Base Configurations
Carlson SurvCE

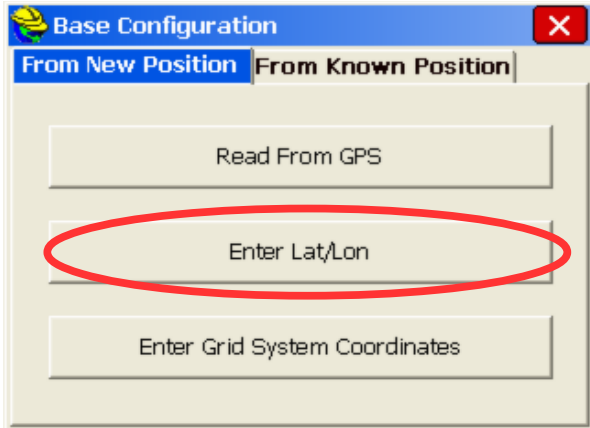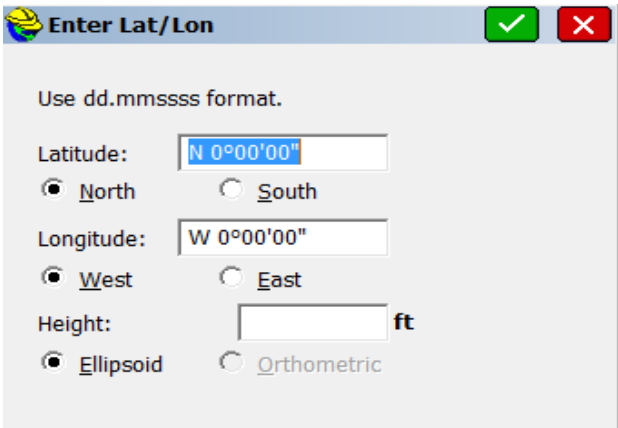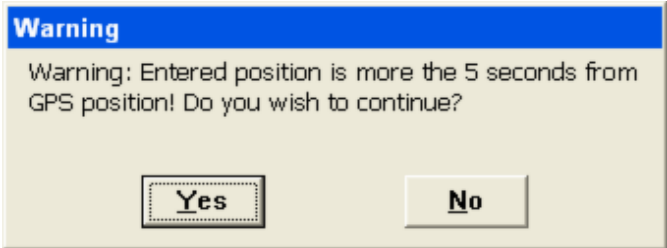| Step	Action	Display
1	There are six methods to set the stationary base position, organized into 2 categories: From New Position includes Read from GPS, Enter Lat/Long and Enter Grid System Coordinates. The From Known Position tab includes Previously Surveyed Point, Use Local Coordinates and Read From File. **To use from Known Position you <u>must</u> have Raw (RW5) data associated with the Job.** <table><tr><td>**From New Position**</td><td>**From Known Position**</td></tr><tr><td>Read From GPS …………………………. Steps 2-6 Enter Lat/Lon …………………………. Steps 7-12 Enter Grid System Coordinates …. Steps 13-17</td><td>Previously Surveyed Point …………Steps 18-21 Use Local Coordinates ……………. Steps 22-27 Read From File ……………………… Steps 28-31</td></tr></table>	
2	**Read from GPS** - This method takes a specified number of GPS readings from the base receiver's autonomous position and uses it as its "true" position. The autonomous position can be off of the actual position by 50 feet. The base will calculate corrections based on this autonomous position. **NOTE:** This is used when setting up a new base position on a site where GPS has not been previously used. When this setting is used on a site that has actual grid coordinates, a Localization will need to be done to get on that system. The coordinates will look like State Plane Coordinates but are not true to the grid.	
