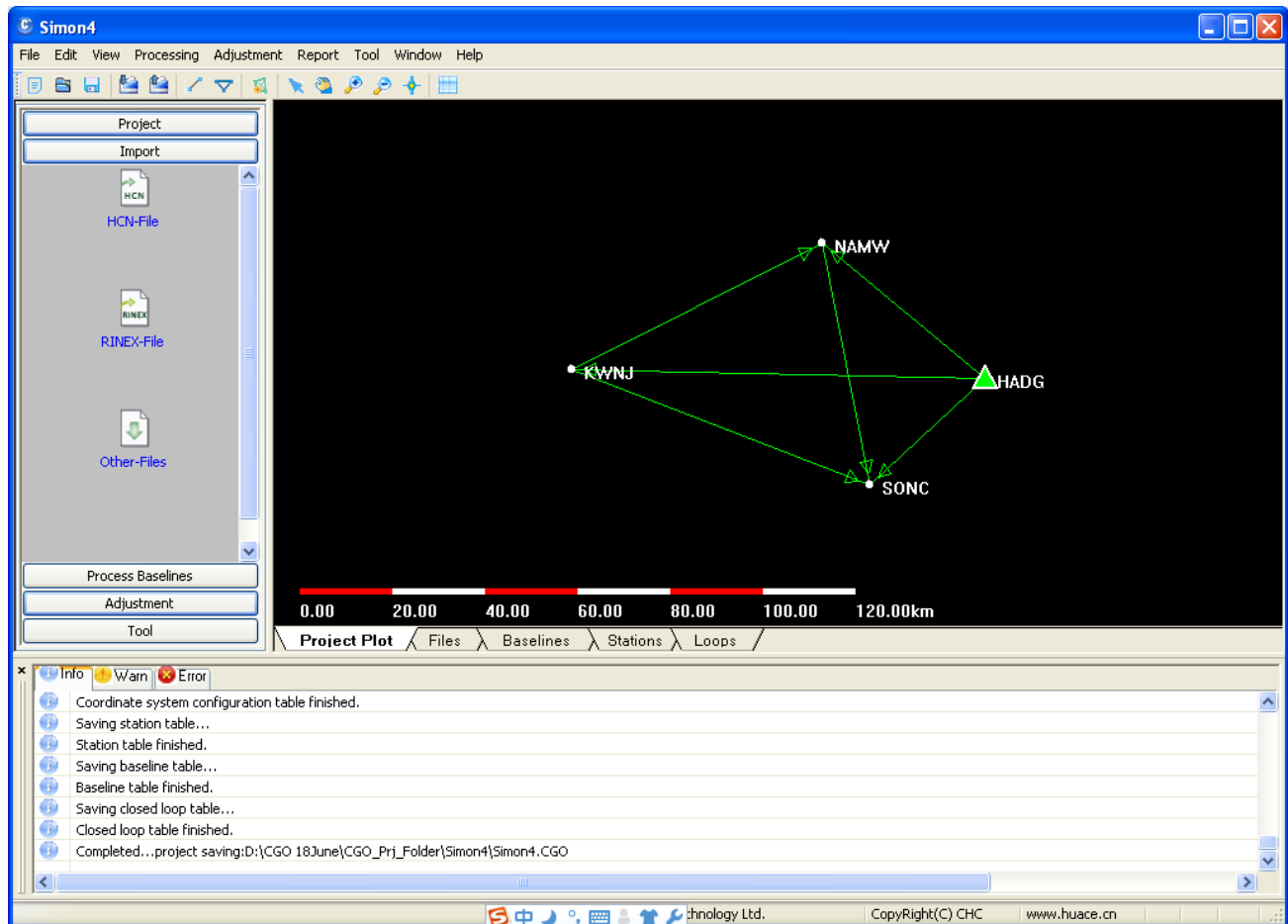


CHC GEOMATICS OFFICE | QUICK TOUR



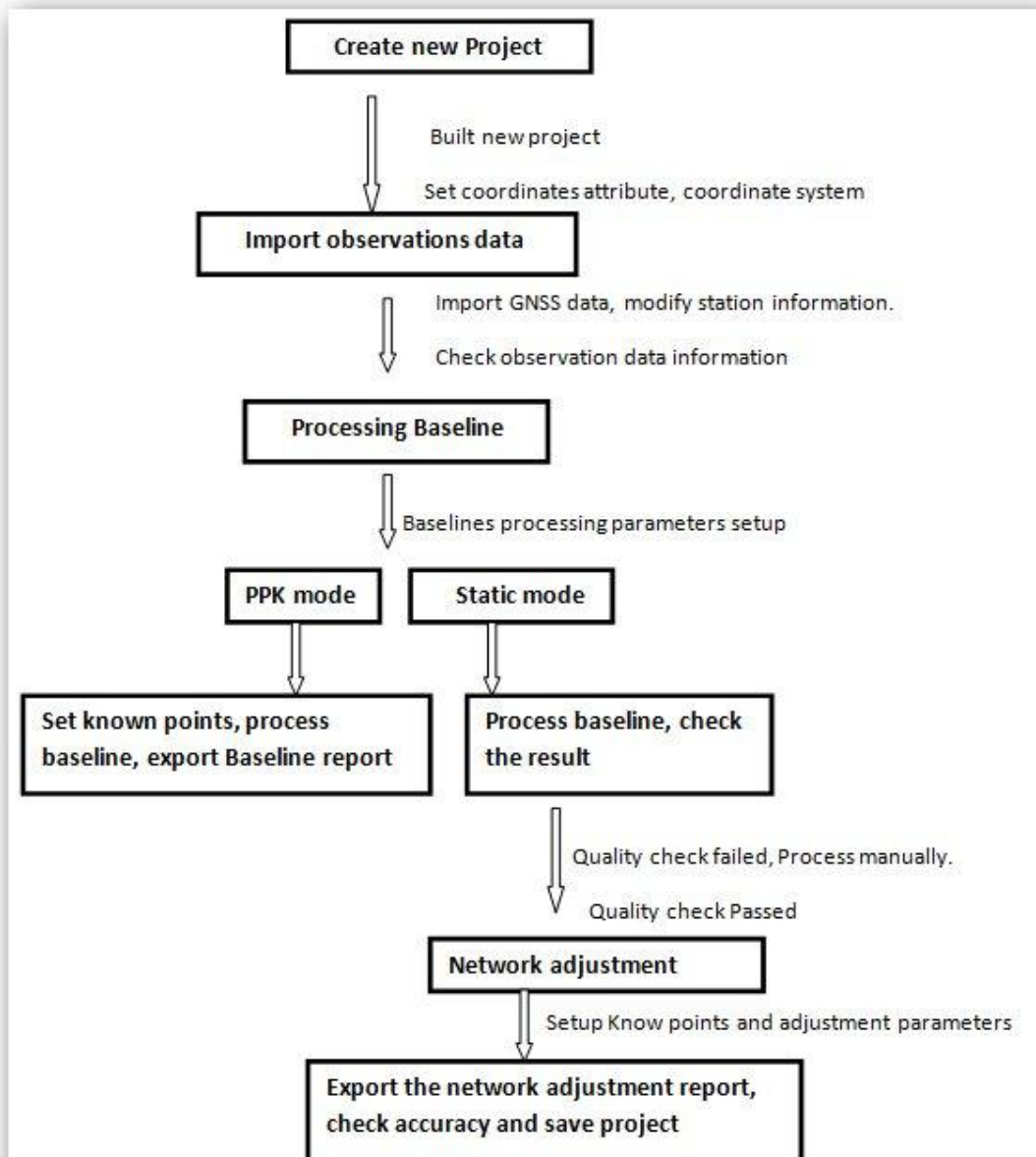
CHC LAND SURVEY SOLUTIONS -POST PROCESSING SOFTWARE



Prerequisites:

- Install CGO software in PC
- Download the GNSS data from receiver to PC.

Post processing workflow;

