MSP RAPID ADMS Suite USER GUIDE

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Table of Contents

1.0   Configuring Instrument

1.1.   To Power Instrument

To configure the Instrument, power must be supplied to the Instrument for configuration. The user is able to power the Instrument internally using the Internal Battery (BDC58) or external battery using the 'Y cable'.
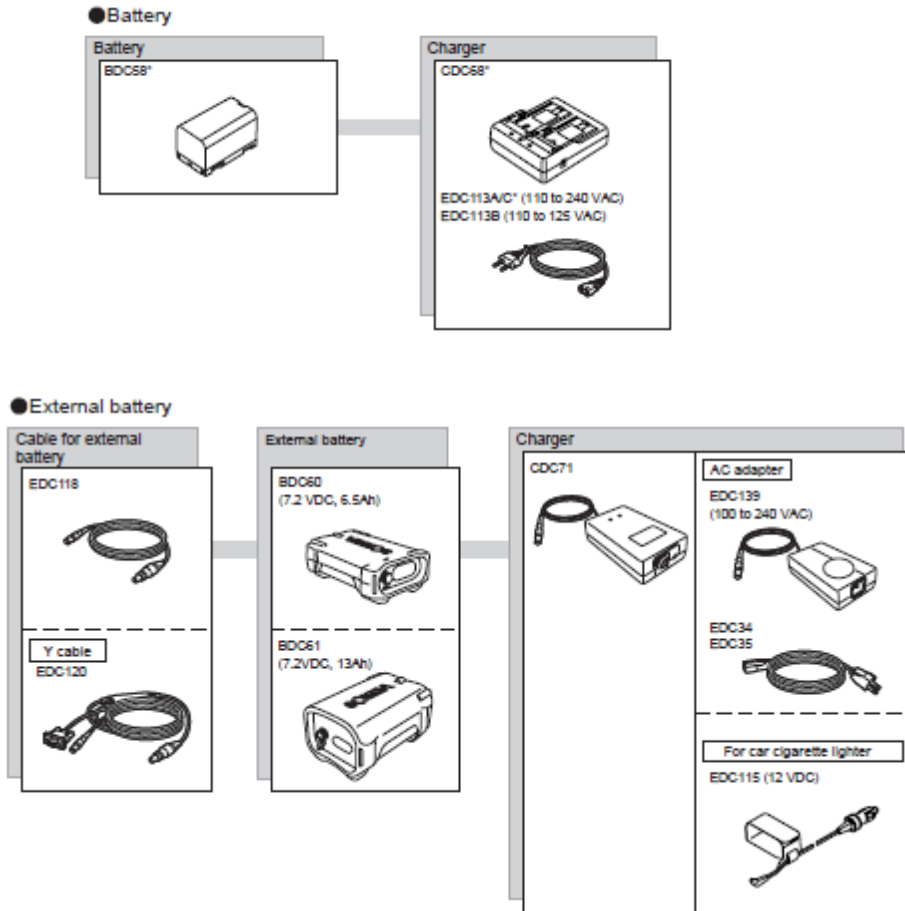
Take out the Power Converter EC117 Power unit (AC to DC output) together with the cables and connect the singular cable to the NET/MS Instrument.Connect the power side of the EDC121 'Y cable' to the power source.
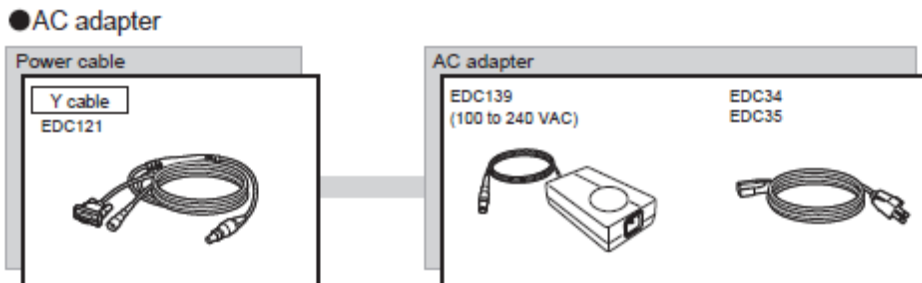
Basic Key Operation
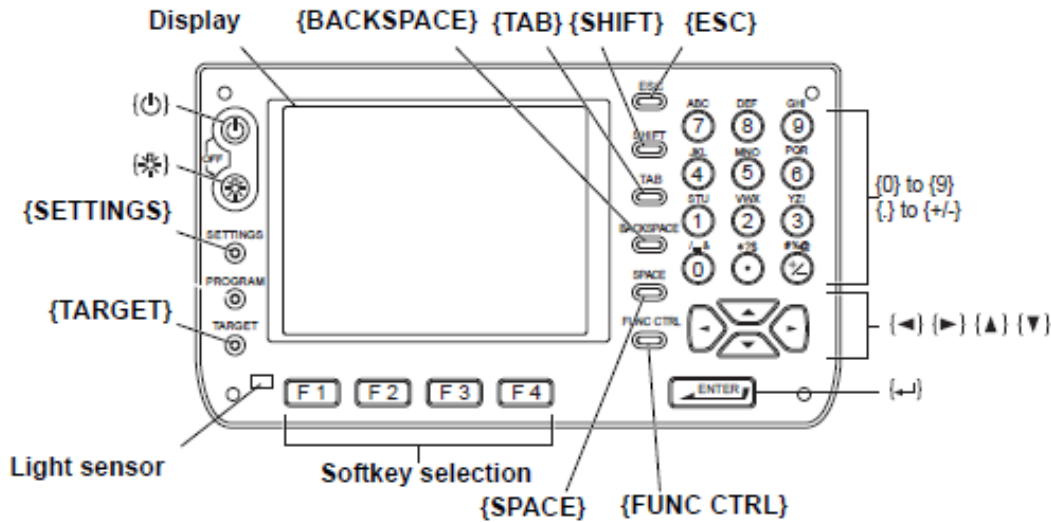
Switch the Instrument ON manually, by pressing the button ⏻ on the front panel of the instrument. The Instrument should be switch on at this moment with a 'beep' audio. If not, please check the connection diagram supplied with the instrument or checks the power source. Slide the 'pointer pen' out from behind the right bottom of the display panel of the Instrument.
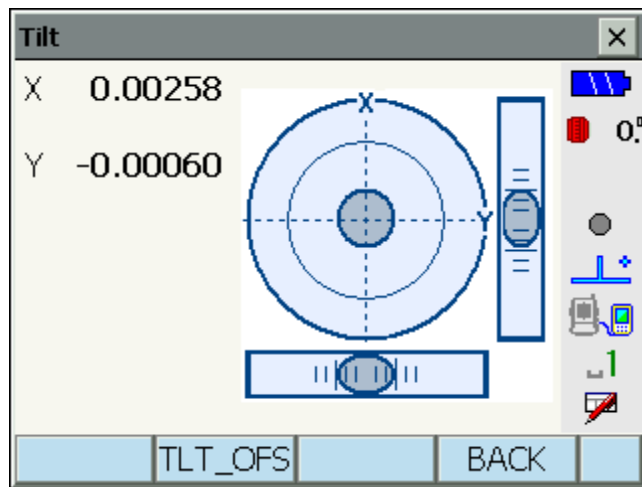
It is always a good practice to level the instrument via bubble before switch on and then level it through the electronic bubble.

Mode Structure

The diagram below describes the different modes of the NET and key operations for navigating between them. Managing data functions are contained in Memory mode.
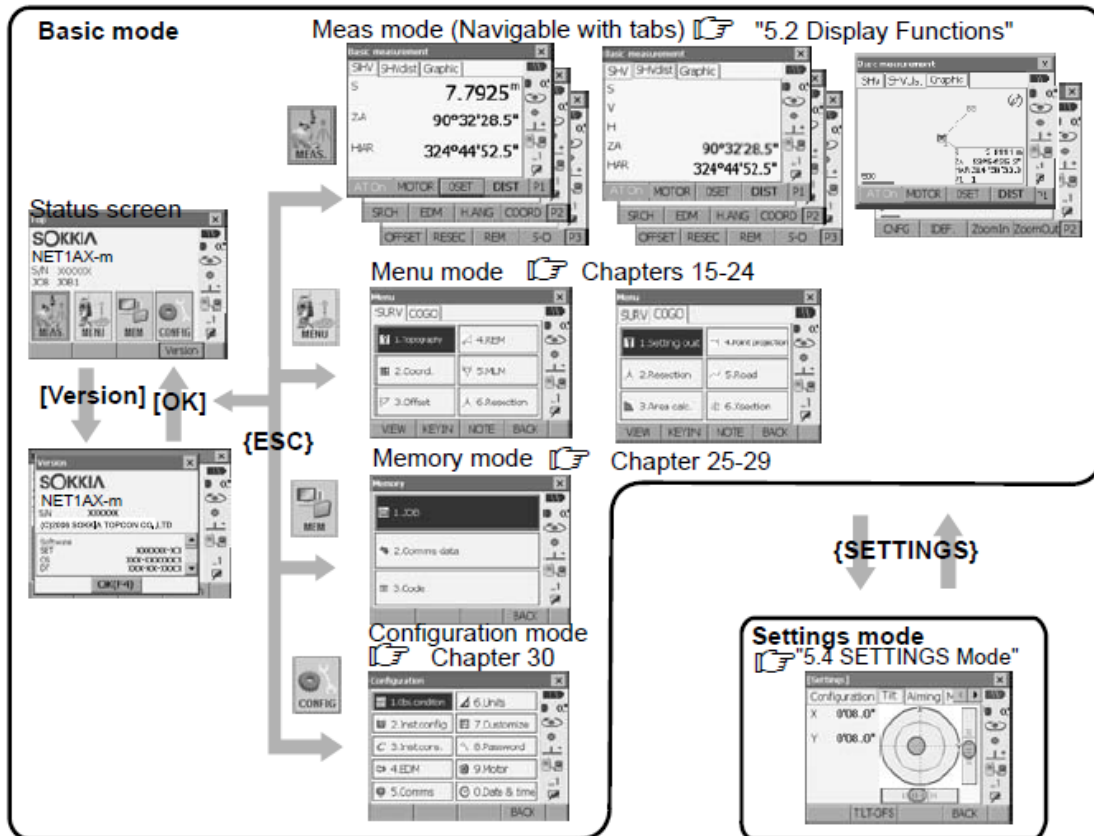
1.2. Setting On the Instrument

NET1-m, NET1m-II and NET1AX-m have factory default setting for monitoring. In the event that other types of instrument are being used, the instrument parameters have to set manually as below.

User is advised to read through the Instrument's User Manual prior to these settings.

