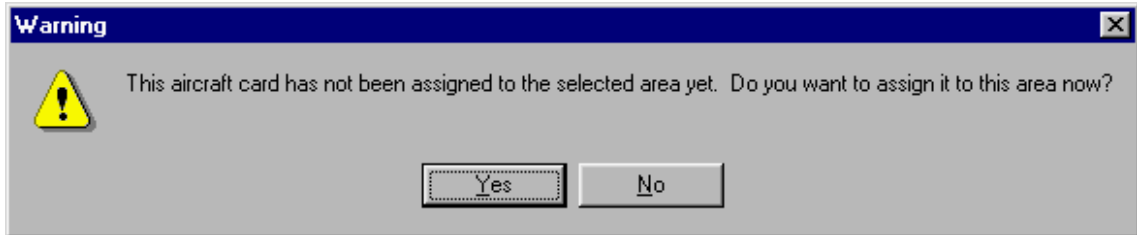


The number used here is usually the normal number of bags that is the most that the helicopter can carry on his carousel.

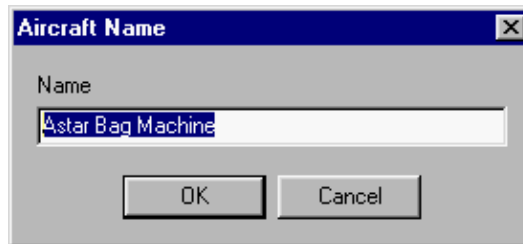
## Assigning Aircraft Card to Area Selected

### In the Transfer window

When transferring and using an area that has not yet been assigned to the Helicopter PC Card in the PC Slot, a window pops up asking if you want to assign this card to this area now. If this is the correct card hit the 'Yes' button.

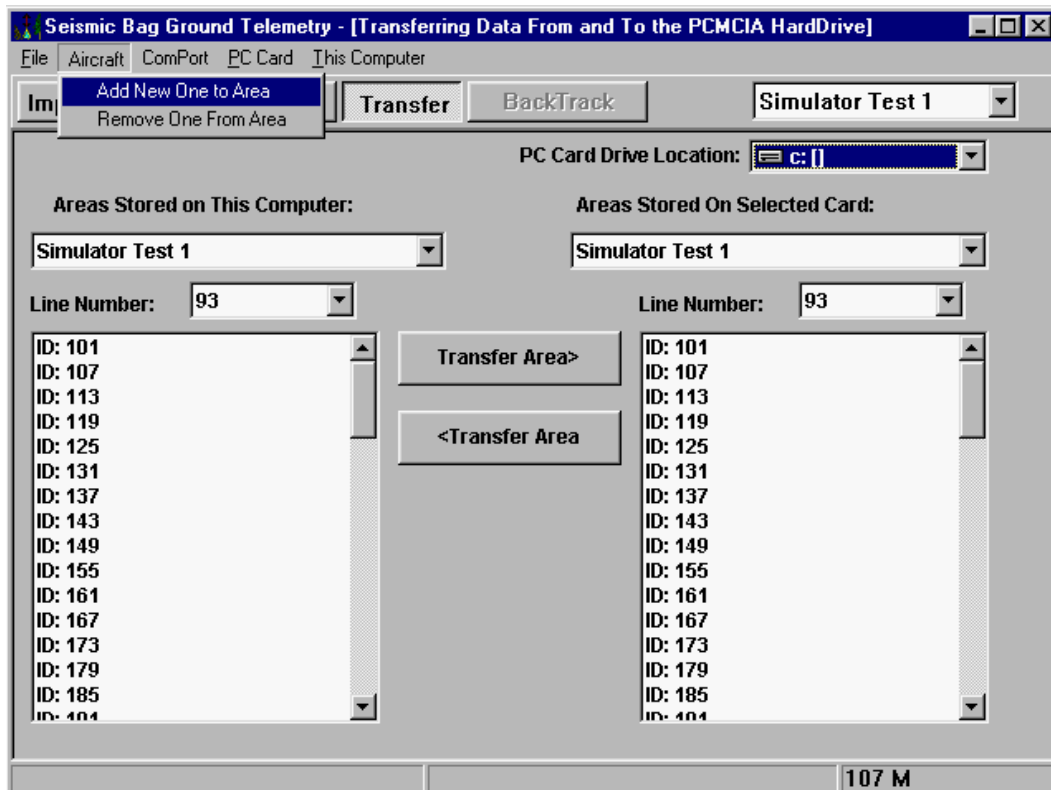


You will now be asked to enter an aircraft name. Enter a name that best describes the helicopter and role for easy identification, then hit the OK Button.

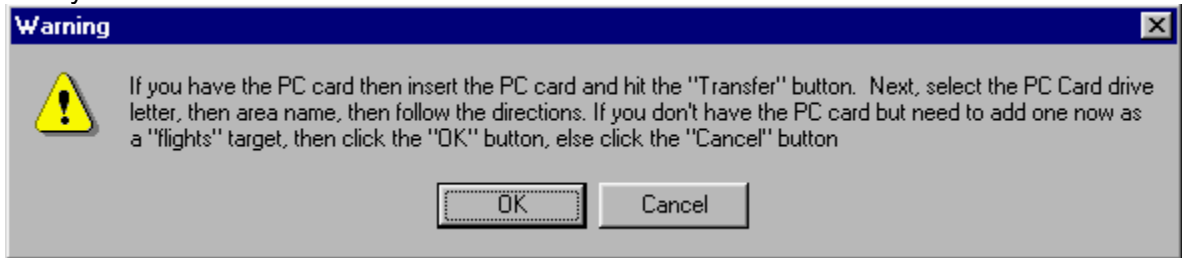


### Adding new Aircraft name to Area

- In any of the windows you can add a New Aircraft Name to the selected area you are working with.