3	a) Select "Read From GPS" b) Enter in the "Number of Samples" (epochs) from the receiver's Autonomous position that you want to read and average c) Press the "Green Check Mark"	

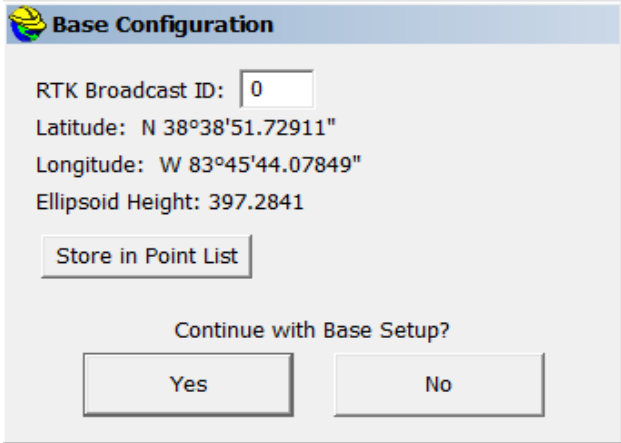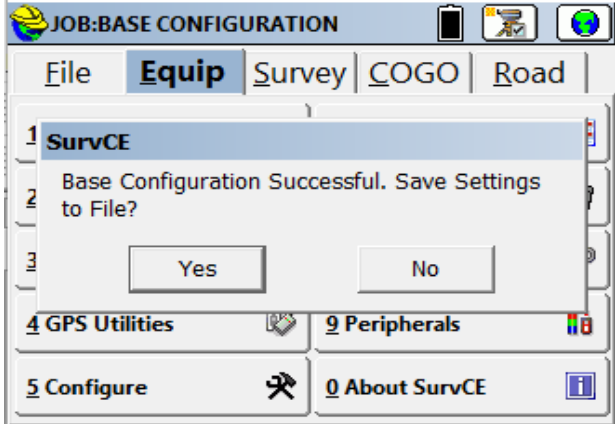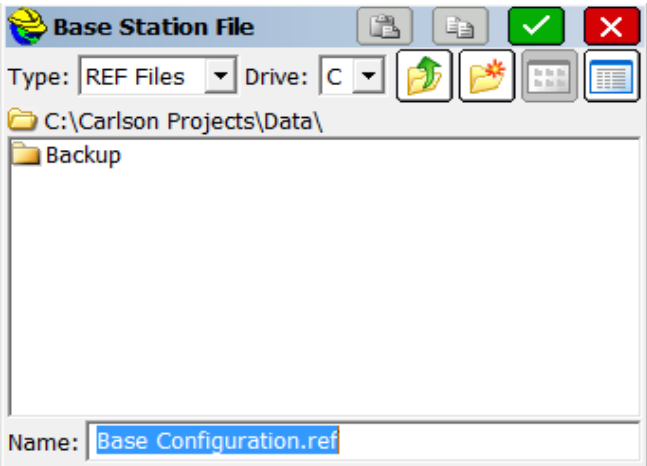| Step	Action	Display
4	a) Once the desired number of readings are shot and averaged you will be asked to confirm your Base Setup. b) Press "Yes" to continue with the base Setup or "No" to start the Base Setup again. **NOTE:** An RTK Broadcast ID is not recommended; if you do use one make sure it is also set in the Rover Setup. "Store in Point List" is new to SurvCE version 5.x and allows the base point to be stored to the coordinate point list. It is recommended to do this.	**Base Configuration** RTK Broadcast ID: 0 Latitude: N 38°38'51.72911" Longitude: W 83°45'44.07849" Ellipsoid Height: 397.2841 [Store in Point List] Continue with Base Setup? [Yes] [No]
5	a) If "Yes" was selected in the previous step you will be asked if you want to save the Base Configuration to a file. b) Press "Yes" to Save the Setup or "No" to continue without saving it. **NOTE:** It is recommended to save the Base Setup to a file for future use.	**JOB:BASE CONFIGURATION** File **Equip** Survey COGO Road **SurvCE** Base Configuration Successful. Save Settings to File? [Yes] [No] 4 GPS Utilities 9 Peripherals 5 Configure 0 About SurvCE
6	a) If you selected "Yes" to save the Base Setup to a file you will be asked to name the file. b) Type in or use the suggested file name (the name of the Job.ref). Press the "Green Check" **NOTE:** It is recommended that you use the suggested name as this makes managing the files easier.	**Base Station File** Type: REF Files ▼ Drive: C ▼ C:\Carlson Projects\Data\ Backup Name: Base Configuration.ref

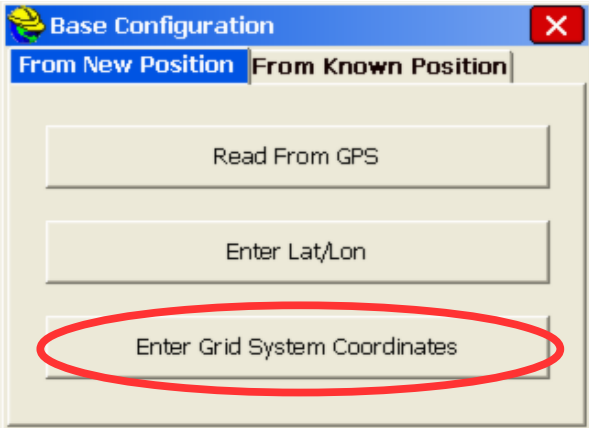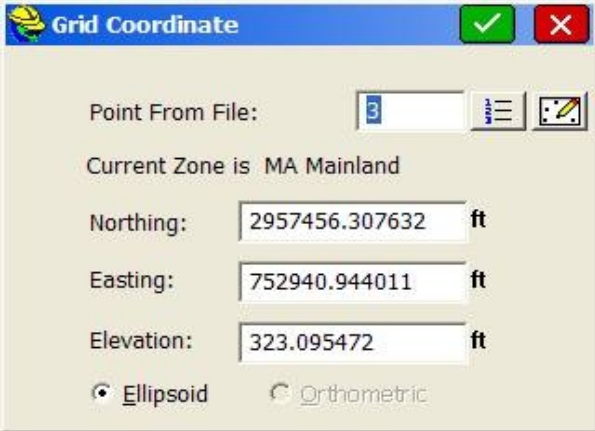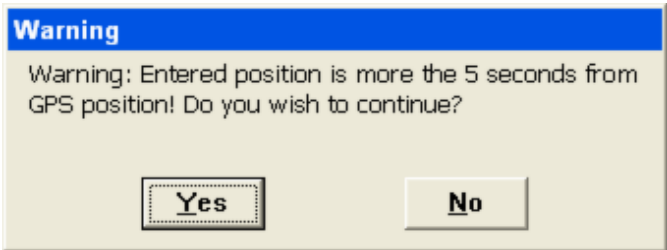| Step	Action	Display
