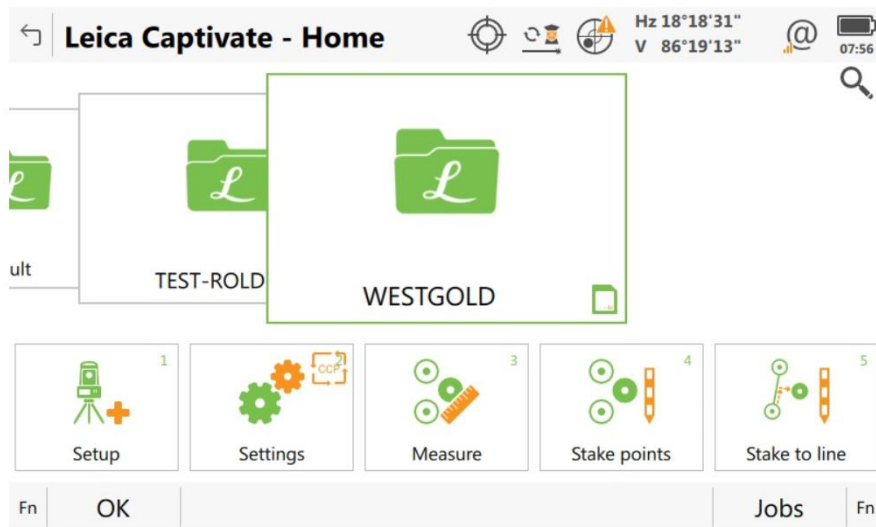


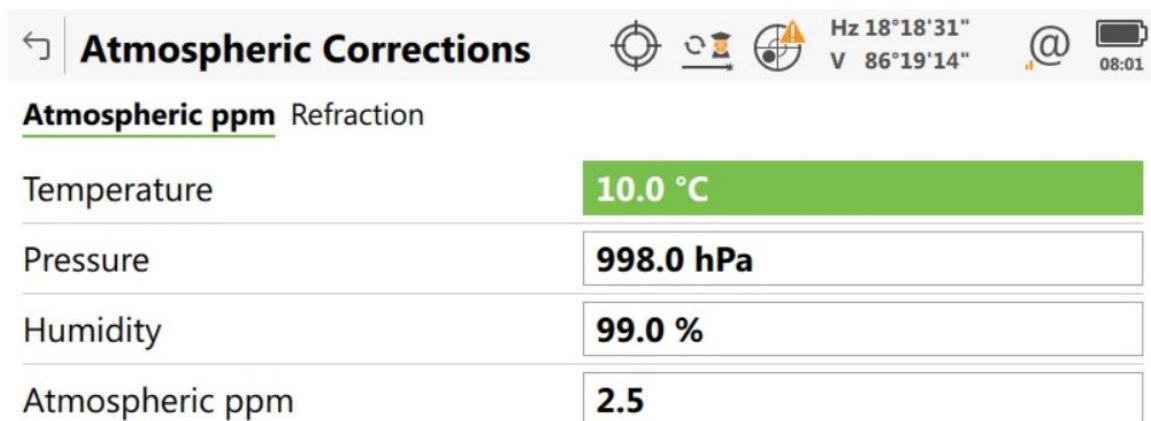
Survey procedures for MOVE3 Leica Captivate



Settings

Everything that will make a difference for the quality of the network will naturally be taken into account make sure you are aware of the Atmospheric Corrections. These will have a influence on the distances.”

Settings in the Leica **Setup** should also to be taken into account that is measurement methods to fixed stations and the settings for **Measuring** methods to stations. Correct Prism Constant is important. The Prism constant will be provided in the observation listing on the far right of the column under **source**



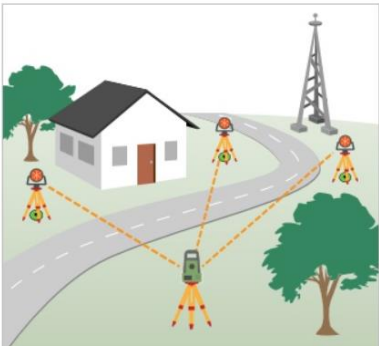
Measurement accuracy is increased if the correct temperature, pressure & humidity are entered

Setup Details

If you are measuring from a free station instrument height is 0 or setting up over known station place instrument height in.