- When you pull down the **Aircraft** menu and select **Add New One to Area**, a window will pop up asking to either cancel and go to the Transfer window with the actual aircraft card or to hit **'OK'** if you want to add name without the aircraft card.



- If you hit OK, then you can now enter the name of the aircraft/helicopter to best identify it. When you insert the card at a later date to add the name, you will be prompted to select out of a list.

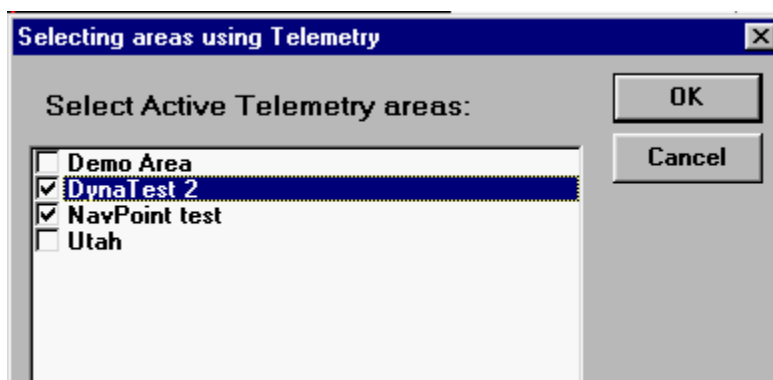
# Tracking and Managing Multiple Aircraft and Areas with Telemetry

## Overview

SeisBag Ground has the capability of running multiple areas for multiple aircraft. Each area can have any of your helicopters assigned to it. As such, you can track on your one area the helicopters from all of the areas on your selected area map, as well as send updates for flight plans and messages to the individual helicopters from each of your areas.

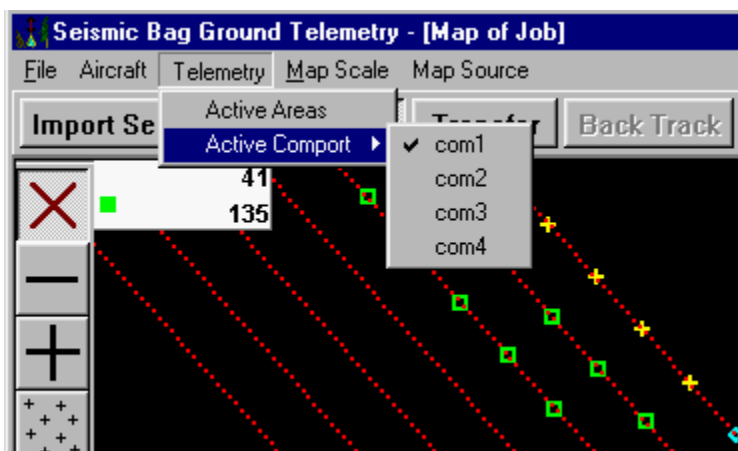
## Selecting Active Areas for Telemetry

First pull down the 'Telemetry' menu and select 'Areas'. You then check off with the check marks the areas you want to enable tracking, sending and receiving messages to the helicopters. This would normally be only the Area you are working with in your Map window, however other areas can also be worked with from the same Base.



## Selecting Com Port for Telemetry System

Normally upon starting program, the default Com Port it selects is Com Port 1. If this is not the Com Port that the telemetry box is connected to then you can select the Com Port it is connected to by pulling down the 'Telemetry' menu and selecting 'Active Comport' and click on the Com Port number. This has to be done each time the program is started.



# Transferring files to the Aircraft Card

## Overview of Transferring Data

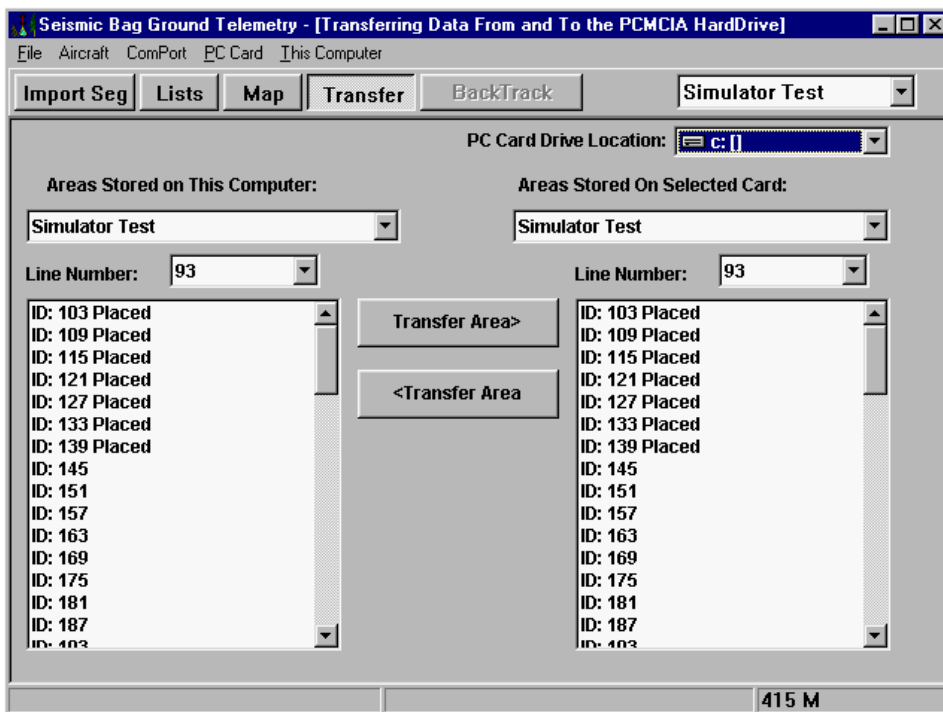
When a new area is created, even though you may be using Telemetry, the job has to be transferred to the aircraft card for the first time. This also lets you assign specific aircraft to that particular job, each of which can have its own Flights information. With Telemetry, all of the data for each of the aircraft assigned will update when aircraft system is turned on and within communication range.