7	**Enter Lat/Lon** - Requires you to enter the latitude and longitude for the position of the base antenna. **NOTE:** This is useful if you are setting up over a monument whose latitude and longitude are known. It can also be used over a control point whose position is known from GPS post-processing such as OPUS. This will put you on the NAD83, NAD27, UTM or other coordinate system specified in Job Settings.	
8	a) Select "Enter Lat/Lon" b) Enter the Latitude, longitude and Ellipsoid Height in the appropriate fields. **NOTE:** A Geoid model should be used if the job needs to be on the "ground". The proper format for entering the coordinates is "dd.mmssss" . Be careful when selecting the "West" or "East" options as many data sheets show the Longitude in East format with a "-" sign placing it in the West.	
9	If the GPS detects that a coordinate entered is not near the current GPS readings, the program will show a warning. Confirm that the coordinate was entered properly and continue with the Base Setup. If you continue with the wrong coordinate entered you will see slow fix times as the system will have difficulty resolving ambiguities.	

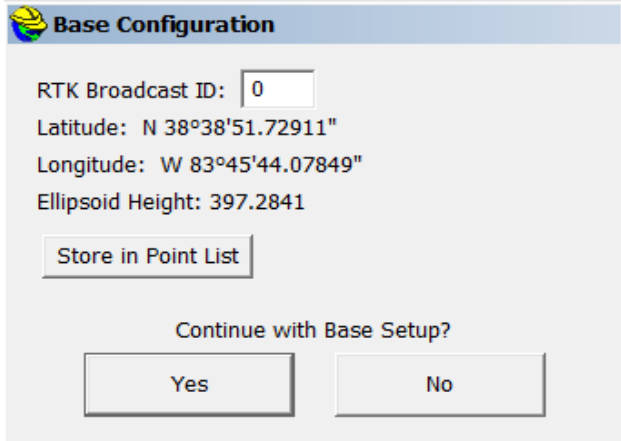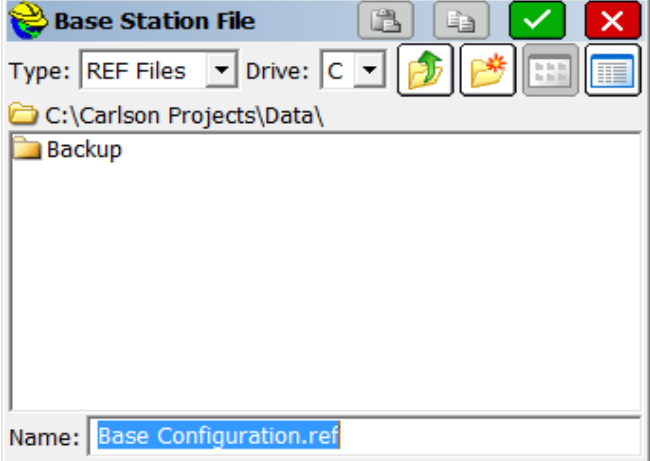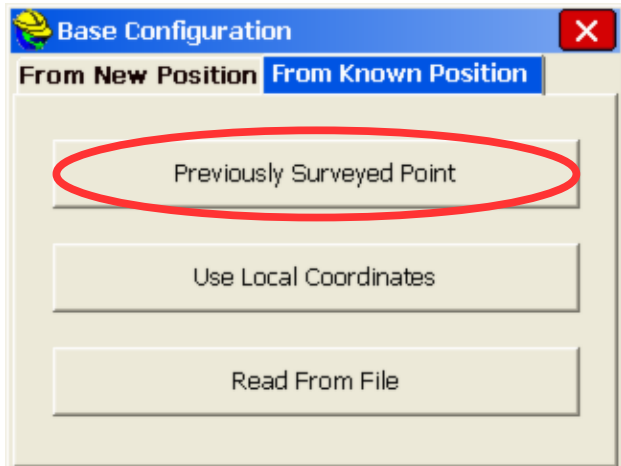| Step	Action	Display
10	a) Once the proper coordinate is entered you will be asked to confirm your Base Setup. b) Press "Yes" to continue with the base Setup or "No" to start the Base Setup again. **NOTE:** An RTK Broadcast ID is not recommended, if you do use one make sure it is also set in the Rover Setup. "Store in Point List" is new to SurvCE version 5.x and allows the base point to be stored to the coordinate point list. It is recommended to do this.	**Base Configuration** RTK Broadcast ID: 0 Latitude: N 38°38'51.72911" Longitude: W 83°45'44.07849" Ellipsoid Height: 397.2841 Store in Point List Continue with Base Setup? Yes No