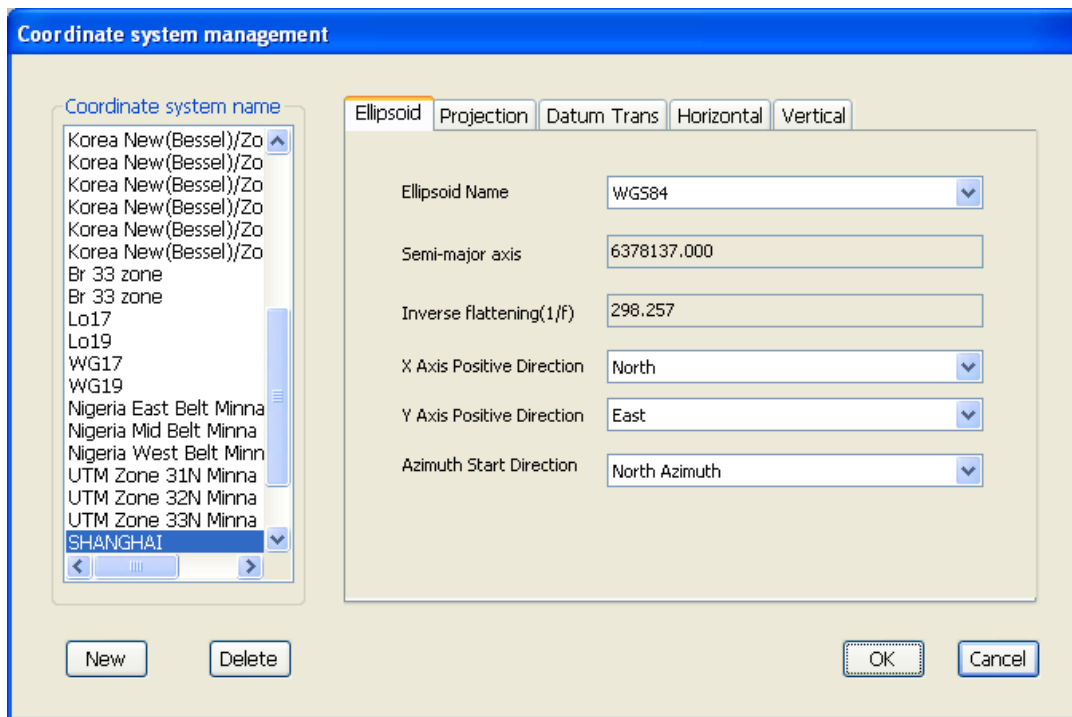


Create a new project

1. Run the main programme, Select **File->New Project**, in put the Project name and select the project path.
2. Set up the **Project attribute**

Project detail - title, description, and surveyor information.

Projection datum—using last projection datum or select (create) new projection datum, if you create the **new projection datum**, please follow the guidance to built the projection coordinate system.



Time system, Unite and format- set GPS time mode and Unites (feet and meter, will work in version 2).

Advanced- set the baseline generating rules and station check rules.

Import observation data, mainly 3 types of GNSS files

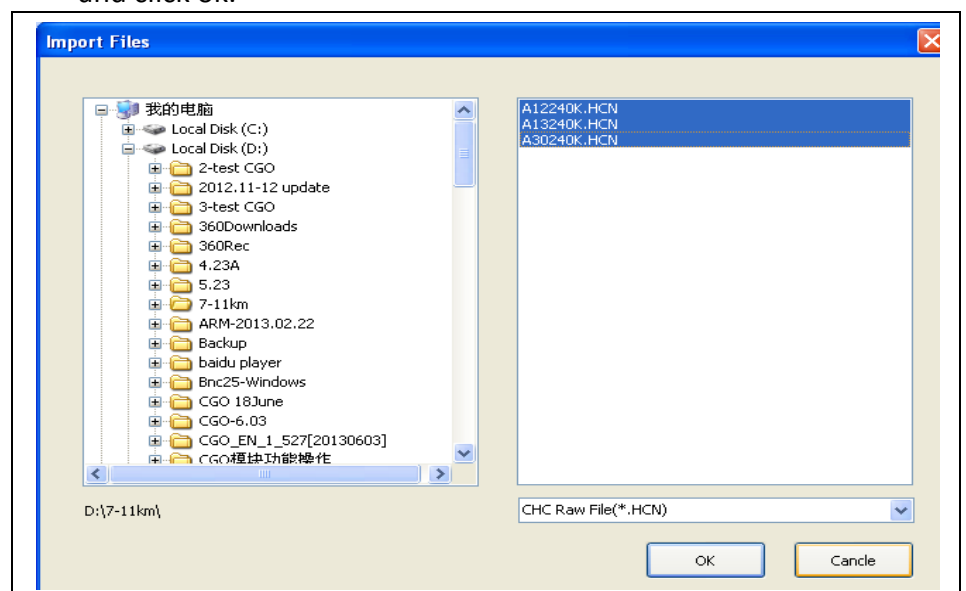
HCN File, CHC Raw data format

Rinex, standard GNSS observations files

Other files, **.SP3 format, Trimble, Novatel, Hemisphere raw data.