The following would be the reasons why you would be using the Transfer mode:


- The first time the Aircraft is working with the new seismic spread created, requires upload of the data to aircraft PC Card as well as assigning that aircraft to this area.
- If you are not using Telemetry, then the Transfer files should be done on an as needed basis or at least once a day.

When transferring data, the Aircraft Card should be transferred to the Ground computer first, then transfer data from the Ground computer to the Aircraft PC Card.

When the Bag locations are transferred, the flight plans are also transferred at the same time as well as the navigation.



## Transferring Files from and to Aircraft PC Card.

- Before transferring the data, the computer has to have the PC Card from the aircraft installed in the computer PC slot. The best way is to remove the Key Card after the program is launched and replace with the aircraft PC Card.
- Select the 'PC Card Drive Location'  to the drive letter of the PC Card Slot. If you are not sure which drive letter it is, use your explorer to find the drive letter. *Be sure that the "Areas Stored on This Computer" is selected to the one you are working with.*

- If this area has already been transferred to this Aircraft Card, you can now select the matching area on the 'Areas Stored on Selected Card' (right).
- First, transfer from the 'Areas Stored on Selected Card' (right) to '**Areas Stored on This Computer**' (left). This takes the latest data, bags deployed or retrieved and Nav data, on the Aircraft system and transfers to the SeisBag Ground software.
- Now transfer from the 'Areas Stored on This Computer' (left) to the 'Areas Stored on Selected Card' (right)

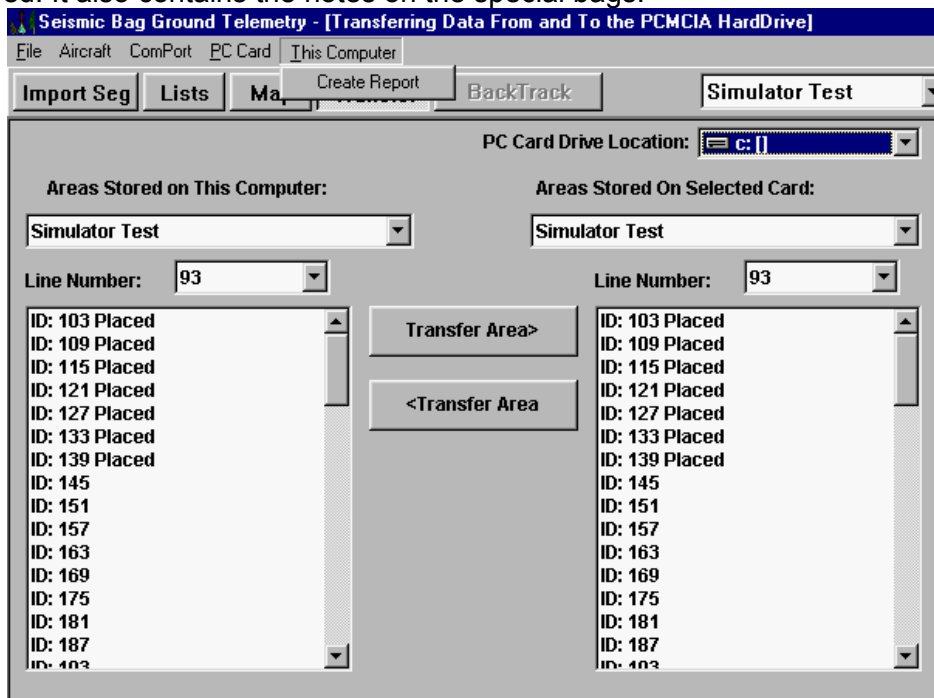
# Exporting Files and Reports

## Overview of Files and Reports

These files and reports are for both management reports as well as export files to the surveyors. If you would like a report that would be useful to your operations to increase productivity, then please give us a call or Email to: seismic@dynamav.com.

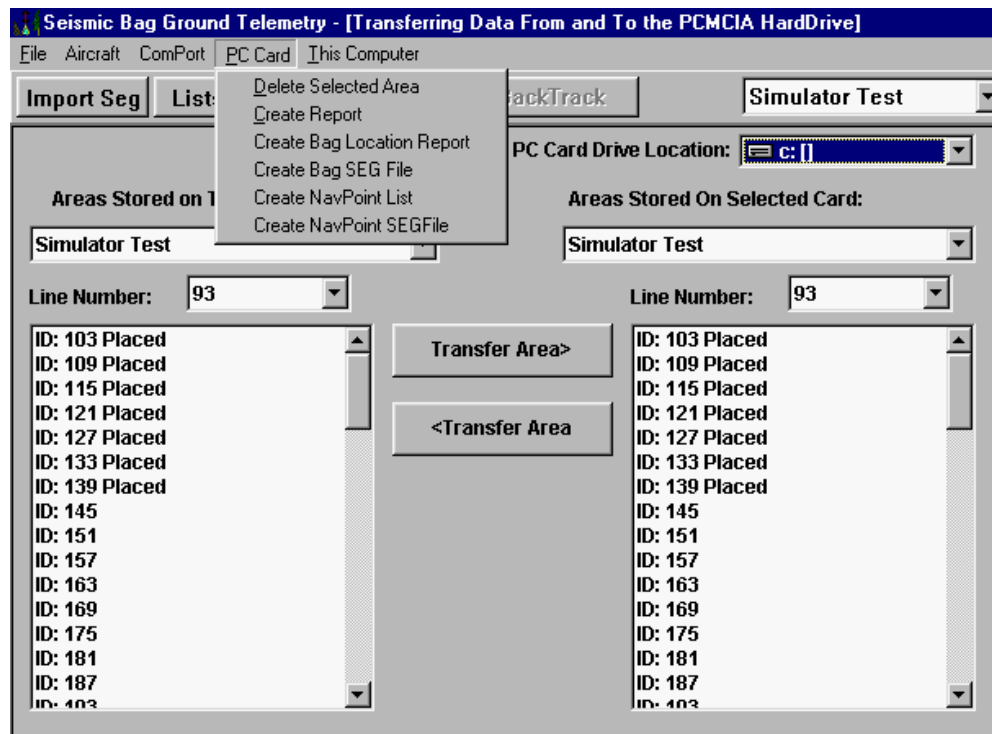
## SeisBag-Ground Reports (This Computer)