Press "Esc" key until the Main menu is displayed as follows:

Select "Config" from Menu.
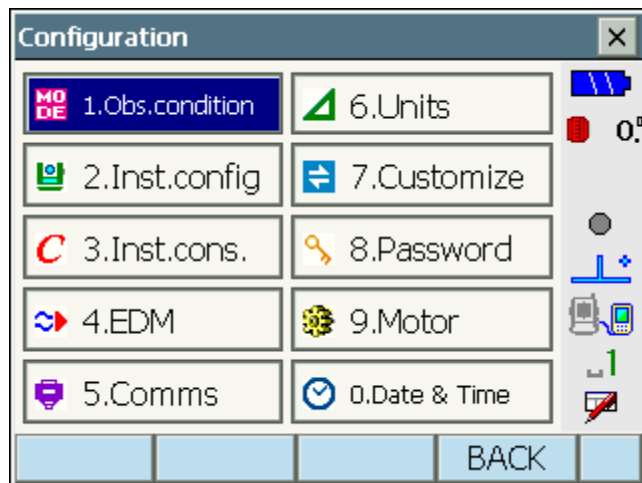
1.2.1. Obs. Condition Setting

Please check or change the following setting as listed below:

*Factory Default setting of NET1AX-m.

Dist. mode	-	S.Dist
Tilt crn.	-	Yes(H,V)
Tilt error	-	No Action

Coll. crn.	-	Yes
C and R crn.	-	No
V manual	-	No

Obs.condition

Dist.mode	S.Dist
Tilt crn.	Yes(H,V)
Tilt error	No action
Coll.crn.	Yes
C and r crn.	No
V manual	No

OK
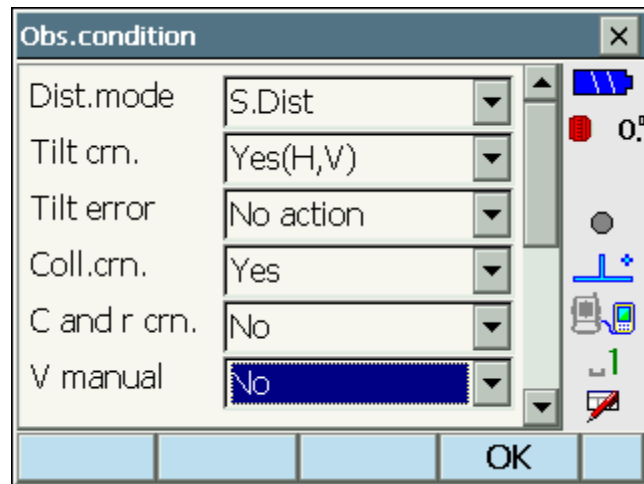
V. obs	-	Zenith
Coordinates	-	N-E-Z
Ang.reso.	-	0.0002gon
Dist.reso	-	0.1mm
ppm settings	-	Press, Temp.

Obs.condition

V.obs	Zenith
Coordinates	N-E-Z
Sea level crn.	No
Ang.reso.	0.00002gon
Dist.reso.	0.1mm
ppm setting	Press, Temp.

OK
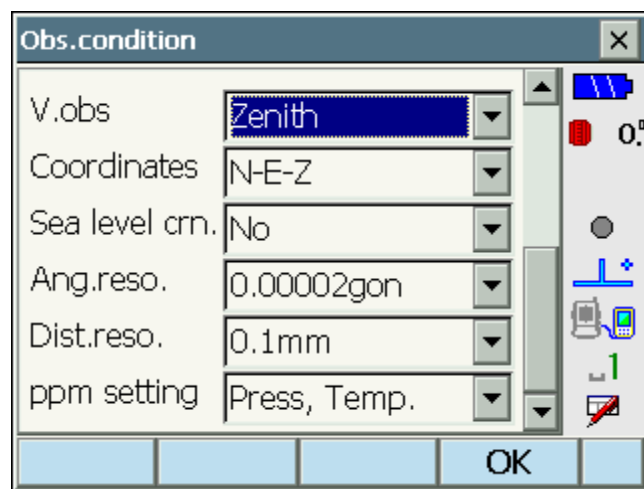
Press "OK" to return to the "Config" Menu.

1.2.2. Instrument Configuration Setting

Check or change the following instrument configuration as listed below:

Power off	-	No
Power Off (Remote)	-	No
Backlight(Recticle on)	-	2
Backlight(Normal)	-	Auto
Backlight off	-	No
Key Backlight	-	On
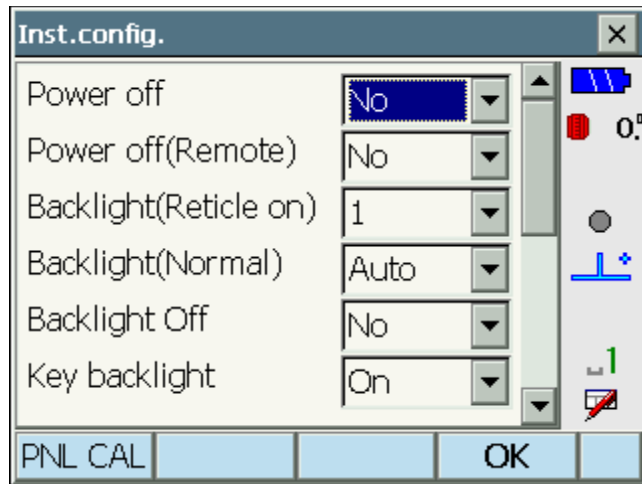
Recticle	-	3
EDM ALC	-	Free
Beep	-	Off
Remote PWR-On	-	Yes
Color	-	Auto
Touch Panel	-	On
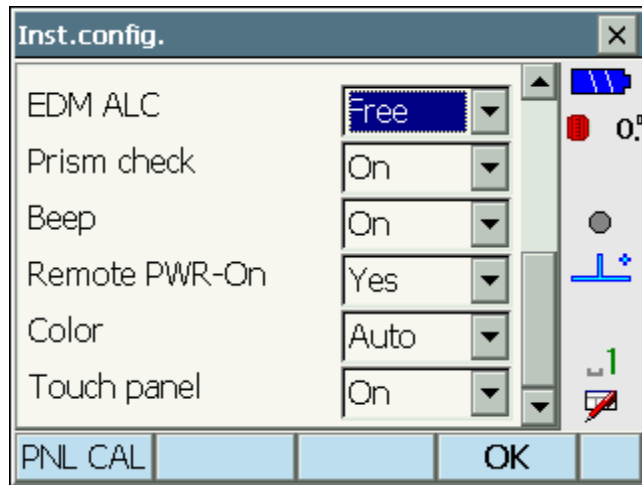
Press "OK" to return to the "Config" menu.

1.2.3. EDM Setting
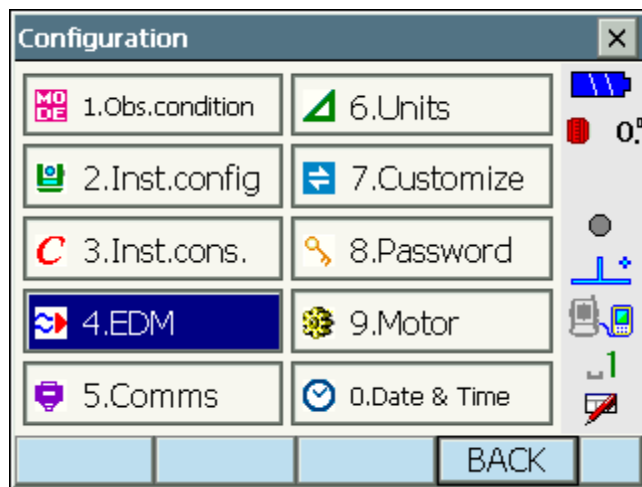
Check or change the EDM configuration setting as listed below:
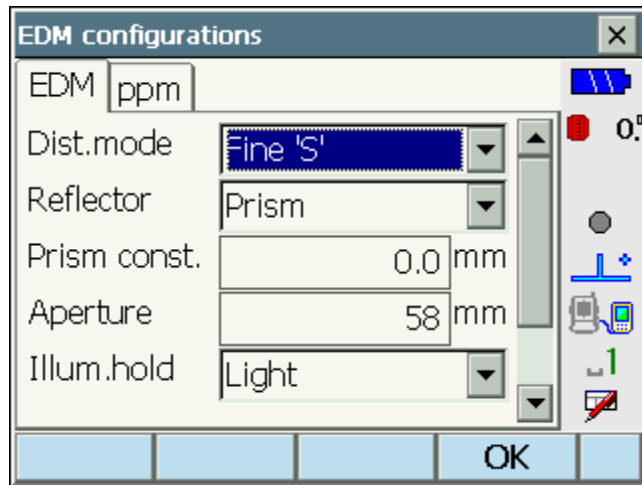
EDM Menu

Dist.mode	-	Fine 'S'
Reflector	-	Prism
Prism Const.	-	0.0 mm
Aperture	-	58 mm
Illum. hold	-	Light
Light	-	3
Light Pattern	-	Blink
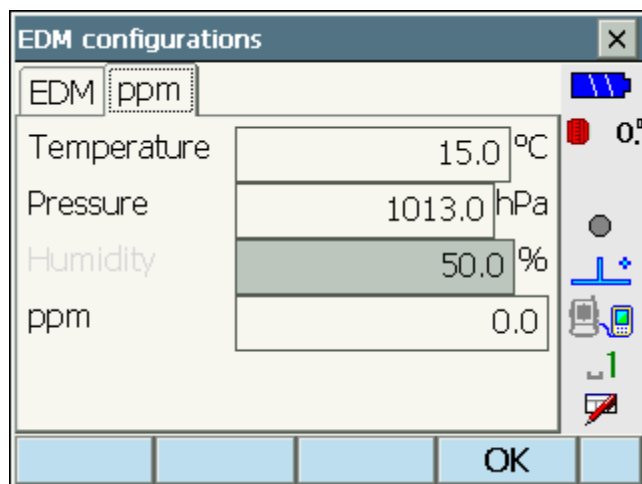
ppm Menu

Temperature	-	15 0C
Pressure	-	1013 hPa
Humidity	-	50 %
ppm	-	0

Press "OK" to return to the sub menu of "Config".