1. **Import Raw GNSS**, Here using HCN format as an example.

Double click **HCN-File** in the left toolbar, select the folder path of observation files, the observation files will appear in the right main window, select the files you want to import and click ok.



2. After import observation files, then **Check Source Data** window show up, please modify the following information.

Satation ID: Station name of observation data.

Antenna information: such as Antenna height, type, Survey type.

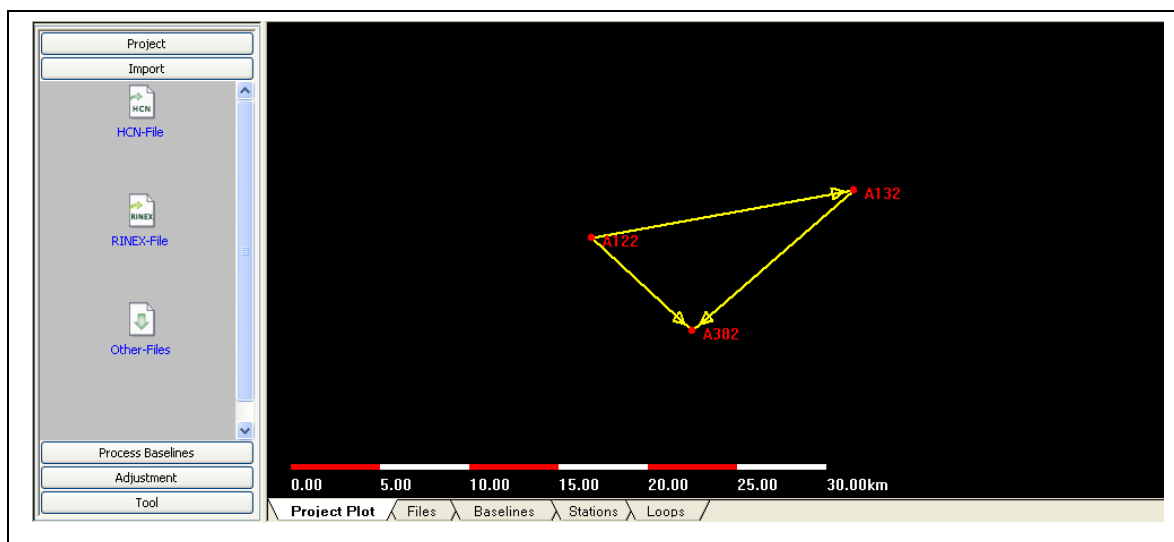
Use	Stati...	File Name	Start Time	End Time	Duration	Antenna Heigh...	Antenna Type	Survey Type
<input checked="" type="checkbox"/>	A122	D:\7-11km\A12...	2009/08/28 10:04:30.0	2009/08/28 11:43:45.0	01:39:15	0.0000	unknown	Vertical
<input checked="" type="checkbox"/>	A132	D:\7-11km\A13...	2009/08/28 10:04:15.0	2009/08/28 11:44:45.0	01:40:30	0.0000	unknown	Vertical
<input checked="" type="checkbox"/>	A302	D:\7-11km\A30...	2009/08/28 10:02:45.0	2009/08/28 11:36:45.0	01:34:00	0.0000	unknown	Vertical

3. Check observation data information.

Project Plot, baseline map view

Files: raw file information, such as station, antenna, and satellites status.

Baseline: station and Loops information.