- To access these reports, you must be in the **Transfer** window. Pull down '**This Computer**' menu and select **Create Report**. There is only one report here at this time. It gives a text file that is stored in a folder on the root of C: Drive called '**BAGREPRT**'. This report is called "**br010305.txt**" in which the last 6 numbers represent the date on which it was created.
- The Bag report contains the count on all of the bags, whether to be placed, placed or, placed and retrieved. It also contains the notes on the special bags.



## PC Card from Aircraft Reports

There are many reports and export files available from the PC Card. To access these reports, you must be in the **Transfer** window. Pull down 'PC Card' menu and select any of the reports as follows:



### Create Report

This is the same report that is given under '**SeisBag-Ground Reports (This Computer)**', except it will have the most current data. It gives a text file that is stored in a folder on the root of C: Drive called '**BAGREPT**'. This report is called "**br010305.txt**" in which the last 6 numbers represent the date on which it was created.

### Create Bag Location Report

This report is a text file that gives the location of all of the bags, for the selected area, in Latitude and Longitude in degrees, minutes and decimal seconds. This file is stored in a folder on the root of C: Drive called '**BAGREPT**' and called "**BL010305.txt**" in which the last 6 numbers represent the date on which it was created.

### Create Bag SEG file

This report is a text file that gives the location of all of the *placed* bags, for the selected area, in a standard SEG P1 format (fixed character length). Each line of data contains line and station number with Latitude and Longitude in degrees, minutes and decimal seconds. This file is stored in a folder on the root of C: Drive called '**BAGREPT**' and called "**BS010305.txt**" in which the last 6 numbers represent the date on which it was created.

## Create NavPoint List


This report is a text file that gives the location of all of the Nav points, stored for the selected area, created by the pilot. Each line of data contains Bag location number with Latitude and Longitude in degrees, minutes and decimal seconds. This file is stored in a folder on the root of C: Drive called 'BAGREPRT' and called "Na010305.txt" in which the last 6 numbers represent the date on which it was created.

## Create NavPoint SEG File


This report is the same as above, except it is in standard SEG format.

## Map and Tracking Controls

### Back Ground Map Controls

 When this button control is toggled, the background map is turned on/off. The background map is an extra map layer (optional software for creating these maps) that can be any map base such as topographical, aerial/satellite photos, etc. that will be useful for planning and managing the layout of the spread.


### Bag Location Map Control

 When toggled, this button control will turn on/off the Bag Location Icons.


### Receiver Location Map Control

 This button control, when toggled, will turn on/off the station icons.


### Navigation Point Mode Map Control

 When this button control is turned on, the Map Page will show the Nav Point icons on the map. Using the left bar buttons you be able to create Nav Points for the helicopter to fly to. Also, any Nav Points created by the pilot for that selected area, will show up on the map. Flight Plans can be created using these Nav Points. See Section: **Navigation Point Management**

### Live Tracking Activated

 This button control, when toggled, will give you a choice of which helicopter to track and will turn on/off the live tracking of the helicopter on the map. The helicopter icon will be in the center of the screen and be pointing in the direction of travel of the helicopter relative to Map Screen, being north up. The map will move to keep the helicopter in the center of the screen

### Set Visible Aircraft


 This button control, when toggled, will give you a choice from a list of which helicopters you want to live display on the map screen. The individual helicopter icons will show and move on their actual location on the map.

# Navigation Point Management

## Overview

NavPoints can be created both on the ground software and in the helicopter system. These NavPoints are separate from Bag locations. NavPoints are part of each job area created and as such they can be created or deleted for a particular area. When a pilot creates a NavPoint, it will be associated for the area he has selected at the time and will appear on the Ground Map when data is transferred.

## Creating Nav Points on Ground program

-  First by mouse clicking on this '**Include NavPoints**' button, the SeisBag Ground Map will show the existing NavPoints as well as allow for adding new NavPoints.
- New NavPoints are added by placing the Mouse Pointer on the exact spot that you want the new point on the Map, then Mouse Click. Note: You can read the exact Latitude and Longitude (Degrees, Minutes and Decimal Seconds) of the mouse pointer in the upper right corner.
- If you are given a written list of Helipads or points to add, then by using the upper right corner to zero in on the actual Latitude and Longitude on your map will make it easy as well as give you a visual cross reference to validate the point as correct.
- When you have Mouse Clicked, a window pops up asking you to select a name for this NavPoint. Select one and mouse click **OK**
- This NavPoint will be named and identified with the selected name as a prefix and tagged with the closest Receiver (station) point to it - e.g. Staging 93 103 will be a NavPoint named as Staging, as selected, on Line 93 Station 103.

## NavPoint Naming and List

When creating new NavPoints on SeisBag Ground a list of default names appears for you to select from. This list can be modified to suit the particular needs of your operations. The following steps will allow you to add or modify this list.