Setup Details		Hz 18°18'31"	@	07:59
Point ID	SETUP1			
Instrument height	0.0000 m			
Point code	<None>			🔍
Choose target points from a different job	<input checked="" type="checkbox"/>			
Job	WESTGOLD (SD)			>

Resection

Total Station Setup		Hz 18°18'31"	@	07:57
	Setup method	Resection ✓		
	Setup point is not known. Measure to 2 or more known target points to compute setup coordinates & orientation.			

If you have a target height place this in or 0 if there is no target height

Measure Target 1		Hz 18°18'31"	V 86°19'13"	@	08:00
Point ID	No items to display >				
Target height	1.9410 m				
Hz angle	18°18'31"				
V angle	86°19'13"				
Slope distance	-----				
Difference in azimuth	-----				
Difference in horizontal distance	-----				
Difference in height	-----				

Measure to your known stations preferably minimal 3x if possible. At the heart of any Least Square solution are redundant observations. This provides the necessary statistical basis to check & defend your survey network

- Measure to your fix stations 1 & 2 face (that's up to you naturally 2nd face will bring more redundancy & accuracy which is a good thing)
- check your residuals then measure the fix stations again for more redundancy. Also measure the new stations which you maybe adding further down the line. The network has to be connected if you want a traverse as one. It's up to you how you connect all the bits the order of survey for MOVE3 is not important as long as you have a joined traverse in the end
- Measure to each station minimal 2x better 3x 4x... 10x is over the top and isn't necessary!
- You can use the Leica sets of angles program they will go through well in MOVE3.
- Any errors you make in the field and erase will also be recorded in MOVE3 so you will have original data # symbol will be placed in the observations this will tell you this observation wont be used in the adjustment but it will give clearly what has been done in the field.

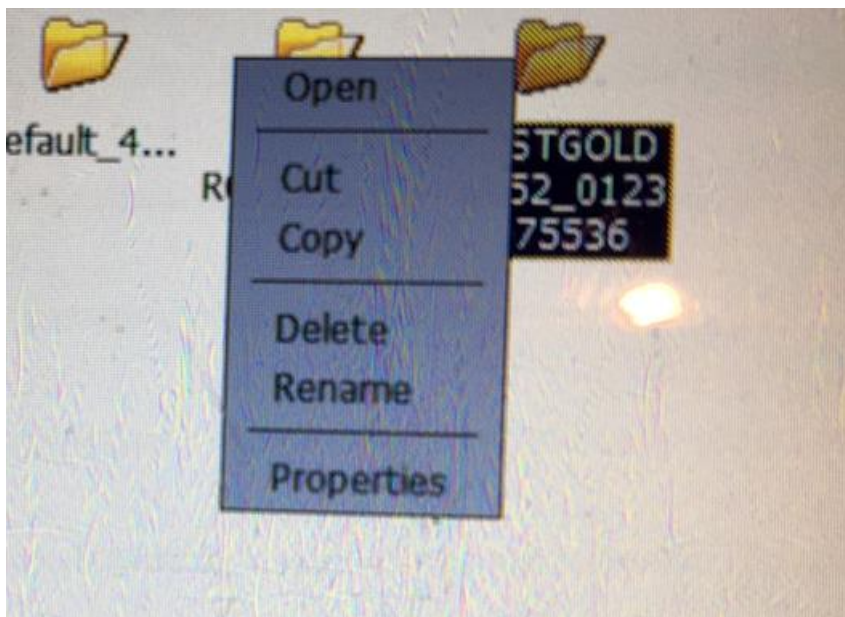
The most important thing throughout the traverse is that stations names are kept the same if you measure to a station 1001 then for the next set up if you have to measure station 1001 again then keep to that same station name. This is the same for setup over a known station.

Exporting Data to MOVE3

DBX GSI files

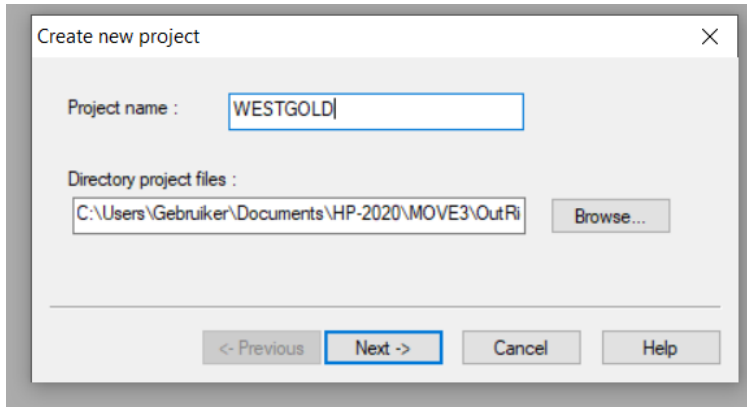
The dbx (preferably) or gsi data can be copied from your SD card or USB or direct depends what you find easiest the data is under your FN- windows if you want to download from a C20 to usb.