Processing baselines

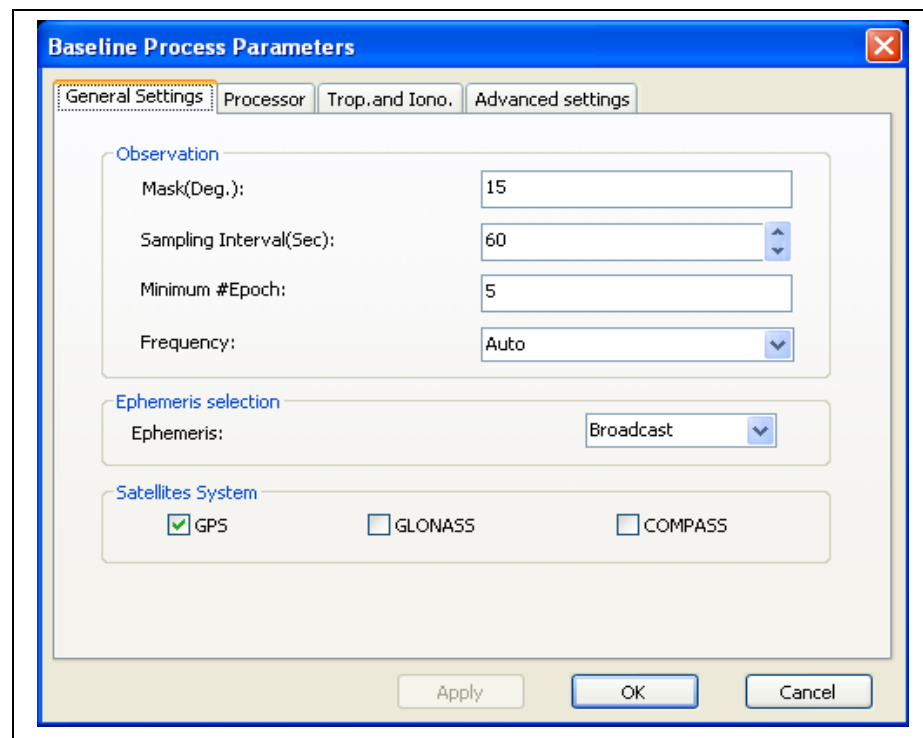
1. Baseline processing parameters

General Settings---Ephemeris, if you are using precise ephemeris, select Precise ephemeris and go to Main menu **Tool->Precise Eph** to download the relevant **.sp3 format ephemeris. **Satellites system**, Select the SV used in solution, some times GPS+Glonass may worse then GPS only, we suggest select GPS only.

Processor—Processing mode **Automatic** (software will check the observation data PPK or Static)

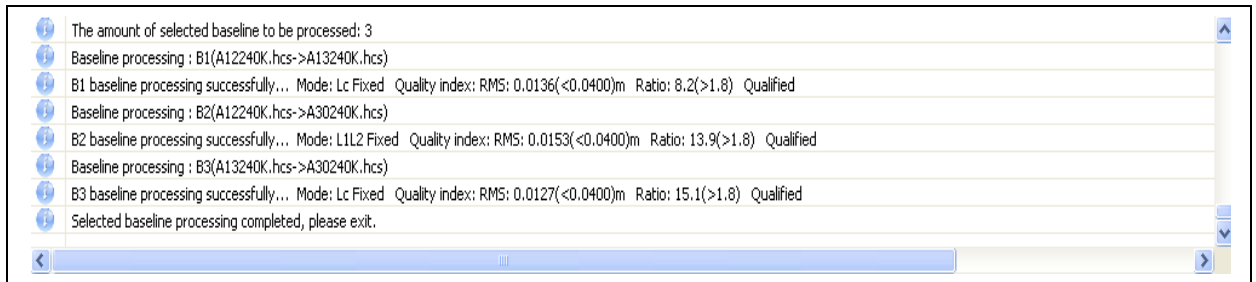
Trop. And Iono- Atmospheric mode, environment character.

Advancde Settings- Quaily control and **Ephemeris selection**.



2. Static baseline base line processing

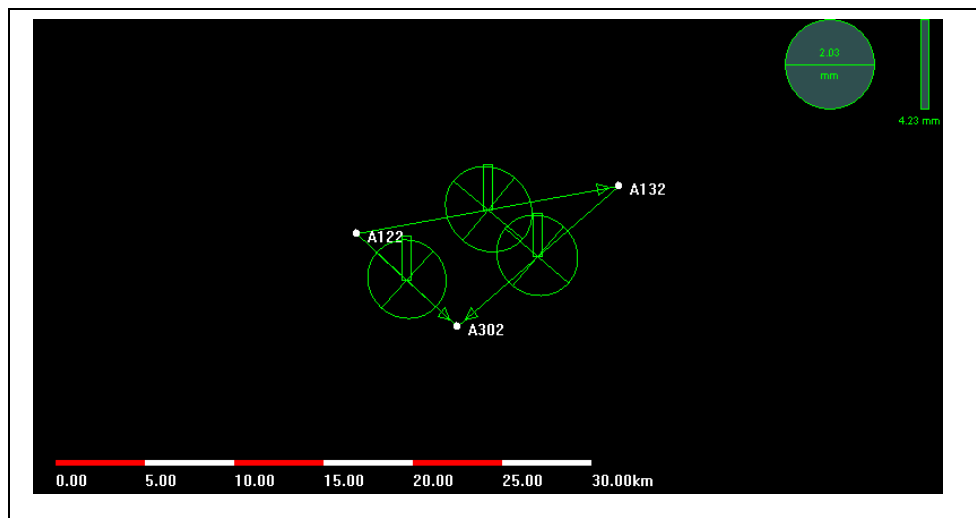
Static Processing--Double click Process Baseline, all the baseline will processed and click **Quit** to finish. In the status bar show the process result.