- Use your browser (Windows Explorer or My Computer) and open the Dynanav folder on C: drive. In the Dynanav folder you will find a file called 'Navptlst.txt'.
- Open this file (double click) into Notepad and add to the list your desired names. Be sure to hit Enter after each name so that the list is one after the other vertically.
- When completed adding or editing the list, be sure to '**Save**' the document, then close Notepad.
- Next time you add a new NavPoint, this new list will be available for naming.

# Telemetry Module Settings

- The Telemetry modules for both the ground and the Aircraft systems have to match for communications to be established. The system on the SeisBag Ground is the Master station and all other modules are to be slaves. In the switch settings, all switches are to match each other save and except the Master/Slave switch.
- The following diagram gives the switch settings for a typical system. The switches in config1 and config2 can be changed to be different than other Telemetry systems of the same brand, operated in the same area (this would be a highly unlikely). The default settings are in yellow highlight.
- Note the only difference between Ground (master) and Air (slave) is shown as Default Air (orange highlight) and Default ground (green highlight).

Switch settings for DX-900 Spread Spectrum Telemetry Serial #									
	Function	Switch 1	Switch 2	Switch 3	Switch 4	Switch 5	Switch 6	Switch 7	Switch 8
<b>CONFIG 1 Group settings</b>									
	Group 1	off	off	x	x	x	x	x	x
	Group 2	off	on	x	x	x	x	x	x
<b>Default</b>	<b>Group 3</b>	<b>on</b>	<b>off</b>	<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>
	Group 4	on	on	x	x	x	x	x	x
	Setting this Radio			x	x	x	x	x	x
<b>CONFIG 1 Hop Sequence - Set to match between Ground and Air units</b>									
<b>Default</b>	<b>Default</b>	<b>x</b>	<b>x</b>	<b>on</b>	<b>off</b>	<b>off</b>	<b>off</b>	<b>off</b>	<b>off</b>
	Setting this Radio	x	x						
<b>CONFIG 2 Radio ID - Set to match between Ground and Air units (different settings for each Ground base unit)</b>									
	Setting this Radio								
<b>CONFIG 3</b>									
<b>Default</b>	<b>Link Timeout 10 sec.</b>	<b>off</b>	<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>
	Link Timeout 120 sec.	on	x	x	x	x	x	x	x
<b>Default</b>	<b>Fail Maintain Last State</b>	<b>x</b>	<b>off</b>	<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>
	Fail Default Off	x	on	x	x	x	x	x	x
	Primary Port RS-232	x	x	off	x	x	x	x	x
	Primary Port RS-485	x	x	on	x	x	x	x	x
<b>Default Air</b>	<b>Radio Mode Slave</b>	<b>x</b>	<b>x</b>	<b>x</b>	<b>off</b>	<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>
<b>Default Ground</b>	<b>Radio Mode Master</b>	<b>x</b>	<b>x</b>	<b>x</b>	<b>on</b>	<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>
<b>Default</b>	<b>Buffer Transparent</b>	<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>	<b>off</b>	<b>x</b>	<b>x</b>	<b>x</b>
	Buffer Packet	x	x	x	x	on	x	x	x
	Bit/Parity/Stop E,7,1	x	x	x	x	x	off	x	x
<b>Default</b>	<b>Bit/Parity/Stop N,8,1</b>	<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>	<b>on</b>	<b>x</b>	<b>x</b>
	1200 Baud	x	x	x	x	x	x	off	off
	2400 Baud	x	x	x	x	x	x	off	on
<b>Default</b>	<b>9600 Baud</b>	<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>	<b>on</b>	<b>off</b>
	19200 Baud	x	x	x	x	x	x	on	on
<b>CONFIG 4 MODBUS Control</b>									
<b>Default</b>	<b>No MODBUS</b>	<b>off</b>	<b>off</b>	<b>off</b>	<b>off</b>	<b>off</b>	<b>off</b>	<b>off</b>	<b>off</b>

