

## TOPCON TOOLS

### FOR FIRST-TIME USERS

1. Install Microsoft ActiveSync on your computer by going to  
<http://www.microsoft.com/windowsmobile/downloads/activesync38.msp>
2. Install Topcon Tools on your computer  
Insert the 'Topcon Tools' CD  
If the setup menu does not load automatically, open the file Topcon\_Tools\_ver\_504.exe  
Select Topcon Tools + Link Setup  
Follow the prompts to install the software

### IMPORTING DATA INTO TOPCON TOOLS

Importing Data from the Receiver (e.g. rapid static, post-processing kinematic)

Connect the computer to Port B of the Topcon GB-1000 receiver using the serial cable or connect to the USB port using the USB cable

- Open Topcon Tools on the computer
- Create a new job or open an existing job
- For a new job
  - Generate a name and select GPS+ Configuration
- From the main window, go to 'Job' and 'Import from Device'
- Open 'Topcon Receivers' and 'GB-1000'
- Select the desired files and click 'Open'
- Points will be displayed in map view

If you have already downloaded data to your computer, you can go through 'Job' and 'Import' rather than 'Import from Device'

Importing Data from the Data Controller (e.g. RTK)

Connect the Topcon FC-100 Data Controller to the computer by the USB cable. When prompted on the computer to set up a partnership, select no. Minimize ActiveSync window.

1. To save data to file from the Topcon FC-100 Data Controller
  - Open TopSURV on the FC-100 Data Controller
  - Open the job
  - From the main window, go to 'Job' and 'Export to File'. By default the file will be saved in CF Card\TPS TopSURV\IEFiles
2. To import data to Topcon Tools
  - Open Topcon Tools on the computer
  - Create a new job or open an existing job
  - For a new job
    - Generate a name and select GPS+ Configuration
  - From the main window, go to 'Job' and 'Import from Device'
  - Open 'Mobile Device' and navigate to CF Card → TPS TopSURV → IEFiles
  - Select the desired files and click 'Open'
  - Points will be displayed in map view
3. To access a job or files directly from the FC-100 without using Topcon Tools

With the FC-100 connected to the computer via USB cable,  
Go to My Computer\Mobile Device\CF Card\TPS TopSURV\Jobs or IEFiles  
Copy files to the desired directory on the computer  
To then import the data to Topcon Tools, follow the previous step, but go through 'Job' and  
'Import' rather than 'Import from Device'

## BEFORE PROCESSING

1. Go to Job → Job Configuration to edit settings  
To select a projection (e.g. none or UTM Zone X) or datum (e.g. WGS84), go to 'Coordinate Systems'  
To view point coordinates in decimal degrees, go to 'Display', 'Angles', and select dd.ddd for Lat,Lon  
Go to 'Process' and select the GPS+ PostProcessing tab. If conducting a kinematic survey, check 'Enable continuous kinematic'. Also select the elevation mask for processing (e.g. 10 deg)
2. To customize the table in the lower window, e.g. to add a baseline length field to the 'GPS Obs' tab in the lower window  
Go to View → Tabular View Options  
Move 'Distance' from 'Available columns' to 'Selected columns'
3. Go to 'GPS Occupations' tab in the lower window to verify (and edit if need be) survey metadata such as antenna type and height, station names, etc.

## DATA PROCESSING

1. If you have a base or reference station with known coordinates, fix the station to generate a better solution  
For the reference station, in the 'Points' tab in the lower window  
Insert known coordinates into the Latitude and Longitude fields  
Change the value in the Control field from 'None' to 'Both'
2. To process data  
Go to Process → GPS+ PostProcessing  
(To process only certain baselines, highlight them in the map view, right-click, and select GPS+ PostProcessing)  
Go to the 'GPS Obs' tab to view point precisions
3. Perform Network Adjustment to minimize errors throughout network  
Go to Process → Adjustment  
Standard deviation now appears in the 'Points' tab
4. To see warnings about points and baselines  
Right-click on the point or baseline, which is generally red if there's a problem  
Select 'Properties' and go to 'Quality Control' tab  
Messages may indicate points that exceed the precision limits  
To change precisions, go to Job → Job Configuration → Quality Control  
Messages may also indicate multiple points suspected of being the same (see below)
5. For multiple points suspected of being the same  
Go to COGO → Inverse to calculate distance between suspect sites

To force observations to combine, simply change the Point Name of one in the 'GPS Occupations' tab in the lower window. Reprocess and re-adjust.  
Alternately, you can leave the observations as are to analyze repeatability, or you can leave them uncombined and average later

## **EXPORTING DATA**

From the main window, go to 'Job' and 'Export'

Select the output file format, e.g.

Name,Lat,Lon,Ht,Code (\*.csv) which can be opened in Microsoft Excel

GIS Shapefile (\*.shp)

TopSURV Database File (\*.tstv), which can be used on the Data Controller to conduct a stakeout

Select the file destination