The DBX has 10 files or so. It's not necessary to take all these out separately. When you come to import Total Station into MOVE3 MOVE3 will see the file with the other files attached.



MOVE3

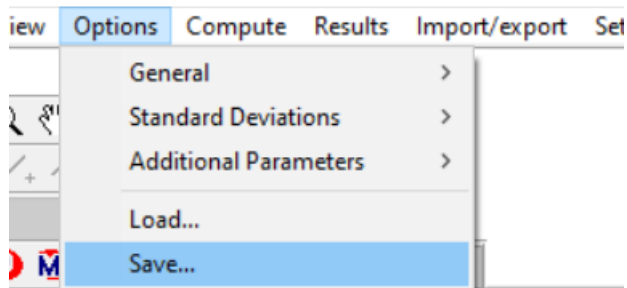
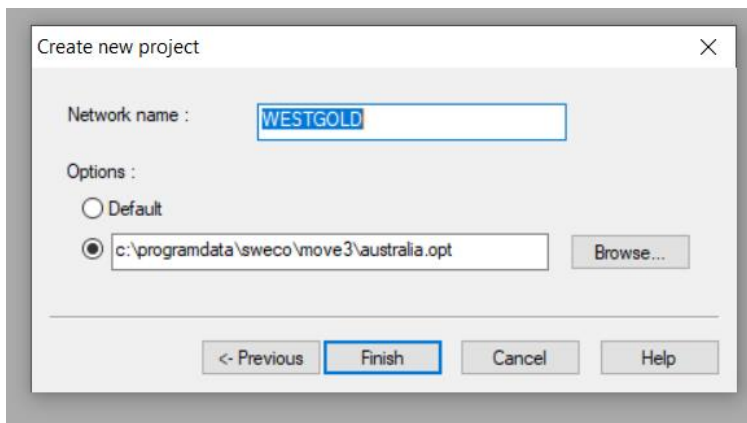
Create new project



Go to browse and select Australia.opt file if you wish here is the Australian SP attached.

Or just choose default and you can change the settings latter in MOVE3.

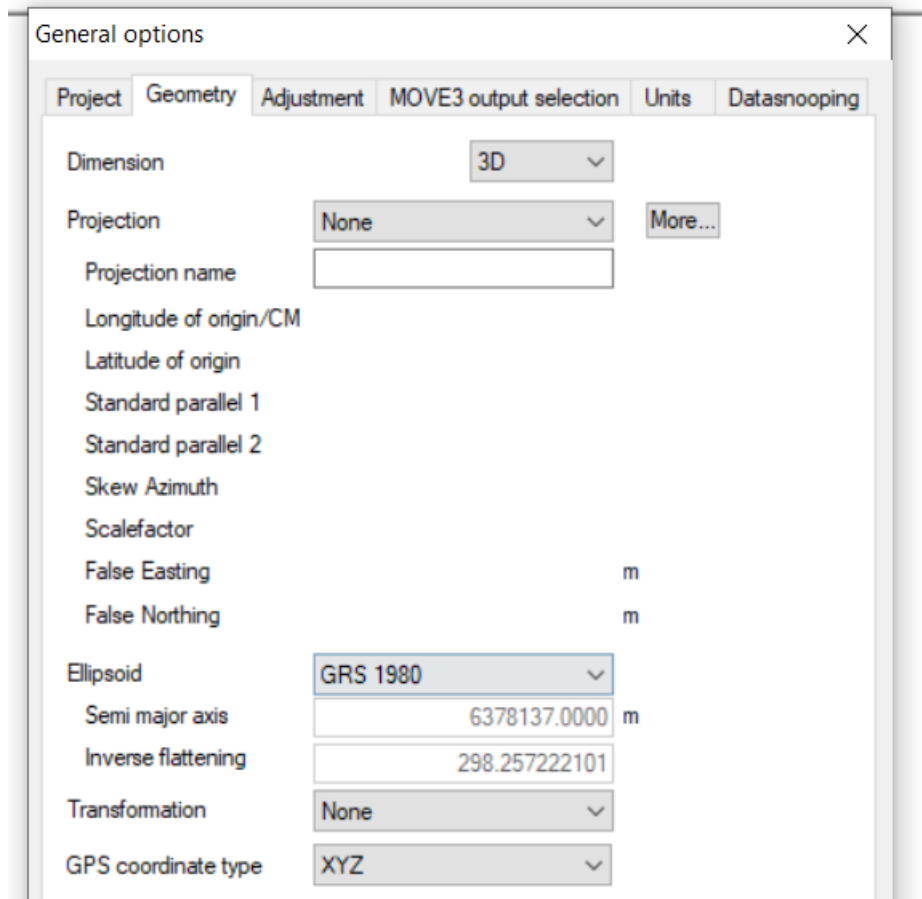
You can make yourself .opt files for saved settings for next jobs in MOVE3 options Save or to selected previously saved settings choose load.