1.2.4. Communication Setting
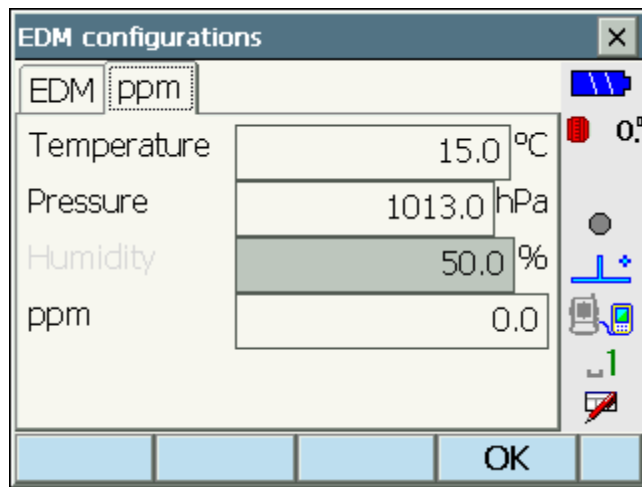
Check or change the communication parameters as listed below:
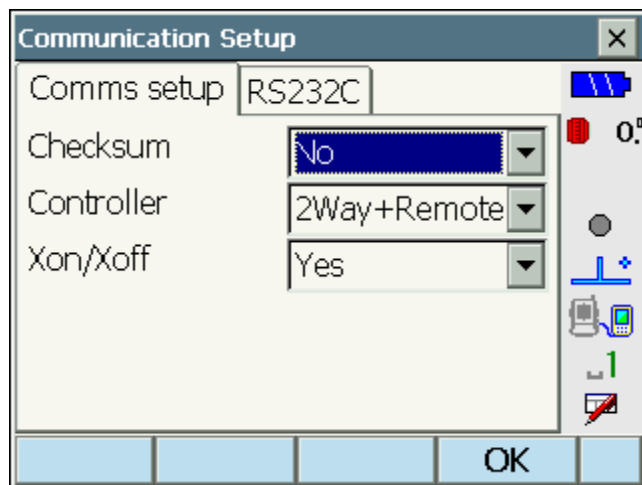
Communication Setup Menu

Checksum	-	No
Controller	-	2WAY+REMOTE
Xon/Xoff	-	Yes
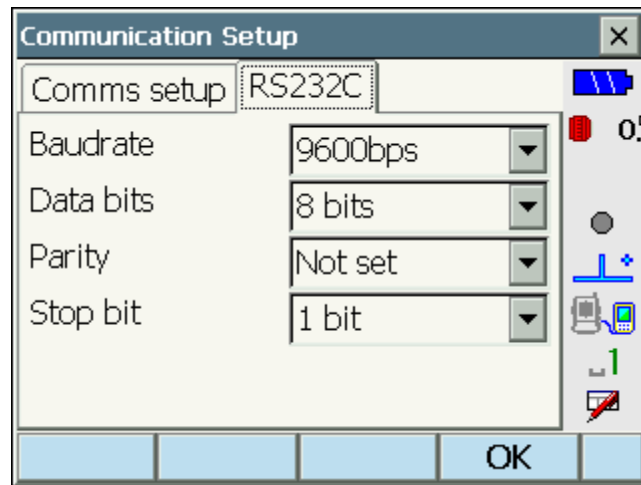
RS232C Menu

Baudrate	-	9600bps
Data bits	-	8 bits
Parity	-	Not set
Stop bit	-	1 bit

Bluetooth Menu (if any)

Mode	-	Slave
Link	-	
Authentication	-	Yes
Passkey	-	**** option set 1234

Press "OK" to return to the "Config" menu.

1.2.5. Units Setting
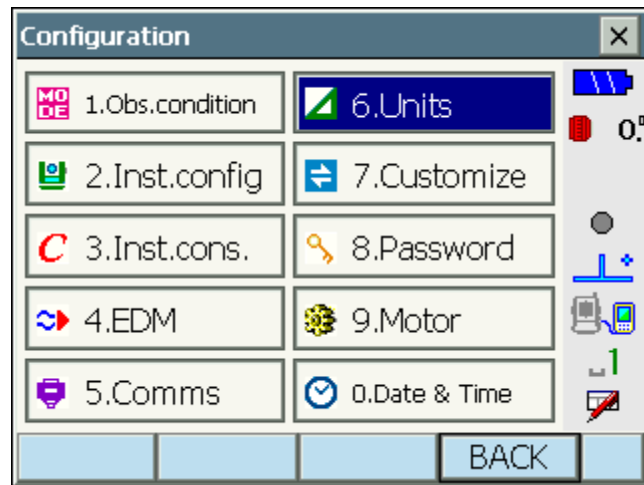
Check or change the Unit as listed below:
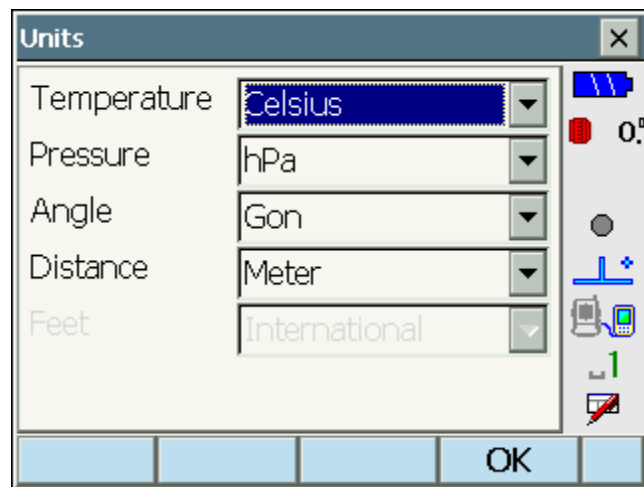
Unit Menu

Température	-	Celcius
Pressure	-	hPa
Angle	-	Gon
Distance	-	Meter

Press "OK" to return to the "Config" menu.

1.2.6. Motor Setting
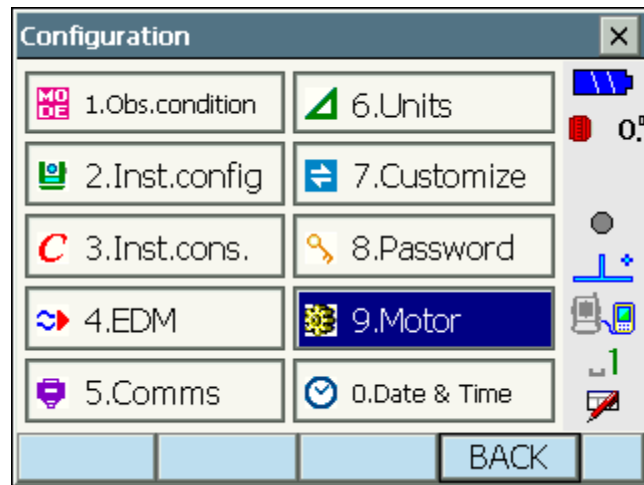
Check or change the motor setting as listed below:
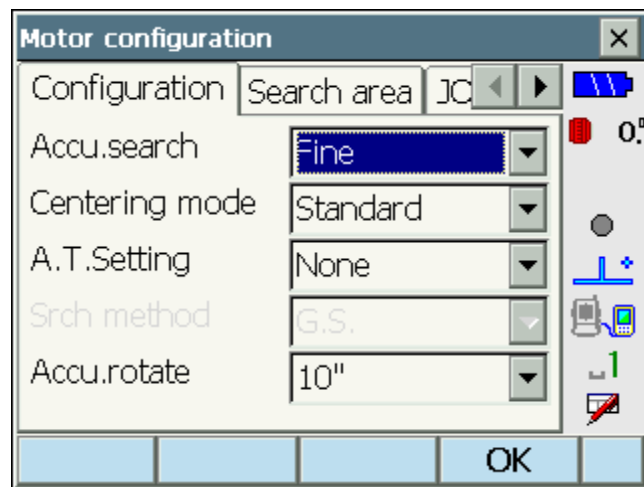
<u>Configuration Menu</u>

Accu. search   -   Rapid

Centering mode   -   Standard

A.T.Setting   -   None

Accu. Rotate   -   10"
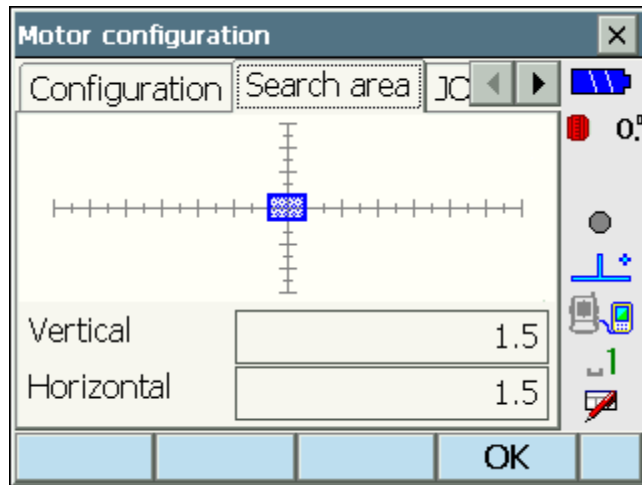
Search Area Menu

| Vertical | - | 1.5 |
| Horizontal | - | 1.5 |
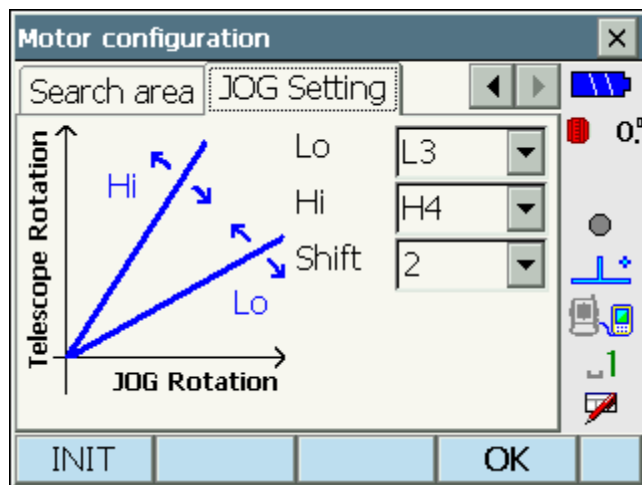
JOG Setting Menu

L	-	L3
H	-	H4
Shift	-	2

Press "OK" to return to the sub menu of "Config".

Date & Time – Optional

Please note that setting the Date and Time to the current does not affect the monitoring output. This setting is within the instrument only. This setting is optional.
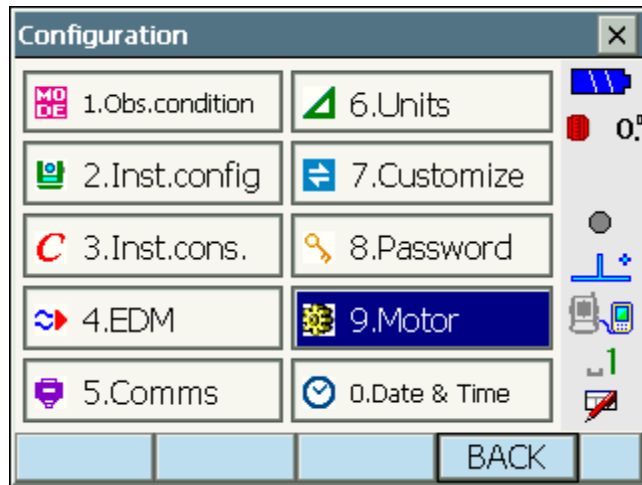
Press "Back" to return to the main menu.