# TUNEUP Software for Changing Pilot operational parameters on the Aircraft Card:

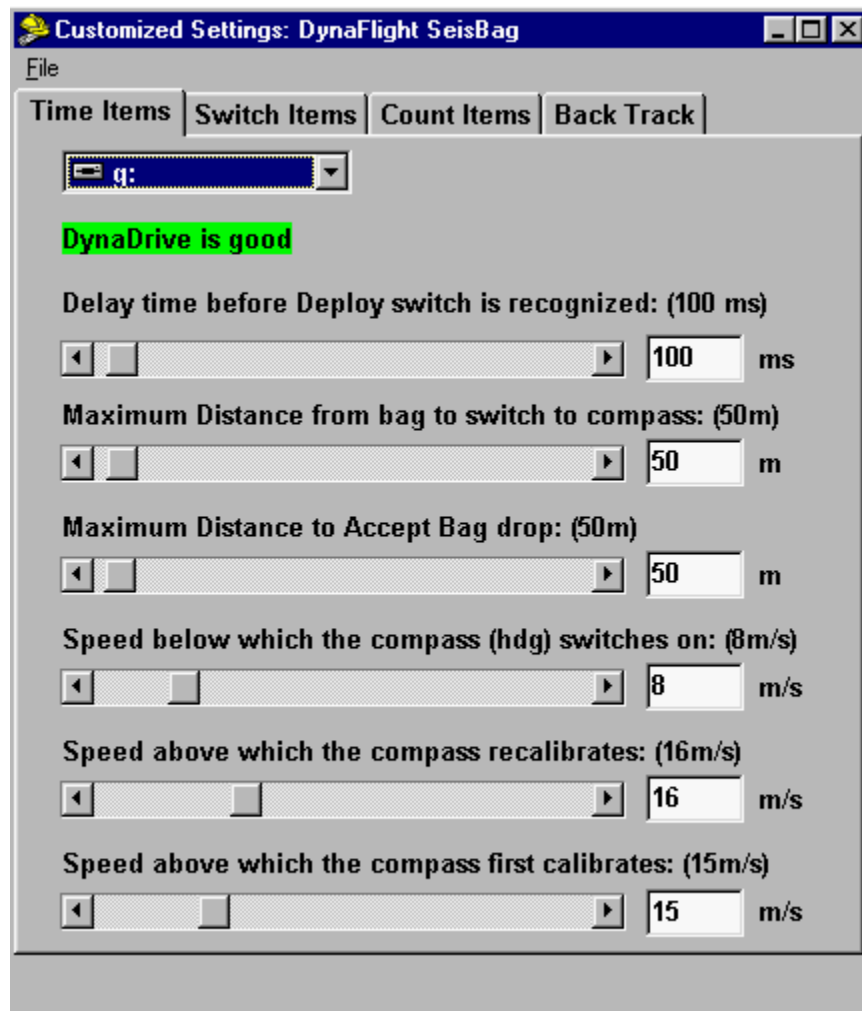
## Accessing the TUNEUP software

The software is installed as part of the SeisBag Ground software on the Base Computer. First plug in the aircraft PC Card into the PC Slot on the ground computer, then run TUNEUP by using 'Start – Programs – DynaNav Seismic - TUNEUP'. When the program is operational, change the drive letter to the letter assigned by the computer for the PC Card of the Aircraft card. If you are not sure which letter, use your Windows Explorer to see which drive letter assigned. If the drive letter is correct then a green message will appear saying "(PC Card Name) is good".

## Changing the settings on TUNEUP

The following is an explanation of the individual switch settings. The numbers in the brackets show the default values – use these if you are not sure of what is required.

### Time Items

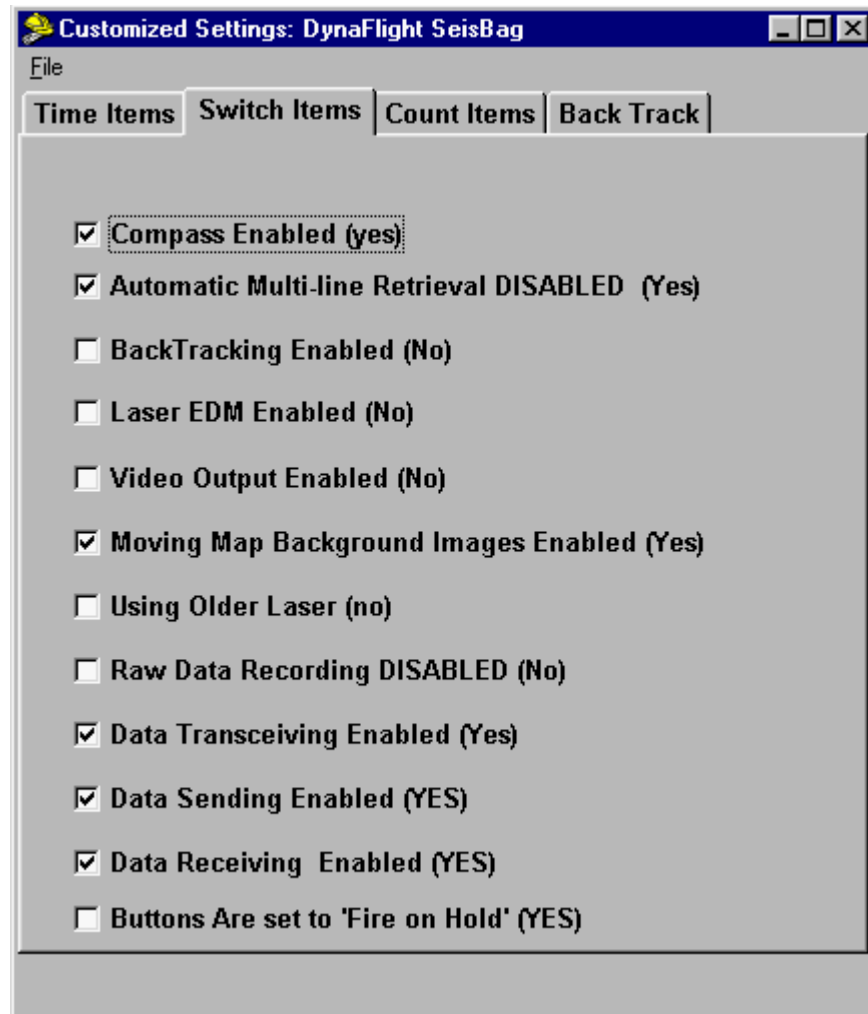


- Delay time before Deploy switch is recognized: (100 ms) milli-seconds-

This setting is for the time delay of the switch activation before the DynaFlight system will accept the Deploy as being valid. Some carousels are set up for at least 1 second of hold time before release of the bag off the hook. If this is the case, the delay time should be set for something just under the 1-second time, e.g. 800 ms (milli-seconds).

- Maximum Distance from bag to switch to compass: (50m) meters –  
This is the distance that the helicopter has to be within for the internal compass to turn on for pointing to the location of the bag while turning in hover.
- Maximum Distance to Accept bag drop: (50m) meters –  
This is the maximum distance from the Bag Drop that the system will record the drop as being valid. Dropping a bag further than this will not mark the selected bag as being dropped, however the event is recorded as a NSD – Non Standard Deploy.
- Speed below which the compass (hdg) switches on: (8m/s) meters per second-  
This is the speed of the helicopter below that the compass will turn on to give heading information to the Navigation Needle.
- Speed above which the compass recalibrates: (16m/s) meters per second –  
As the compass does not know the direction in which it was installed relative to the nose of the helicopter, the compass will re-calibrate this direction by using the Track information from the GPS. This speed is a speed above which it is assumed the helicopters nose is pointing in the actual direction of flight after hovering.
- Speed above which the compass first calibrates: (15m/s) meters per second –  
As the compass does not know the direction in which it was installed relative to the nose of the helicopter, the compass will calibrate this direction by using the Track information from the GPS. This speed is a speed above which it is assumed the helicopters nose is pointing in the actual direction of flight.