11	a) If "Yes" was selected in the previous step you will be asked if you want to save the Base Configuration to a file. b) Press "Yes" to Save the Setup or "No" to continue without saving it. **NOTE:** It is recommended to save the Base Setup to a file for future use.	**JOB:BASE CONFIGURATION** File Equip Survey COGO Road **SurvCE** Base Configuration Successful. Save Settings to File? Yes No 4 GPS Utilities 9 Peripherals 5 Configure 0 About SurvCE
12	a) If you selected "Yes" to save the Base Setup to a file you will be asked to name the file. b) Type in or use the suggested file name (the name of the Job.ref). Press the "Green Check" **NOTE:** It is recommended that you use the suggested name as this makes managing the files easier.	**Base Station File** Type: REF Files Drive: C C:\Carlson Projects\Data\ Backup Name: Base Configuration.ref

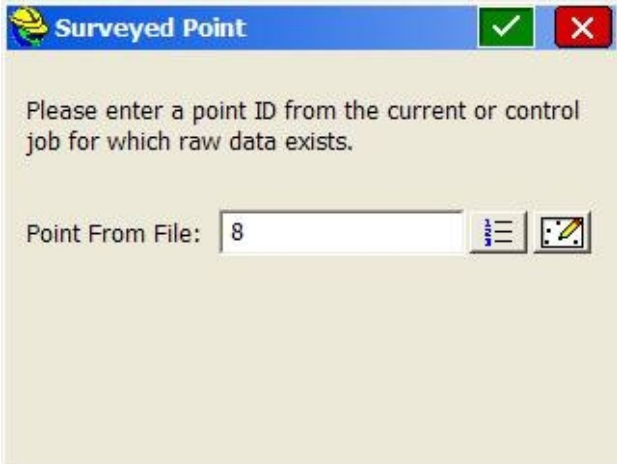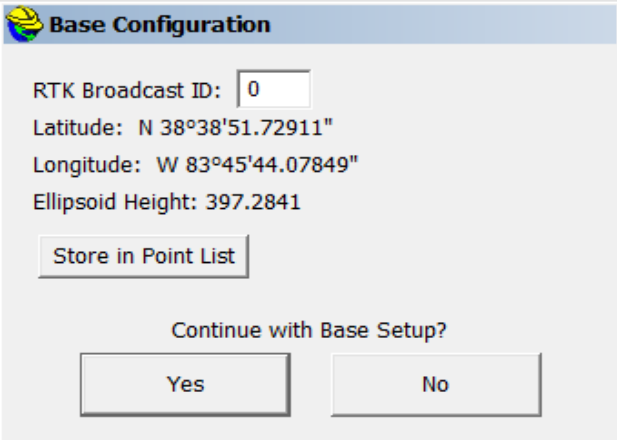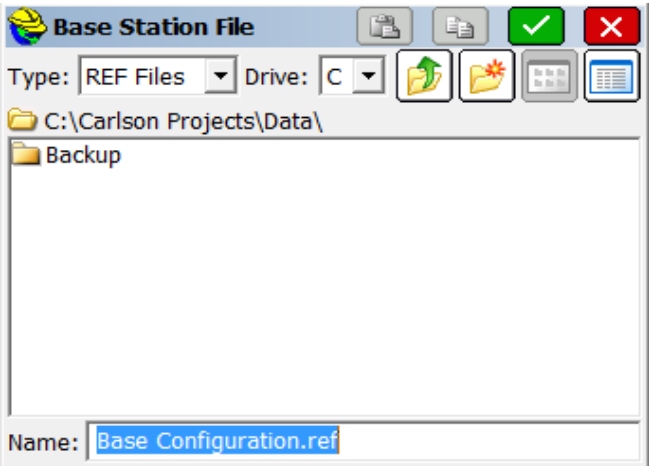| Step	Action	Display
13	**Enter Grid System Coordinates**- Requires you to enter the grid system Northing and Easting for the point that the base is occupying. NOTE: The Grid System Coordinates you use must be a defined Coordinate System such as; U.S. state plane coordinates, or worldwide UTM coordinates as previously defined in the "Job Settings Menu" . This is useful if you are setting up over a monument with known coordinates or using an OPUS position.	
14	a) Select "Enter Grid System Coordinates" b) If the coordinate is in the Point List it can be selected or it can be manually typed in. c) Press the "Green Check" **NOTE:** The Coordinate method is similar to the Lat/Lon method, since Lat/Longs convert to Grid Coordinates based on the current coordinate system set in Job Settings. The Grid Coordinates will convert back to the Lat/Long coordinates needed by SurvCE to configure the base.	