After process baseline, in the **Project Plot view**

Baseline Quality control passed; show in **Green** colour.

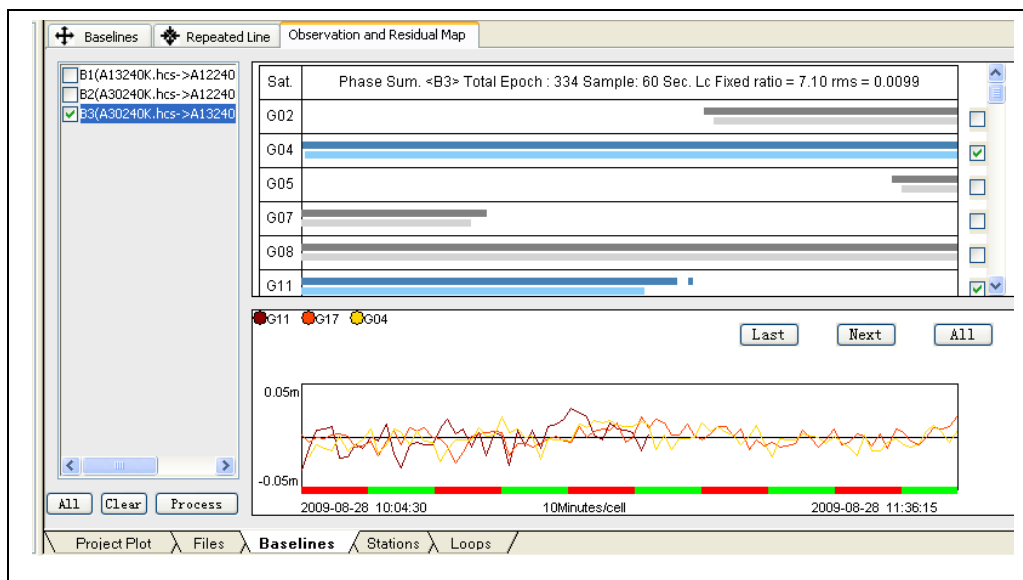
Baseline Quality control failed; show in **Red** colour.



If the baseline process failed, Go to **Baselines**, select the **baseline** and right click mouse, select **Baseline Residual Graph**.

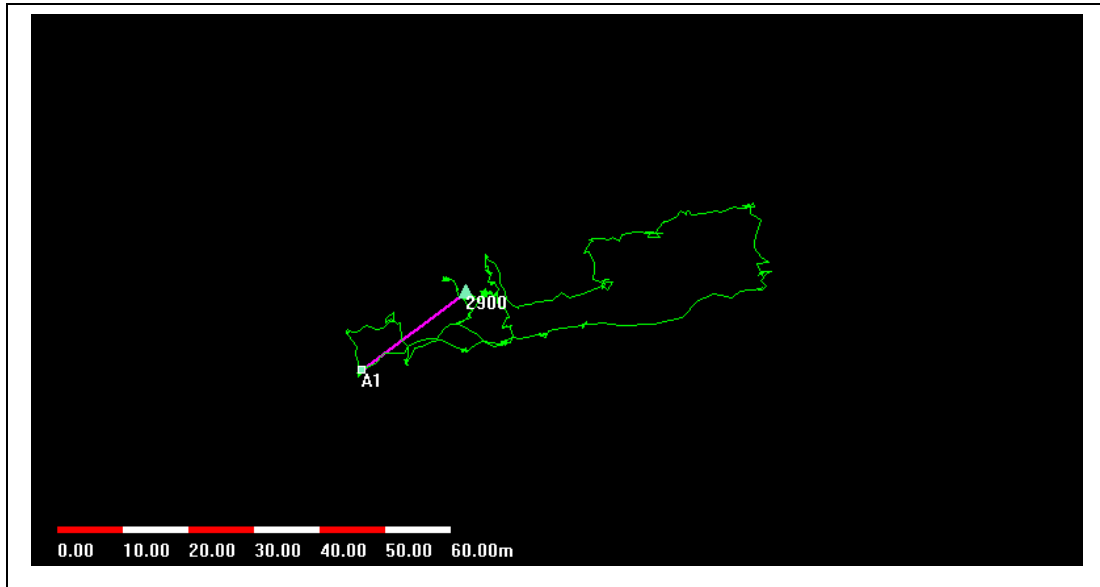
NO.	Baseline ID	Begin Point	End Point	Solution	Syn. Time	Ratio	RMS...	Qual...	DX(m)	Std.D:
1	B1(A13240K.hc...	A132	A122	Lc Fixed	01:38:30	3.8	0.0157	Quali...	13158.1043	0.0014
2	B2(A30240K.hc...	A302	A122	Lc Fixed	01:31:30	3.7	0.0159	Quali...	5906.5540	0.0016
3	B3(A30240K.hc...	A302	A132	Lc Fixed	01:31:45	7.1	0.0099	Quali...	-7251.5463	0.0019