The configuration of the instrument is now complete!

Select "Measure" menu to go into the measuring screen.
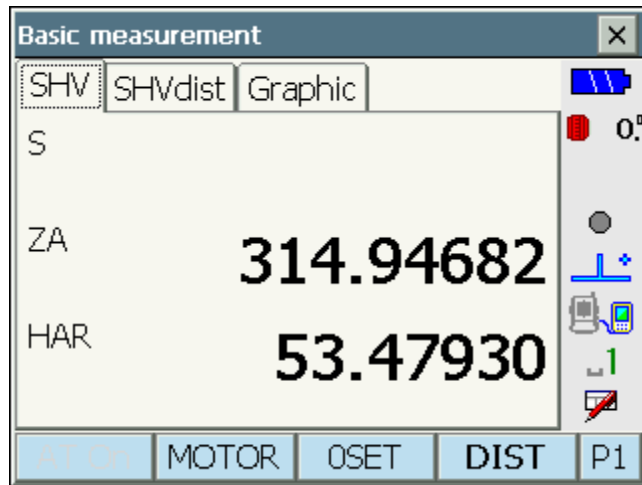
Switch off the instrument manuallyby pressing both of these buttons on the front panel together.

1.0 MSP RAPID ADMS Suite Overview

MSP RAPID ADMS Suite is a combination of application to carry out automatic deformation monitoring for tunnels, viaduct, High / Low rise building, mining sites, DAMs, roads and bridges.

RAPID ADMS Stands for:
(RAPID) **R**emote **A**utomatic **P**recise **I**ntelligent **D**etector for (ADMS) **A**utomatic **D**eformation **M**onitoring **S**ystem

MSP RAPID PC is the core monitoring Software; it takes control of the Instrument for entire monitoring process. Dictates start and end time for monitoring, location and method to observe in accordance to User requirements. MSP RAPID PC measures data and tabulate results in easy to view and understand readings.

MSP RAPID SiteComs is a communication module for RAPID ADMS Suite that is capable of sending data generated by RAPID ADMS from Site location to Office. RAPID SiteComs is installed together with MSP RAPID PC. GMS/GPRS/UHF parameters can be set for communication media. RAPID SiteComs auto scan and send data in the "Dataout" folder.

MSP RAPID OffComs is a communication module for RAPID ADMS Suite that is capable of receiving data sent by MSP RAPID SiteComs. MSP RAPID OffComs is installed together with MSP RAPID DataChecker and MSP RAPID StarPro. GMS/GPRS/UHF parameters can be set for communication media. RAPID OffComs auto scan incoming data and save the received data in the "DataIn" folder.

MSP RAPID DataChecker automatically scans raw data from the incoming path folder to filter and eliminate "bad" data for processing.

MSP RAPID StarPro automatically calls out the least square adjustment processing engine for calculation then it generates reports and tabulates measurement data into graphical view which users can modify for their customization. MSP RAPID Starpro sends out alarm notification via SMS, email and through alarm siren.

2.0 System Requirements

Minimum System Requirements
- Microsoft® Windows XP Professional or later
- 256MB of RAM (512MB recommended)
- 400GB of available hard-disk space
- At least 1 PCI Com Port
- USB 2.0 port for licensing dongle
- Minimum 800x600; Recommended 1,024 x 768 or higher
- CD-ROM drive (for installation)

3.0   MSP RAPID PC

3.1.   Installing RAPID PC

To Install RAPID PC, A CD/DVD-ROM is required for the RAPID Installation CD.

1.   Once the RAPID ADMS Installation CD is inserted to the CD/DVD-ROM the RAPID ADMS Installation Wizard will automatically will be displayed.
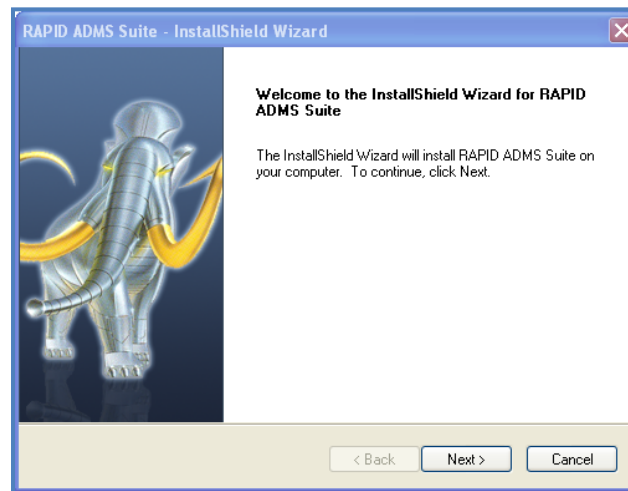
Click on Next to continue for installation or Cancel to abort installation

2.   Tick the button Software Licensing Agreement. Then Click on Next button to Continue
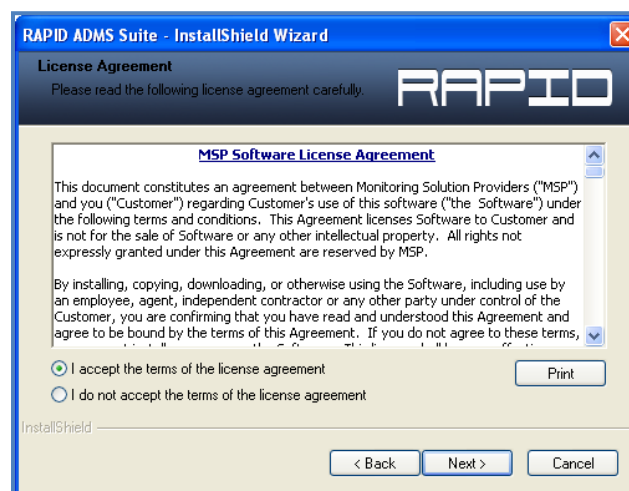
3. Choose the Installation Destination Folder for the RAPID ADMS, It is recommended to use the default settings. Installation folder to C:\Program Files\RAPID ADMS
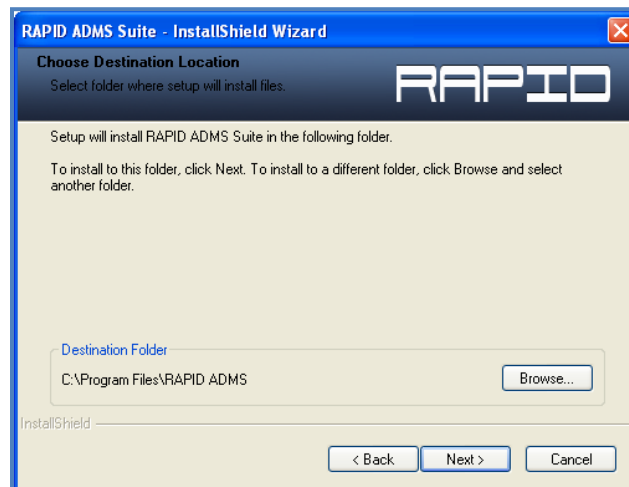
4. Check the RAPID Modules that are to be installed. RAPID ADMS Suite is composed of 5 Modules: MSP RAPID PC, MSP RAPID SiteCOMS, MSP RAPID OffCOMS, MSP RAPID DataChecker, MSP RAPID StarPro.
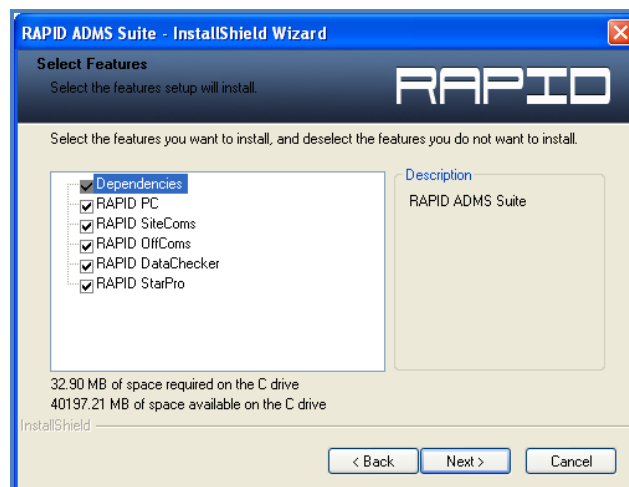
5. Click on Install Button to begin installation, Back button to change installation settings or Cancel button to abort installation.
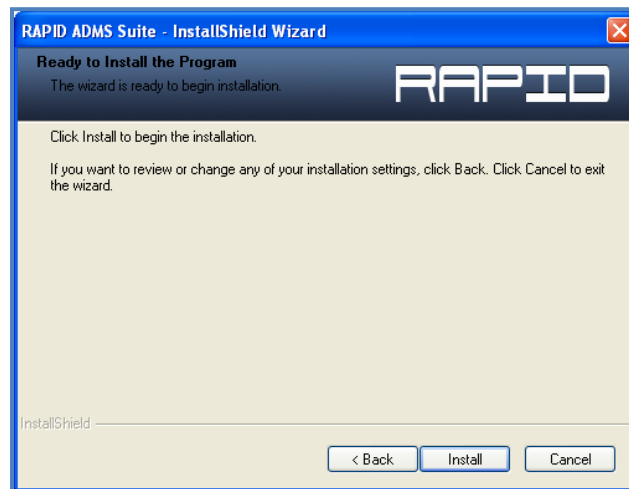
6. Once the Installation is done, click the Finish button. Shortcuts for the RAPID ADMS Modules are automatically displayed on the Windows desktop.
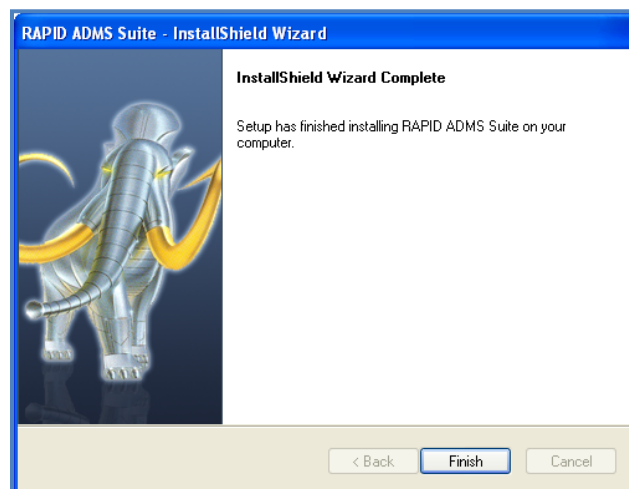
3.2. Setting Up RAPID PC

1. In the initial launching of the RAPID PC, the Project option windows will be displayed.
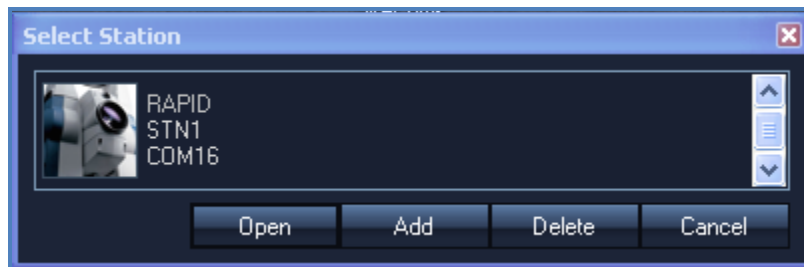
From here, Users have the option to Open existing project, Add new project or Delete new Project.