15	If the GPS detects that a coordinate entered is not near the current GPS readings, the program will show a warning. Confirm that the coordinate was entered properly and continue with the Base Setup. If you continue with the wrong coordinate entered you will see slow fix times as the system will have difficulty resolving ambiguities.	

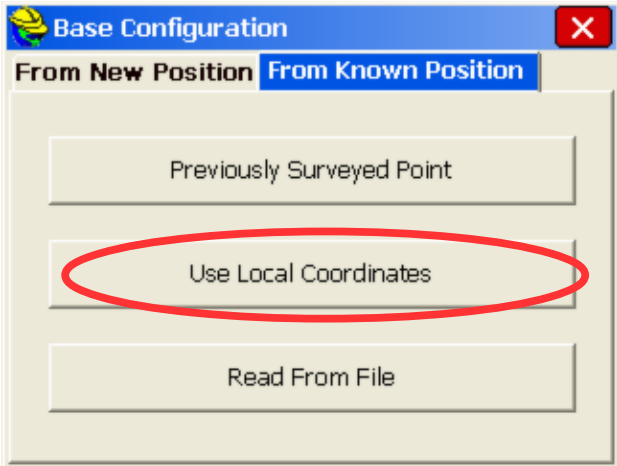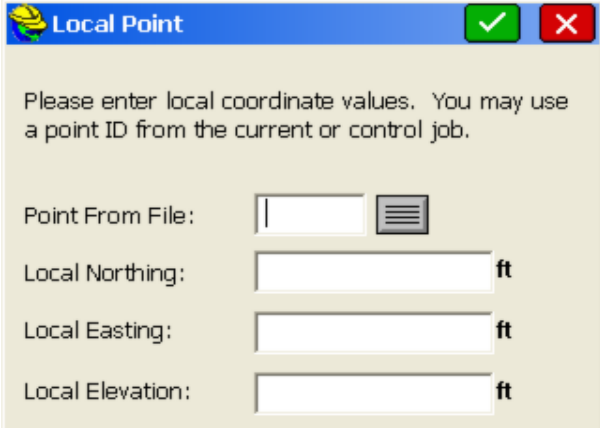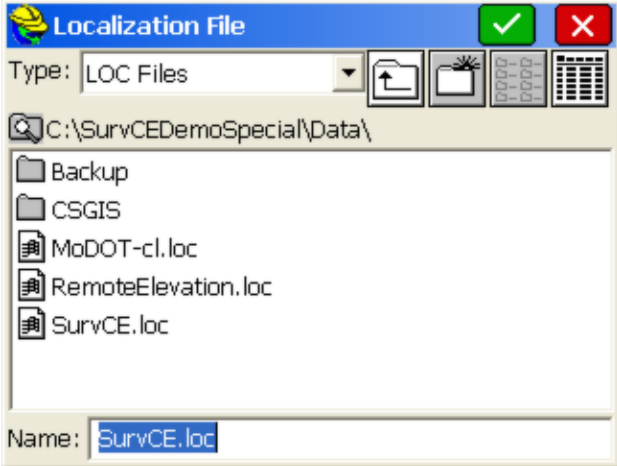| Step	Action	Display
16	a) Once the proper coordinate is entered you will be asked to confirm your Base Setup. b) Press "Yes" to continue with the base Setup or "No" to start the Base Setup again. **NOTE:** An RTK Broadcast ID is not recommended, if you do use one make sure it is also set in the Rover Setup. "Store in Point List" is new to SurvCE version 5.x and allows the base point to be stored to the coordinate point list. It is recommended to do this.	**Base Configuration** RTK Broadcast ID: 0 Latitude: N 38°38'51.72911" Longitude: W 83°45'44.07849" Ellipsoid Height: 397.2841 Store in Point List Continue with Base Setup? Yes No
17	a) If you selected "Yes" to save the Base Setup to a file you will be asked to name the file. b) Type in or use the suggested file name (the name of the Job.ref). Press the "Green Check" **NOTE:** It is recommended that you use the suggested name as this makes managing the files easier.	**Base Station File** Type: REF Files Drive: C C:\Carlson Projects\Data\ Backup Name: Base Configuration.ref
18	**From Known Position Options** *-To use from Known Position you must have Raw (RW5) data associated with the Job.* **Previously Surveyed Point-** This requires you to enter the coordinates on the configured coordinate system of a known, surveyed point. The known point must be found in the RW5 file in a form that includes its Lat/Long (a previous GPS measurement). This Lat/Long just as with New Position options, is used to establish the base position. This method requires that you are working within an existing job that has a raw file including Lat/Long positions for the points being used.	**Base Configuration** From New Position **From Known Position** Previously Surveyed Point Use Local Coordinates Read From File