Select a projection

Under the **More** here you will find the Australian GDA projections.

If you are just working from a local choose the setting under



General options

Project Geometry Adjustment MOVE3 output selection Units Datasnooping

Dimension 3D

Projection None More...

Projection name

Longitude of origin/CM

Latitude of origin

Standard parallel 1

Standard parallel 2

Skew Azimuth

Scalefactor

False Easting m

False Northing m

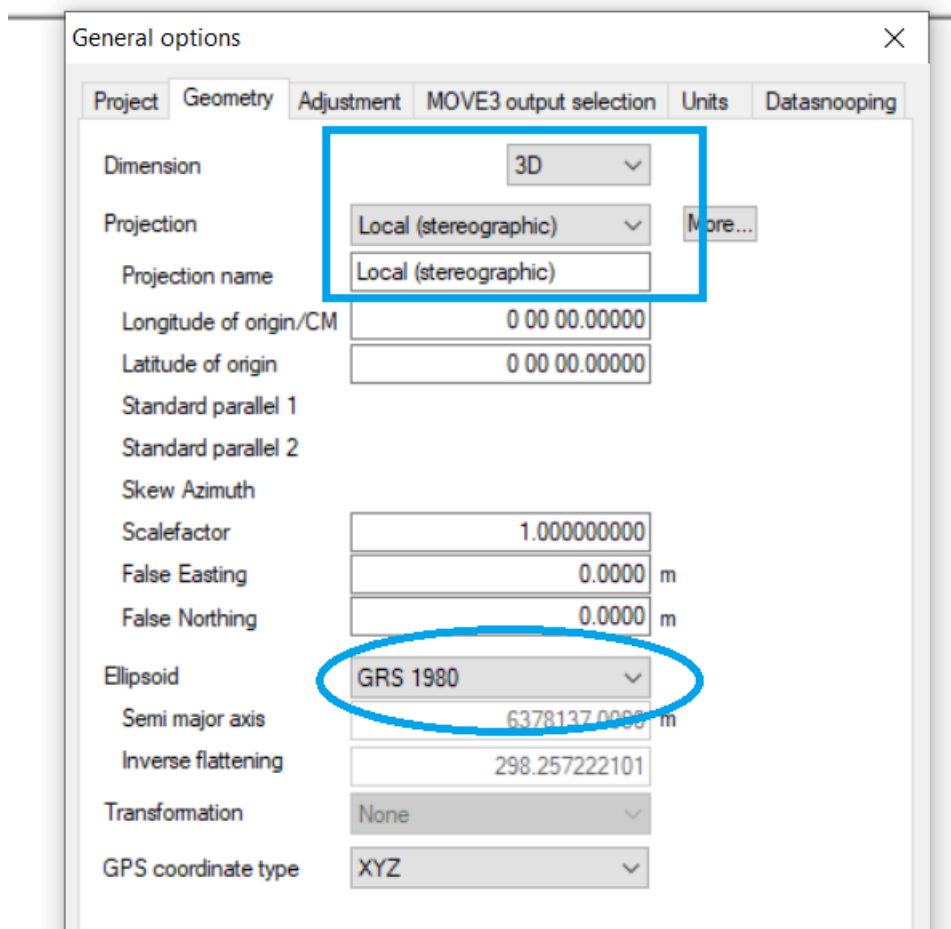
Ellipsoid GRS 1980

Semi major axis 6378137.0000 m

Inverse flattening 298.257222101

Transformation None

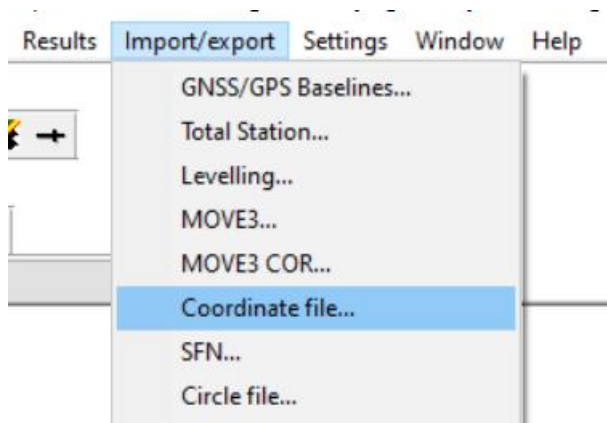
GPS coordinate type XYZ



Importing fixed station data

Import-Coordinate file

IMPORT any fixed station file if you have or if they are in they are from the Total Station these should will be automatically imported (latter you will see these will have a * next to them under stations in MOVE3 and you will see a tick mark in the box XY or Z if you click the station under stations or on the screen).



It's up to you how you want to import from Xcel or notepad. I prefer note pad.

Import Coordinate file

Added :
Observations 0
Stations 0

Import

Close

Add as: Known Station

Update existing only