In the **Observation and Residual Map**, select the baseline and modify the observation file by manually, and then process the baseline again.



PPK Processing

Import the PPK data, In the Project Plot view you will see the PPK route;



In the main window menu, go to **Station**-> select Base and **Set as Known point**, input the local Gird coordinates and check constraint.

NO.	Station	Type	Local Latitude	Std.Lat(sec)	Local Longitude	Std.Lon(sec)	Ellipsoid He...	Std.H(m)	North Coord.
1	2900	Base...	31°10'29.24642"N	0.0000	121°23'53.50256"E	0.0000	47.2249	0.0000	3450421.8..
2	A1	Rove...	31°10'28.81838"N	0.0000	121°23'52.92478"E	0.0000	48.2815	0.0000	3450408.5..

Setting Known Point

Constraint Type

NE
 NEh
 h
 BL
 BLH

Coordinate

N:

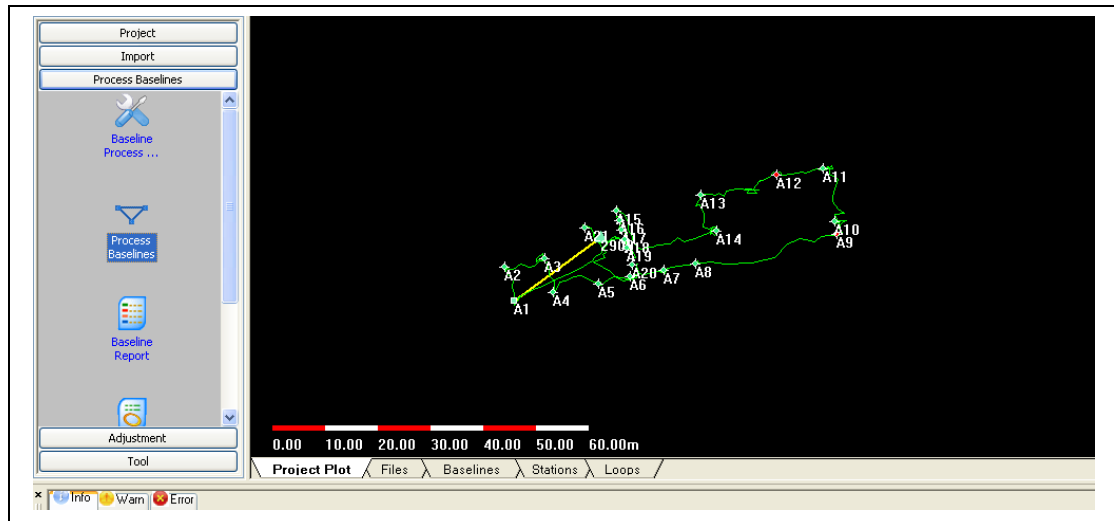
E:

h:

Constraint (become effective if checked)

Project Plot | Files | Baselines | **Stations** | Loops

Then go to **Process Baselines**-> **Process baselines**, after **processed baseline**, you will see points flag in the **Project Plot** window



3. Baseline process report

The baseline process report content can be defined by user, go to the main menu **Report-> Baseline Report**, define the information you need.