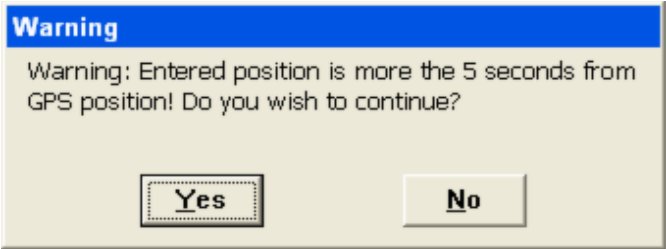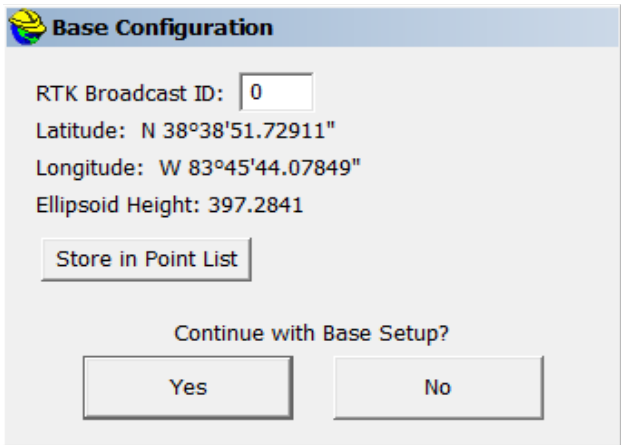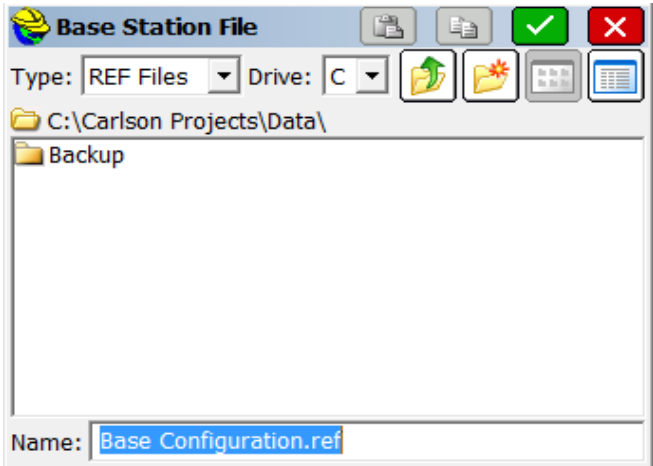| Step	Action	Display
19	a) Select "Previously Surveyed Point" b) Use the drop down list or type in the Point Number you want to occupy. c) Press the "Green Check". **NOTE:** The point you choose MUST be one that was previously surveyed with GPS from the current Job. An .RW5 file must be present.	**Surveyed Point** ✓ ✕ Please enter a point ID from the current or control job for which raw data exists. Point From File: 8
20	a) When a recognized point has been selected you will be asked to confirm your Base Setup. b) Press "Yes" to continue with the base Setup or "No" to start the Base Setup again. **NOTE:** An RTK Broadcast ID is not recommended, if you do use one make sure it is also set in the Rover Setup. "Store in Point List" is new to SurvCE version 5.x and allows the base point to be stored to the coordinate point list. It is recommended to do this.	**Base Configuration** RTK Broadcast ID: 0 Latitude: N 38°38'51.72911" Longitude: W 83°45'44.07849" Ellipsoid Height: 397.2841 Store in Point List Continue with Base Setup? Yes No
21	a) If you selected "Yes" to save the Base Setup to a file you will be asked to name the file. b) Type in or use the suggested file name (the name of the Job.ref). Press the "Green Check" **NOTE:** It is recommended that you use the suggested name as this makes managing the files easier.	**Base Station File** ✓ ✕ Type: REF Files ▼ Drive: C ▼ C:\Carlson Projects\Data\ Backup Name: Base Configuration.ref

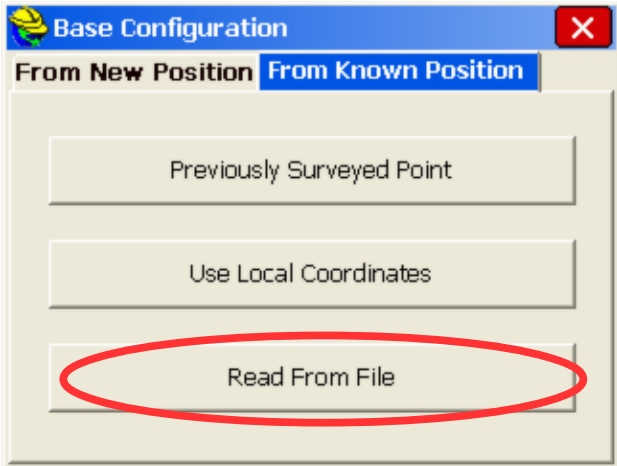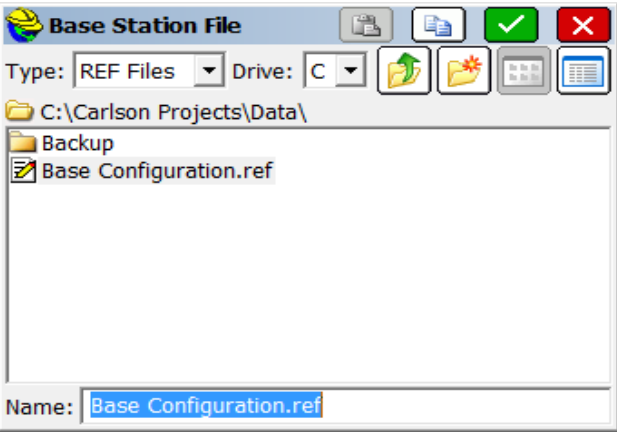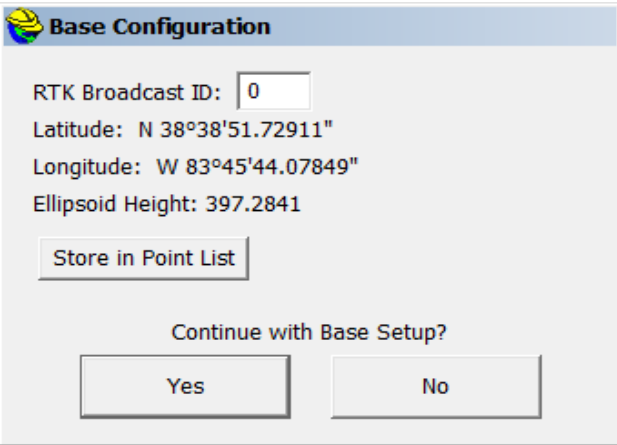| Step	Action	Display