Format: Separator Comma

	Begin	Length	Field
Station name	0	0	1
X East	0	0	2
Y North	0	0	3
Height	0	0	4
St dev X East	0	0	0
St dev Y North	0	0	0
St dev Height	0	0	0
Feature code	0	0	0
Geoid Height	0	0	0

Help

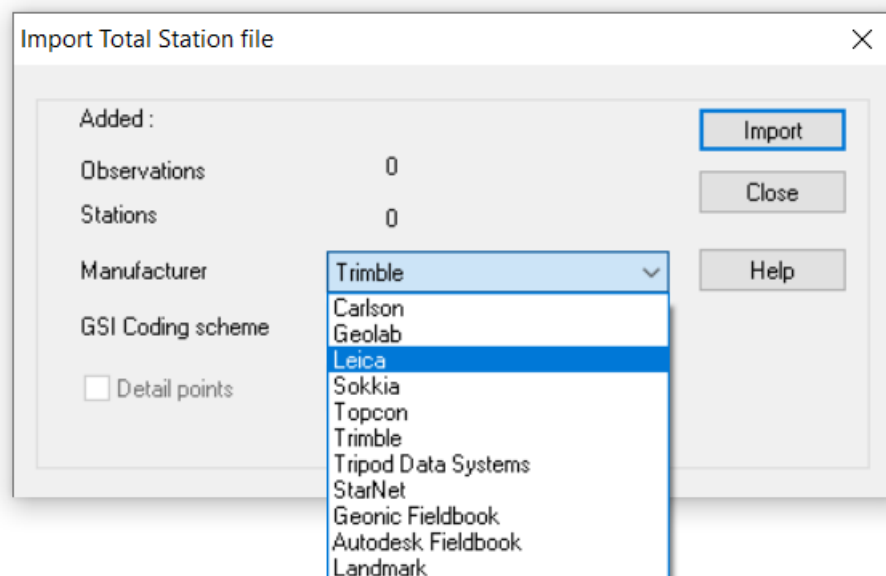
Gyro Measurements

*If you have gyro measurement these values can latter added into MOVE3

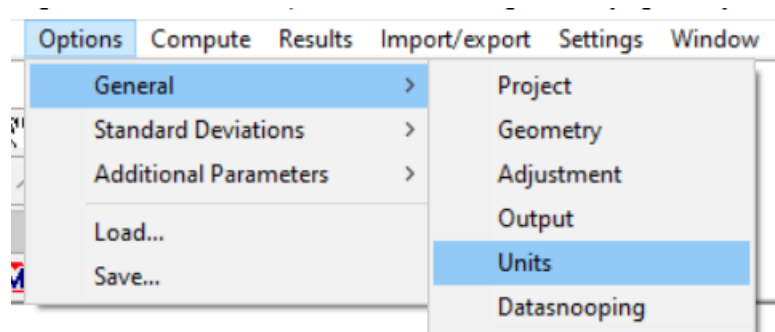
Import Total Station data

Import- Total Station

Leica choose dbx or gsi



To Change to Degrees Minutes Second format



Notes

Using TS16 with the traverse application.

I have carried out some testing and found that I can use the same station name from two separate setups with (TS1200 and TS T15 this is not possible). The Leica will just average the co-ordinate of the new station. However, when you import into MOVE3, it will still have all of the raw observations so works perfect with no post editing.

This works well if you are using the traverse application is far more user friendly and intuitive than the sets of angles.

TRIMBLE

With the Trimble use the resection program also once you have your residuals and set it measure your fixed stations again for extra redundancy under your measure topo program.

Wayne Pappas

Jan 2020