Select the baseline, and click **Baseline Report**, the report show in **.exe or **.html format.

Loop Report – the Synchronous loop and non-Synchronous loop report.

Adjustment-network adjustment and export the network adjustment report.

In the left toolbar, go to **Adjustment** menu

Adjustment Parameters, Quality, Parameters and Baseline weighting, using the default set is ok

Setting known points: input the know points (WGS84 or Grid coordinates).

Adjustment: free adjust or constraint adjustment.

Firstly, go to **Set known points:** key in local control coordinates and select constraints type. If you have more than 1 control points, key in one by one.

WGS84: WGS84 format coordinates, XYZ(WGS84) or BLH(WGS84) format.

Local: local grid or BLH coordinates, when you are using local BLH coordinates as constraint, please at least using 3 points for constraint.

Point Name	North(m)	East(m)	h(m)	Lon.(D°M'S'')	Lat.(D°M'S'')	H(m)	Constraints
HADG	3892842.0286	564617.0848	76.6003	127°42'33.244...	35°09'44.69928"N	76.6003	NEh
KWNJ	3894387.0932	491823.9012	72.1425	126°54'36.868...	35°10'42.18899"N	72.1425	None
NAMW	3921599.6579	535978.9199	179.8564	127°23'46.224...	35°25'22.96778"N	179.8564	None
SONC	3869985.0249	544401.8962	44.2358	127°29'10.101...	34°57'26.97294"N	44.2358	None

Free network adjustment: do not set any known points

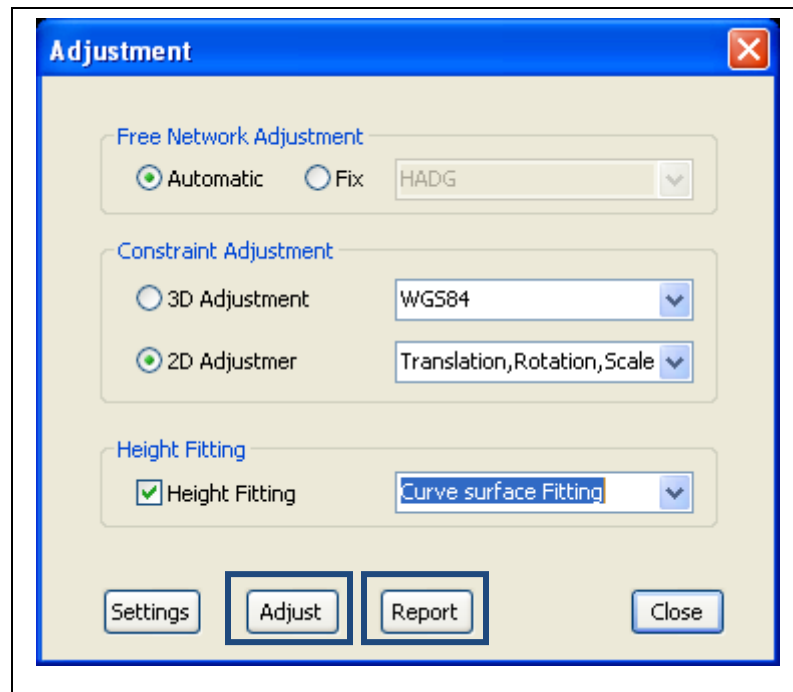
Constraint Adjustment;

3D Adjustment: WGS84 or Local, if you set the know points in WGS84 format or Local WGS84 format, please using 3D adjustment. Local WGS84 need 3 control point for constraint.

2D adjustment and High fitting:

If set the known points as local grid coordinates, using 2D and Hight fitting for adjustment.

After set up all, click **Adjust**



Then click **Report**, check the network adjustment report.

5.4 2D Coordinates in Local System

Observation ID	N	N Error	E	E Error
HADG	3892842.7570m	0.0000m	564617.3573m	0.0000m
KWNJ	3894386.6771m	0.0029m	491823.7512m	0.0023m
NAMW	3921600.3813m	0.0023m	535979.1889m	0.0020m
SONC	3869984.6037m	0.0024m	544401.7435m	0.0020m

Also you can go to Main menu-> Report-> additional report, export the station report.

In the end, save the project and exit software.

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