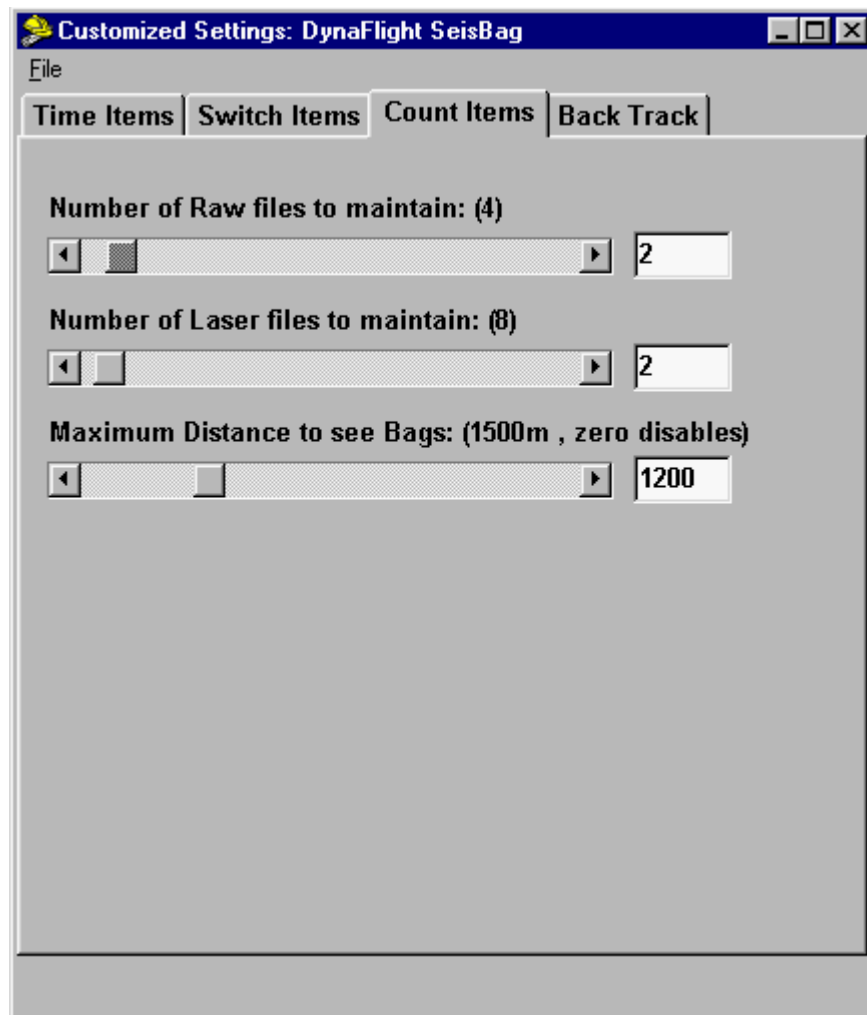
## Switch Items



- **Compass enabled (yes)**  
This will turn on/off the internal compass. If it is turned off, the Navigation Needle will go into FIX mode and fix the direction of the needle as if the nose of the helicopter were to stay in the same direction. The speed below which it goes into the FIX mode is the same as the “Speed below which the compass (hdg) switches on’ as explained above.
- **Automatic Multi-line retrieval DISABLED (yes)**  
When this is turned off, the system will automatically point to the nearest Bag Retrieval location on all the lines on the job. If it is more efficient to pick up bags on adjacent lines, then this should be turned off.
- **BackTracking Enabled (No)**  
If the system has been authorized for the BackTrack™ optional software, then this enables the BackTrack navigation selection and navigation needles.
- **Laser EDM Enabled (No) -Not Applicable for DynaFlight-SeisBag**
- **Video Output Enabled (No) -Not Applicable for DynaFlight-SeisBag**
- **Moving Map Background Images Enabled (Yes)**  
This is if there has been a map images for the Moving Map window available and you do not want them to show up under the Bag Drop locations.