22	**Use Local Coordinates-** This option is to be used in combination with a Localization file (found under Equip, Localization) It requires that a .LOC file be attached to a user defined coordinate. You would use this for example on a site with a N5000, E7000, Z300 coordinate system that has combined GPS and Total Station data. Where on a second day setup the base was to be set on one of the Total station shots. As long as there was a localization file (from the first day setup) that could be attached to the non-GPS coordinate (one shot by the total station) the system would be able to convert it and use it as a base position. The system is converting the local coordinate to a Lat/Long from the .LOC file. This option is rarely used.	
23	a) Select "Use Local Coordinates" b) If the coordinate is in the "Point List" pick it from the drop down list or enter the point number in the field. If it is not in the list, hand enter it. c) Press the "Green Check"	
24	a) Select the Localization (.LOC) file that is associated with the Job. b) Press the "Green Check"	

Step	Action	Display
25	If the GPS detects that a coordinate entered is not near the current GPS readings, the program will show a warning. Confirm that the coordinate was entered properly and continue with the Base Setup. If you continue with the wrong coordinate entered you will see slow fix times as the system will have difficulty resolving ambiguities.	**Warning** Warning: Entered position is more the 5 seconds from GPS position! Do you wish to continue? Yes No
26	a) Once the coordinate and localization file are correct you will be asked to confirm your Base Setup. b) Press "Yes" to continue with the base Setup or "No" to start the Base Setup again. **NOTE:** An RTK Broadcast ID is not recommended, if you do use one make sure it is also set in the Rover Setup. "Store in Point List" is new to SurvCE version 5.x and allows the base point to be stored to the coordinate point list. It is recommended to do this.	