2. For adding new Project, It is required for the Users to set up Project Setting Parameters. Setting up Project parameters is done only once.
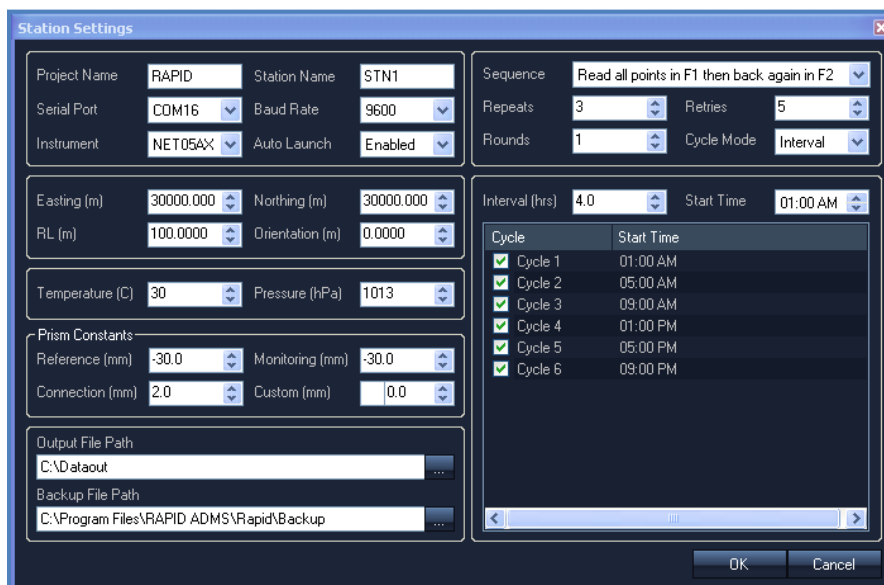
Station Setting Options:

Project Name: Input the Project Name. Project may be consisting of Letters and Numbers.

Station Name: Set the station name, by default station name should start with "STN"

Serial Port: Set which COMPORT will the instrument be connected, Refer to the PC configuration for the COMPORT numbering

Baud Rate: Sets the communication rate between the computer and the Total Station, PC and the Total Station should have the same baud rate. Default baud rate is 9600.

Instrument: Choose which model of Total station to be used; Net1m-II, Net05, Net1, MS05A, MS1A.

Auto Launch: Choose whether the RAPID PC will automatically run in case of PC was rebooted.

Easting and Northing: Input the X and Y coordinated, measurement is in meters

RL: Reduced Level, default value is 100m

Orientation: Used when doing a resection, default value is 0.0000

Temperature and Pressure: Varies depends on the site condition, by default value temperature is 30°C and Pressure 1013hPA

Prism constants: Refers to the offset of the centre of the prism, by default -30.00mm for Reference and Monitoring Prism

Output File Path: Set where the data readings will be saved. By default it is set to "C:\Dataout"

Backup File Path: Sets where the data will be back up. Default path is "C:\Program Files\RAPID ADMS\Rapid\Backup"

Sequence: Set how the Total Station will sequentially reads the prism.

- **Reads all points in F1 then back again in F2:** Total Station will read all prisms on Face 1 first, and then will read again on Face 2 mode.
- **Reads each point in F1 and F2:** Total station will take reading on a prism in Face 1 and Face 2 then move to another point.
- **Read all points in F1 only:** Total station will take readings only in Face 1 mode.

Repeats: Set the number on repeats for the Total station to do the sequence

Retries: Sets the number of attempts of Total Station to read a prism. In case the Total station reached the number of retries the Total Station will then move to the next point.

Cycle Mode: Sets whether the Total Station will monitor by time triggered or by non-stop monitoring.

For Interval Monitoring:

Interval: Sets the number of hours between each monitoring. This will affects the number of monitoring cycles per day.

Start time: Sets the time for the Total Station to start monitoring.

Click OK button when all the settings are done.

Note: 1 Project may consist of multiple Stations, to do this User may create new project and set different station name

3.3. RAPIC PC Command Menus

1.   File Menu:
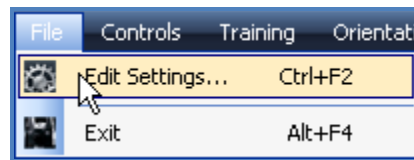
Under the File Menu, Users can Open the Project settings for any parameters needed to be changed.

2.   Controls Menu:
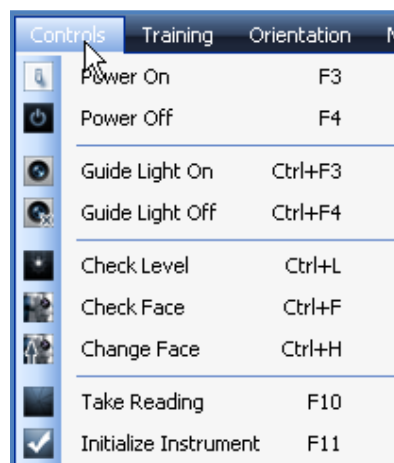
Controls Menu contains the basic commands to control the Total Station. Under Controls Menu users can have full control to the Total Station this Menus are essential when troubleshooting connection between PC and Total Station.

3.   Training Menu:
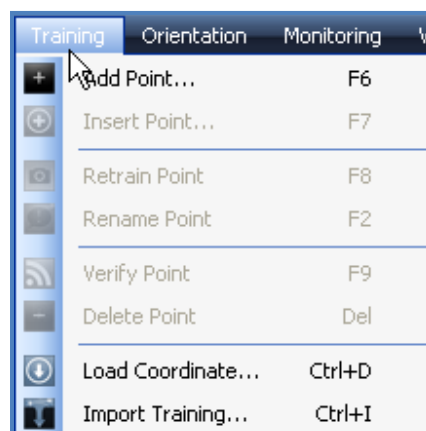
When adding points/prisms to be monitored, Users may Train the points or Import Training data from existing file. When doing a Training of prisms, RAPID PC will register the coordinates of the prism and save all the training data into a file called Training File. Training File is Located under; C:\Program Files\RAPID ADMS\RAPID\Training. Training Files is in *.ini format. It is required for the users to copy the Training file for RAPID Processing. See the Section 6.0 - RAPID PC Monitoring Procedures for the Steps on how to train the points.

4.   Orientation Menu
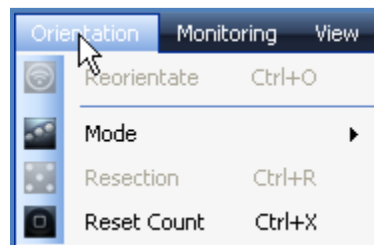
Total Station Re-Orientation is normally done whenever Total Station is moved or changed. When a Total Station is placed or was changed, It is required for the Users to do Re-Orientation in order for the Total Station to monitor known points. Also for Resection, Users are required to do resection when Total Station is moved to a different location.

5.   Monitoring Menu
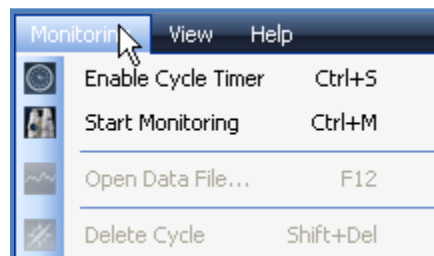
Enable/Disable Cycle Timer: Enable or Disable the timer countdown for the next monitoring cycle.

Cycle timer is shown on the lower left side corner of the application.

Start/Stop Monitoring: Sends command to the Total Station to start or to stop monitoring.

Open Data: Opens a data reading from the selected cycle on the left panel. RAPID PC will open tb3 file into a notepad.

Delete Cycle: Delete a data from the selected cycle on the left panel of the application.

*Note:

Monitoring Data are

RAPID PC Raw data file name syntax:

STN#_PROJECTNAME_DD_MM_YYYY_Cycle_#_Epoch_#.rpd

Where:

STN#: Project Station Number

PROJECTNAME: Project name

DD: Date

MM: Month

YYYY: Year

Cycle #: Monitoring Cycle

Epoch: Epoch File history

6.   View Menu:
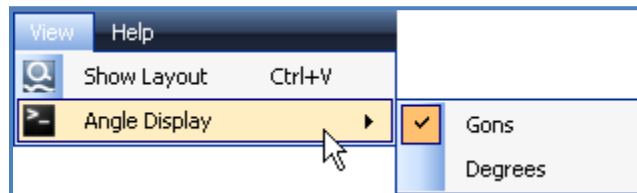
On the View Menu, Users can see the Project Layout and can switch to Degrees view. See below the example of Project Layout View.
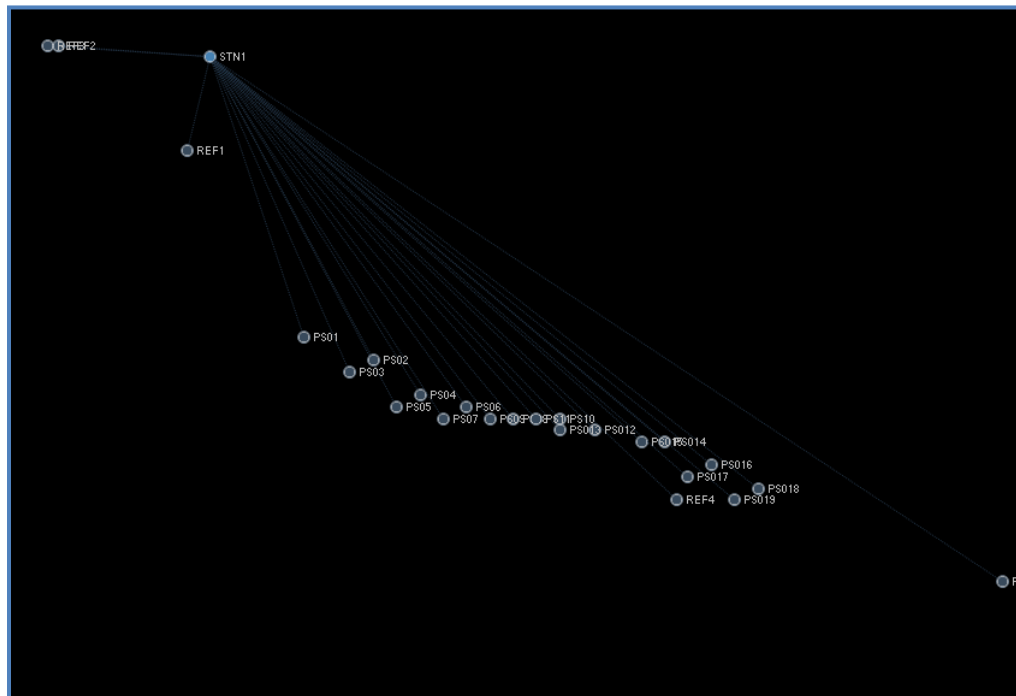
3.4. RAPID PC Monitoring Procedures

Here are the Standard Procedures to be done when doing monitoring using RAPID PC.