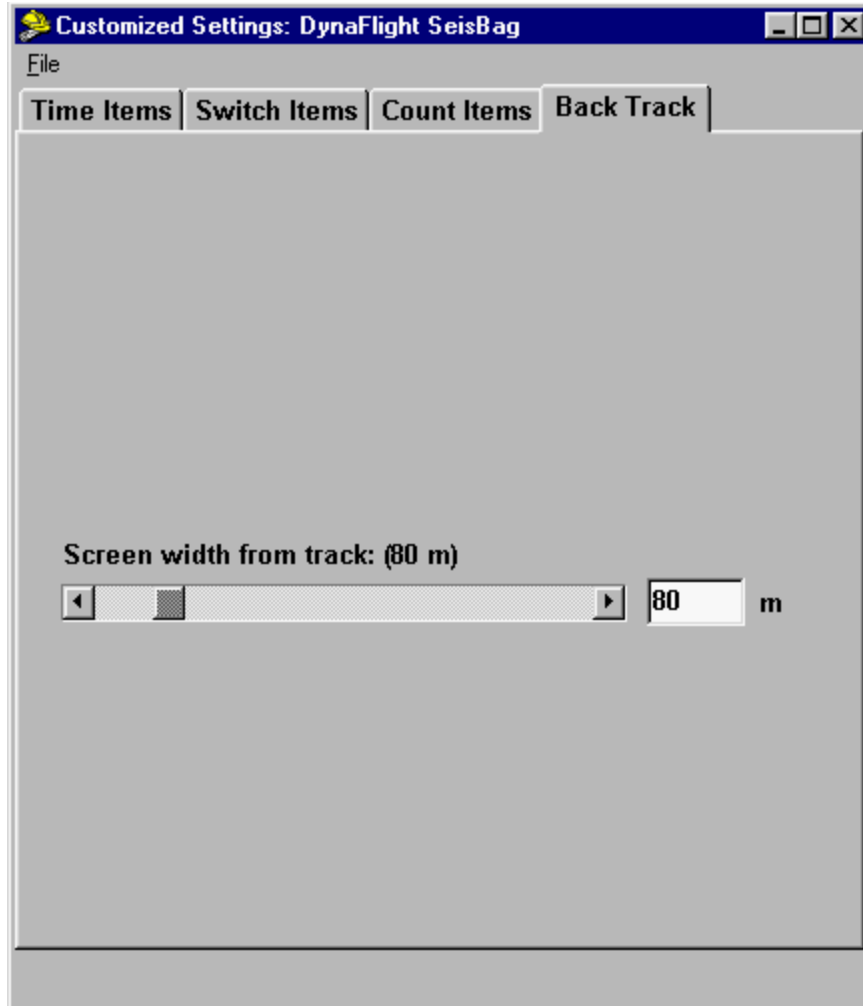
- Using Older Laser (no)  
Not Applicable for DynaFlight-SeisBag
- Raw Data Recording DISABLED (no)  
This should be disabled only if the PC Card for the aircraft has very little memory (less than 16megs)
- Data Transceiving Enabled (Yes)  
This is used to enable the Tracking of the helicopter on the SeisBag Ground Software. This is used for systems with the Telemetry option installed.
- Data Sending Enabled (Yes)  
This is used to enable the sending of the updated information from the helicopter to the SeisBag Ground Software. This is used for systems with the Telemetry option installed.
- Data Receiving Enabled (Yes)  
This is used to enable the receiving of the updated information to the helicopter from the SeisBag Ground Software. This is used for systems with the Telemetry option installed.
- Buttons are set to 'Fire on Hold' (Yes)  
This is used for the switches on the Top Hat switch for automatic accept (enter) on pushing and holding when the buttons are visible. If this is turned off, the accept will require hitting the enter/accept switch when pushing on the Top Hat switches. The accept switch is still used to enter in a selection in a scroll list.

## Count Items



- Number of Raw files to maintain: (4)  
As each Raw file uses 1 meg of memory on the aircraft PC Card. If the PC Card has lots of memory, then the number of Raw Files can be increased. These Raw Files record the actual flight path as well any event such as the deploy/retrieve switch events for later recovery. This file is used in the BackTrack software to create a flight path for back tracking the actual flight path of the helicopter to search for Bags that have been inadvertently dropped. Because the Deploy switch event is also recorded, then, if this happens to be the cause of the inadvertent drop, the location for that can also be targeted
- Number of Laser files to maintain: (8) - Not Applicable for DynaFlight-SeisBag
- Maximum Distance to see Bags: (1500M, zero disables) –  
The Navigation needle shows all the Bag Drop locations display as a rotating map relative to the nose of the helicopter. This adjusts the total distance of the map across the Navigation Window.

## Back Track



- Screen width from track: (80 m) meters –  
This sets the screen width of the left/right navigation needle for steering on the curved lined path of the BackTrack

### ***Questions or Suggestions?***

Feel free to contact DynaNav Systems Inc through our web site or Ph: 604-465-0009, or email [vern@dynamav.com](mailto:vern@dynamav.com)

# Quick Reference Guide for DynaFlight-SeisBag™

## Special Notes:

Before you can navigate to any bag locations for your area, the data has to be created on the SeisBag Ground™ software and transferred onto the Aircraft PC Card. This Card is located in the right slot of the left door of the DynaFlight processor box in the aircraft.

At the beginning of the job, it is recommended that you pick a particular surveyed and flagged point that has a Bag Drop Location created for it and fly to that target and make sure that the survey data matches the actual survey points. If it does not match, let the coordinator know before beginning job to get the data repaired.

## For Normal Automatic Select Navigation Mode

- After the DynaFlight boots up, select the area name designated for your job site.
- Push the “**SELECT LINE**” button and push your enter switch.
- Scroll to the Line number you are going to work on and push your enter switch.
- System automatically shows you the closest Bag Drop location.
- When you deploy or retrieve the bag, a message pops up that the Bag has been dropped and automatically gives the next closest Bag Drop location.

## For Normal Automatic Select Navigation with first Bag Drop Selected

- After system boots up, select the area name designated for your job site.
- Push the “**SELECT LINE**” button and push your enter switch.
- Scroll to the Line number you are going to work on and push your enter switch.
- System automatically shows you the closest Bag Drop location.
- Push the window switch once and scroll to the specific Bag Drop location you desire and push the enter switch.
- System is locked to that particular Bag Drop location or Nav Point until deployed.
- When you deploy or retrieve the bag, a message pops up that the Bag has been dropped and automatically gives the next closest Bag Drop location and stays in Automatic Select Navigation Mode.

## For Automatic Flight Plan Mode

- After system boots up, select the area name designated for your job site.
- Push the “**SELECT LINE**” button and push your enter switch.
- Scroll to the ‘**Flights**’ and push your enter switch.
- The ‘**Select a Flights**’ window highlights ‘**Auto**’, push your enter switch.
- System is locked to the first Bag Drop location on Flight Plan.
- When you deploy or retrieve the bag, a message pops up that the Bag has been dropped and automatically gives the next Bag Drop location in the Flight Plan.
- The system will continue to automatically switch from point to point and flight plan to flight plan in the sequence that the coordinator has created them.