**Base Configuration** RTK Broadcast ID: 0 Latitude: N 38°38'51.72911" Longitude: W 83°45'44.07849" Ellipsoid Height: 397.2841 Store in Point List Continue with Base Setup? Yes No
27	a) If you selected "Yes" to save the Base Setup to a file you will be asked to name the file. b) Type in or use the suggested file name (the name of the Job.ref). Press the "Green Check" **NOTE:** It is recommended that you use the suggested name as this makes managing the files easier.	**Base Station File** Type: REF Files ▼ Drive: C ▼ C:\Carlson Projects\Data\ Backup Name: Base Configuration.ref

Step	Action	Display
28	**Read From File** - Reads a previously saved base position file. All of the other methods of setting up the base let you save the base position at the end of setup. If you return to a site, set up the base in exactly the same position, use Read From File to use the same base position.	
29	a) Select "Read From File" b) Select the File you want to use c) Press the "Green Check"	
30	a) Once a file has been selected you will be asked to confirm your Base Setup. b) Press "Yes" to continue with the base Setup or "No" to start the Base Setup again. **NOTE:** An RTK Broadcast ID is not recommended, if you do use one make sure it is also set in the Rover Setup. "Store in Point List" is new to SurvCE version 5.x and allows the base point to be stored to the coordinate point list. It is recommended to do this.	

Step	Action	Display
31	a) When the file is read a message saying that the Base has been configured will be displayed.	JOB:BASE CONFIGURATION File **Equip** Survey COGO Road 1 Total Station 6 Localization SurvCE 2 GPS Base Configuration Successful. OK 3 GPS 4 GPS Utilities 9 Peripherals 5 Configure 0 About SurvCE

Please contact Champion Instruments or your Local Dealer with any questions.