1.   Setup Project Parameters
2.   Train Prism Points (Done only on Initial setup)
3.   Start Monitoring.
      (Optional)
      Re-Orientation / Re-Section

3.4.1. How to Train Points:

To do Training of Points, First Users have to manually point the Total Station to a specific Prism. Users may not actually point to the center of the prism, because RAPID PC has the auto center feature. This enables the Total station to auto center to the prism whenever it reads a prism. After pointing to the prism, Users need to Click on Training Menu, then click on Add point (or simply click F6).

By default, Prism name is XYZ001, XYZ002… consecutively. For the Reference Points, It should be named with "REF". By doing this RAPID PC can easily verify which are the reference points. Users may still rename the point after training, by Going to Training Menu then Rename Point.

3.4.2. How to Start Monitoring:

When all the Points have been Trained, Users may Enable Cycle Timer or Start Monitoring immediately. By enabling Cycle timer, RAPID PC will be on standby and wait to finish the counter at the bottom left. By Starting the monitoring immediately, RAPID PC will automatically commence the monitoring cycle.

3.5. RAPID PC Shortcut keys

RAPID PC Shortcut key list:

Edit Settings: Ctrl + F2
Exit: Ctrl + F4

Power On: F3
Power Off: F4
Guide Light On: Ctrl + F3
Guide Light Off: Ctrl + F4
Check Level: Ctrl + L
Check Face: Ctrl + F
Change Face: Ctrl + H
Take Reading: F10
Initialize Instrument: F11
Add Point: F6
Insert Point: F7
Retrain Point: F8
Rename Point: F2
Verify Point: F9
Delete Point: Del
Load Coordinate: Ctrl + D
Import Training: Ctrl + I

Re-Orientate: Ctrl + O
Resection: Ctrl + R
Reset Count: Ctrl + X

Enable Cycle Timer: Ctrl + S
Start Monitoring: Ctrl + M
Open Data File: F12
Delete Cycle: Shift + Del

Show Layout: Ctrl + V

4.0 MSP RAPID SiteComs

4.1. Setting up MSP RAPID SiteComs

1. Launch the RAPID SiteComs Application.
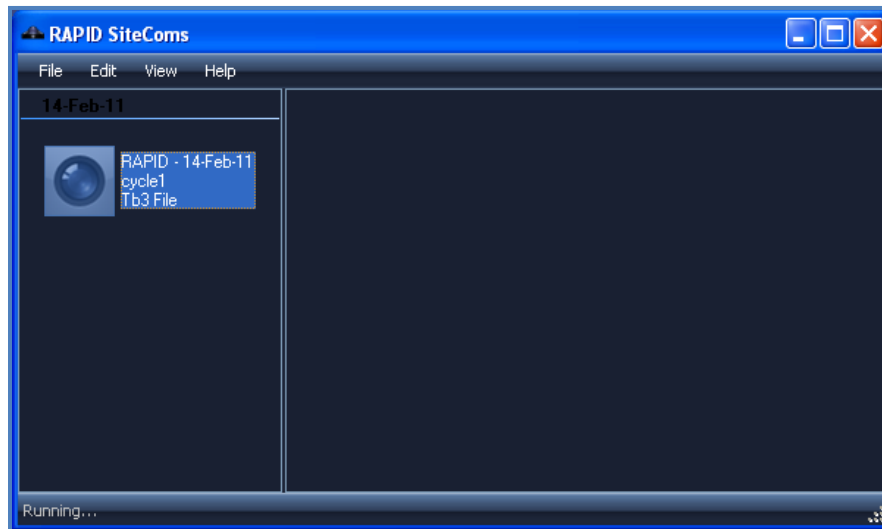
2. Go to Edit>Settings.
3. In the Settings windows, configure the necessary required settings
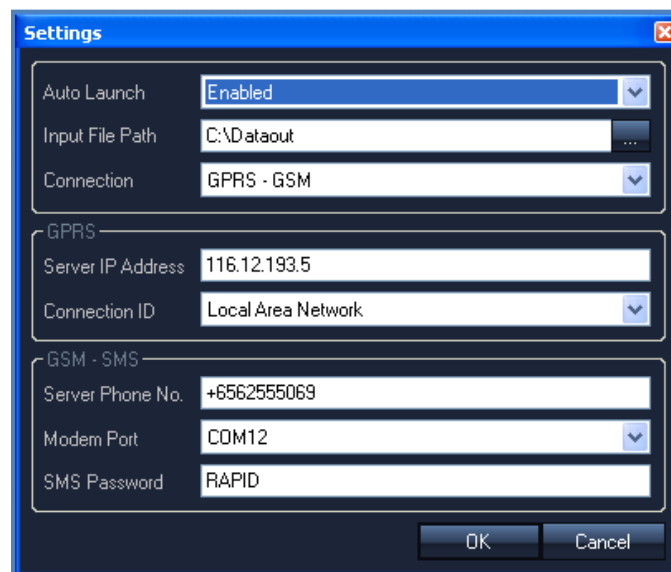
----
Auto Launch: Enables the RAPID SiteComs to automatically run whenever the PC have rebooted.

Input File Path: A path to which the SiteComs will search for data. Detected data will be transferred to the processing server via GPRS or GSM connection. Input File path should match the output file path of the RAPID PC.

Connection: Choose which connection to be used for data transmission; (GPRS-GSM: GPRS priority and GSM as a secondary connection; GSM-GPRS: GSM priority, GPRS as a secondary connection, GSM –use on GSM connection, GPRS – use only GPRS connection)

GPRS Settings:

Server IP Address: input the IP address on the processing server. As default MSP Server's IP 116.12.193.5 is configured.

Connection ID: Choose which connection to be used from the available network connection from the PC adapters.

GSM Settings:

Note: GSM sends data SMS to the processing server. A GSM modem is required when using GSM transmission.

Server Phone Number: Input the phone number of the modem connected to the processing server.

Modem Port: Comport to which the GSM modem is connected.

SMS Password: Input the SIM card password if required.

Click OK when settings are done

4.   Successfully transferred data will be shown on the right panel on the application.
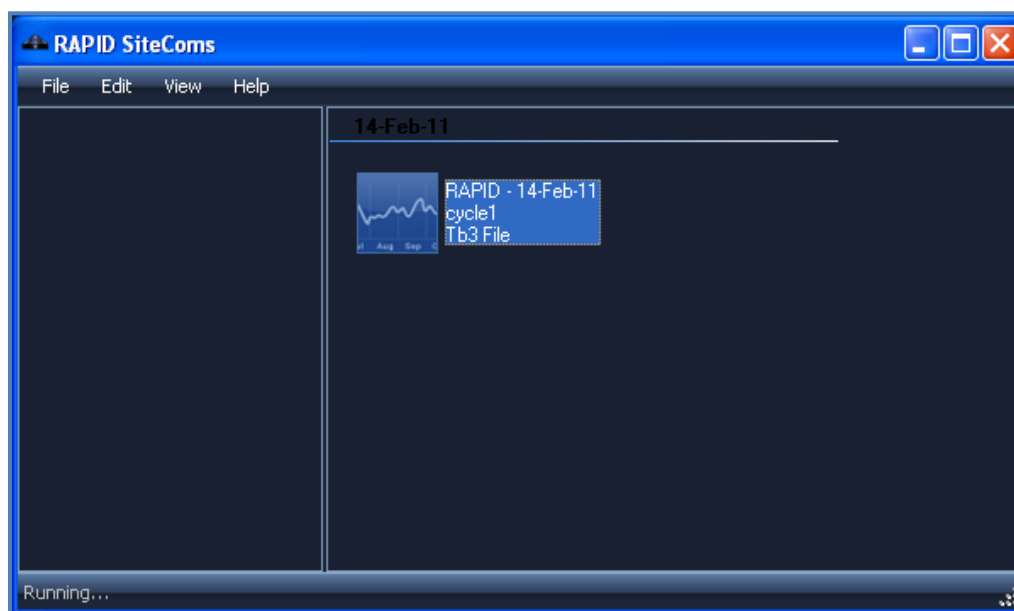
4.2. RAPID SiteComs Workflow

Initialize RAPID SiteComs

Scan for Raw data on DataOut Folder

Raw Data (*.rpd) found

No

Yes

Send Data via GSM/GPRS/UHF

Sucessfully Transmit data

No

Yes
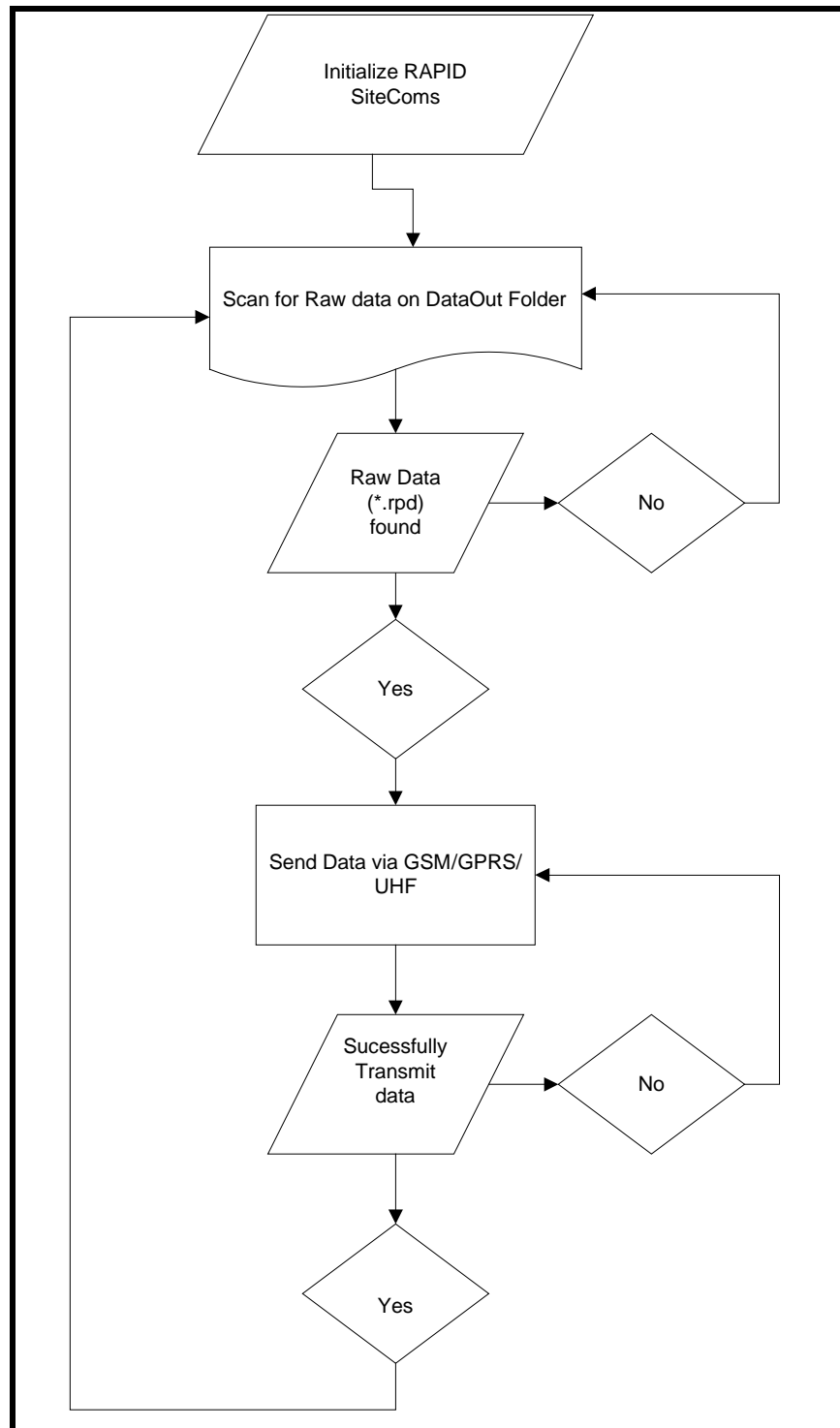
5.0 MSP RAPID OffComs

5.1. Setting up MSP RAPID OffComs

5.1.1. Configure RAPID OffComs for receiving remote data

1. Launch the RAPID OffComs Program.
2. Click File Menu>Edit Settings
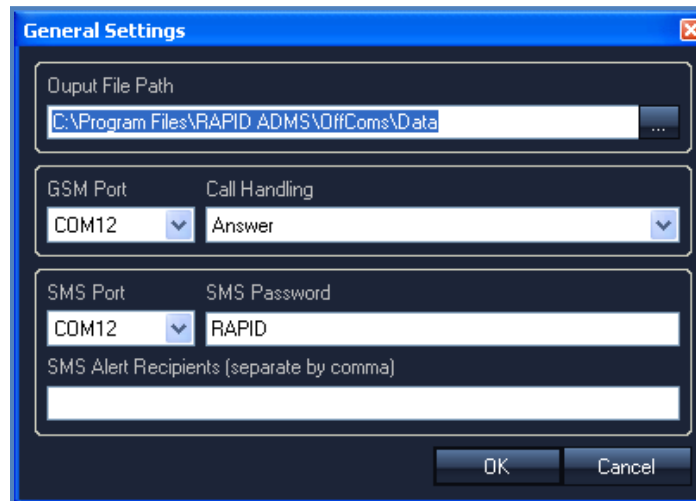
3. Setup the Out File Path

Output file Path: Set where to save the data received from the RAPID SiteComs. By default it is set to "C:\\Program Files\RAPID ADMS\OffComs\Data"

GSM Port: Choose the Comport which the receiving modem is connected.

Call Handling: Set how the connected modem will responses to the incoming data call. Default setting is Answer.

Click **OK** button to save the configuration.

5.2. Add new Project

1. Click on Project Menu>Add Project
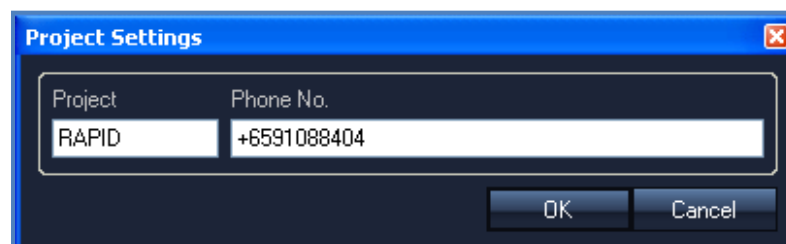
Project Name: Project name should match the project name configured on RAPID PC and RAPID SiteComs

Phone Number: For GSM connection, Phone number of the remote modem is required.

Click OK button to save the configuration.

Note: Added Projects are listed on the left panel of the window. Received data for a project will be shown on the right panel of the window. Project statuses are indicated under Project names; Once RAPID Offcoms detected a incoming data project status will then be changed to connected.
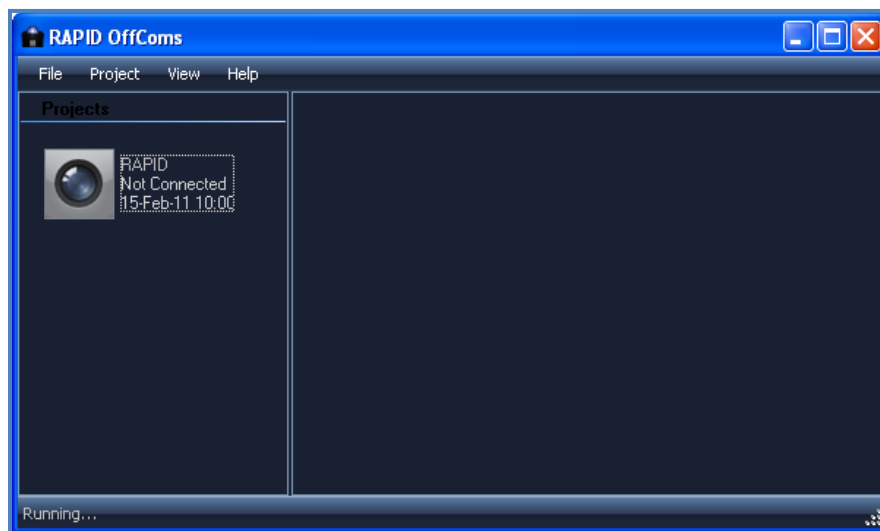
5.3. MSP RAPID OffComs Workflow
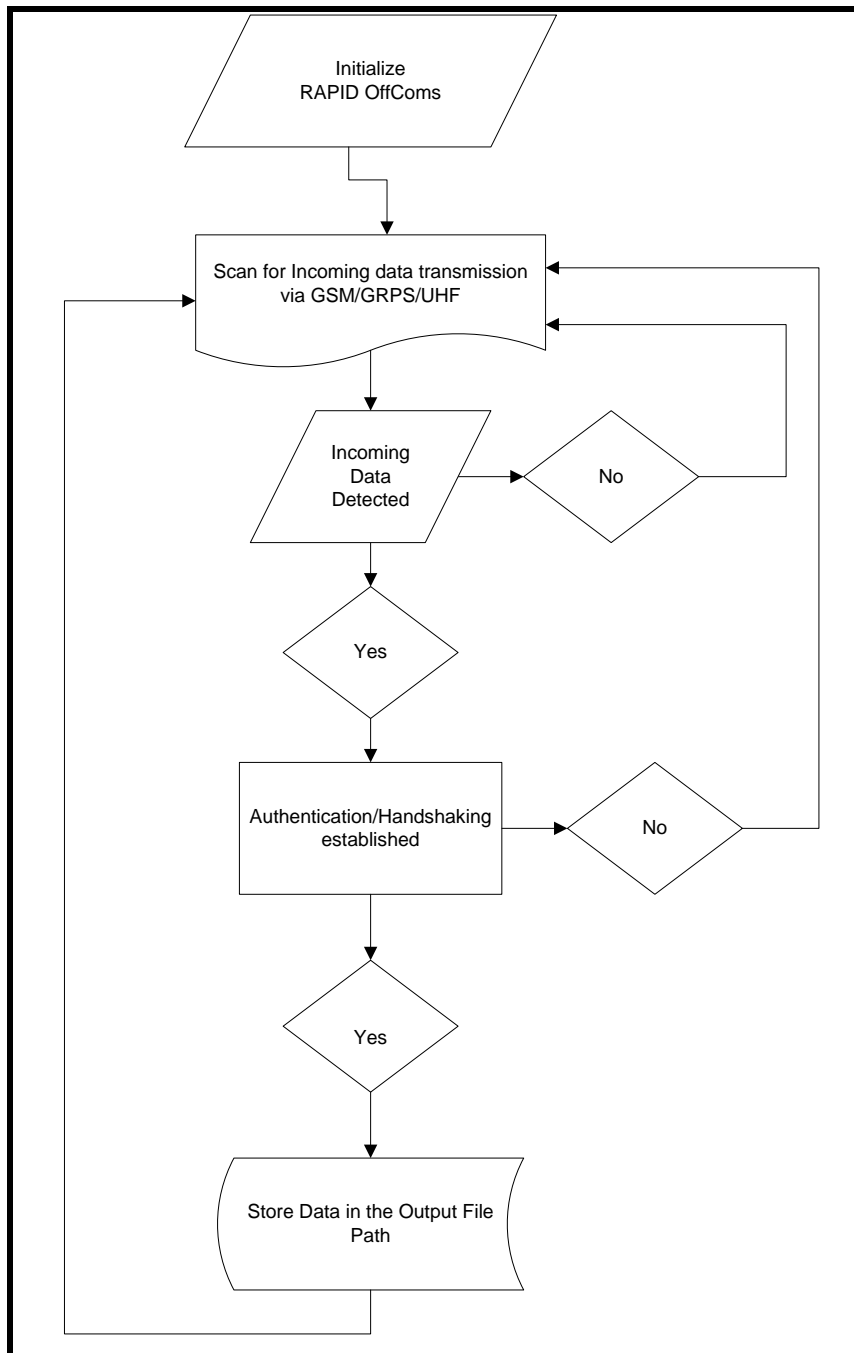
6.0   MSP RAPID DataChecker

6.1.   Setting up MSP RAPID DataChecker

6.1.1.   Configuring MSP RAPID DataChecker File Paths

Open the RAPID DataChecker Application. Click File>Edit Settings
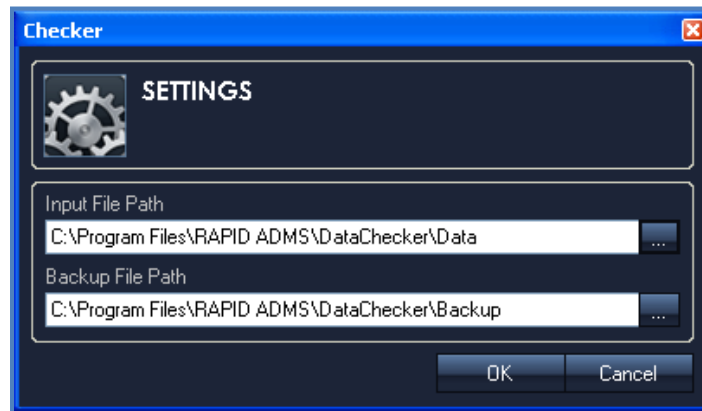
Input File Path: Sets where the RAPID DataChecker will scan for .rpd files. This should match the ouput folder of the RAPID Offcoms' output file path.

Backup File Path: Sets where RAPID DataChecker will back up a copy of .rpd files.

Click **OK** button.

6.1.2.   Adding new station

Click on Station **Menu >Add Station**
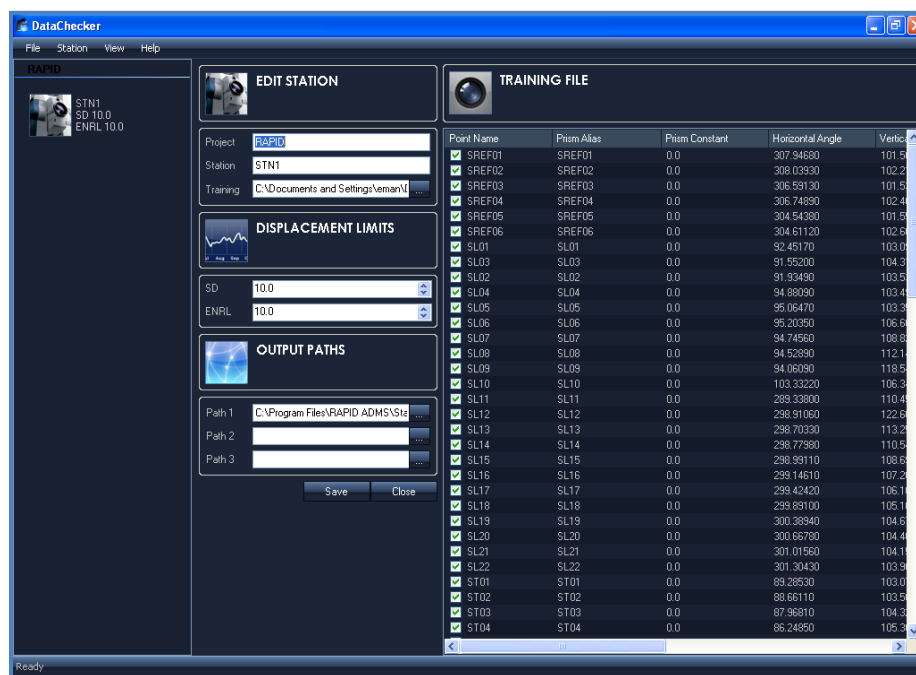
Project Name: Input Project Name. It should match the project name configured on RAPID PC.

Station: Input the Station name. It should match the Station name configured on RAPID PC.

Training: Import the Training file generated by the RAPID PC. By default training files are located at "C:\Program Files\RAPID ADMS\Rapid\training" of the Site PC. Training files may be in *.ini or *.txt format. Imported training file will be shown on the right side panel.

Displacement Limits:

Output Path: Set where the checked data will be saved. DataIn folder of the RAPID StarPro is preferred for RAPID StarPro processing; "C:\Program Files\RAPID ADMS\StarPro\Datain". Maximum of 3 output path can be set.

Other Commands:

File>Start/Stop: Start or Stop the RAPID Datachecker for processing. A Status label is located on the lower left corner of the application. RAPID DataChecker is advised to be running 24/7 for continuous processing of data.

Station>Edit: Edit the highlighted Project. Configuration and training file can be changed on this option.

Station>Delete: Removes the highlighted Project from the list.

View>Refresh: Refresh the project's view and clear the list of the processed data.

6.2. Starting the MSP RAPID DataChecker

To start scanning of data, Go to **File** Menu, and then click on **Start**. Once the RAPID DataChecker is running it will keep on scanning for any incoming files to be checked.
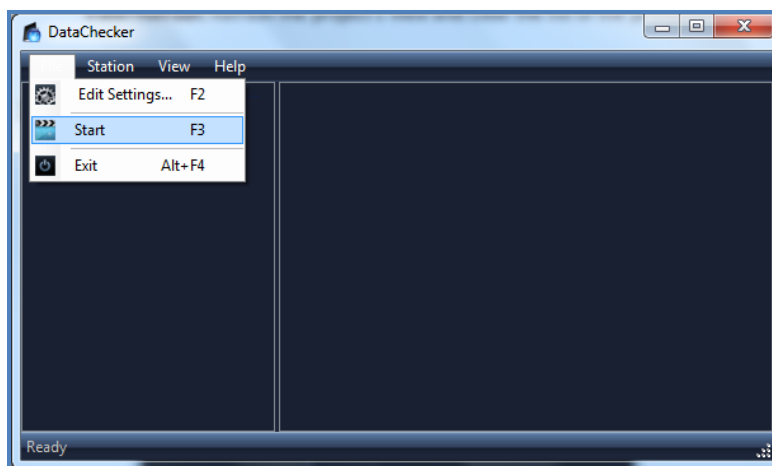
6.3. MSP RAPID DataChecker WorkFlow

```
┌─────────────────────────────┐
│  Setup Folder Input and Backup
│          File Path          │
└─────────────────────────────┘
              │
              ▼
┌─────────────────────────────┐
│   Setup Project and Station  │
└─────────────────────────────┘
              │
              ▼
┌─────────────────────────────┐
│     Import Training File     │
└─────────────────────────────┘
              │
              ▼
┌─────────────────────────────┐
│    Start RAPID DataChecker   │
└─────────────────────────────┘
              │
              ▼
     Scan for data in the
         Input Folder
              │
              ▼
    Data detected on Input          No
          Folder
              │
             Yes
              │
              ▼
┌─────────────────────────────┐
│   Backup data Backup Folder  │
└─────────────────────────────┘
              │
              ▼
┌─────────────────────────────┐
│  Determine if the Data is good or    Bad data
│          bad data           │
└─────────────────────────────┘
              │
           Good Data
              │
              ▼
┌─────────────────────────────┐
│     Save the data into the   │
│   Output File Path directory │
└─────────────────────────────┘
```
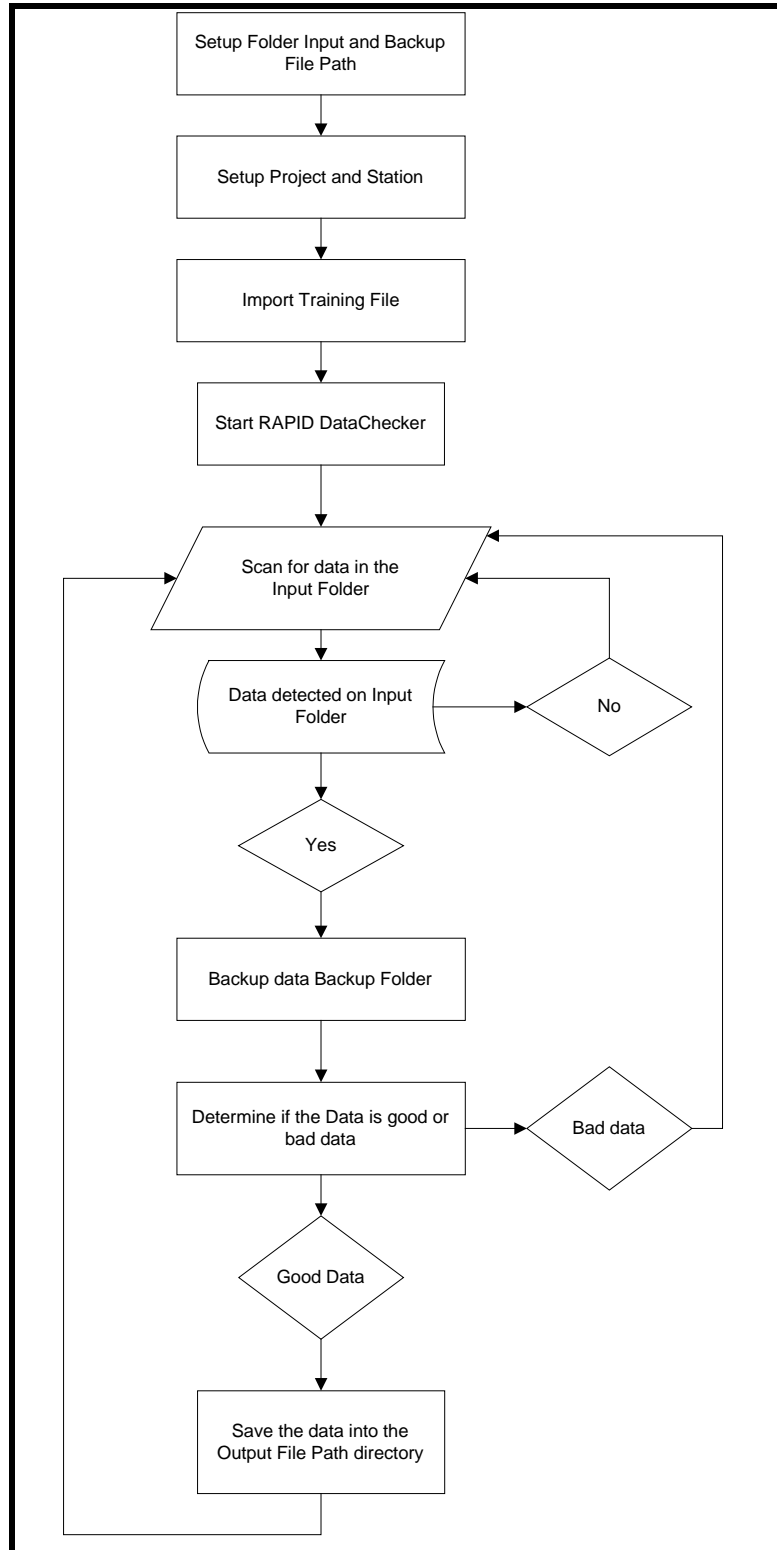
7.0   MSP RAPID StarPro

7.1.   Setting up MSP RAPID StarPro

Note: RAPID StarPro requires StarNet Installed on the Processing PC. StarNet Dongle license is required for processing multiple data.

7.1.1.   Configuring MSP RAPID StarPro Settings

Open the MSP RAPID StarPro application; Click File>Edit Settings:
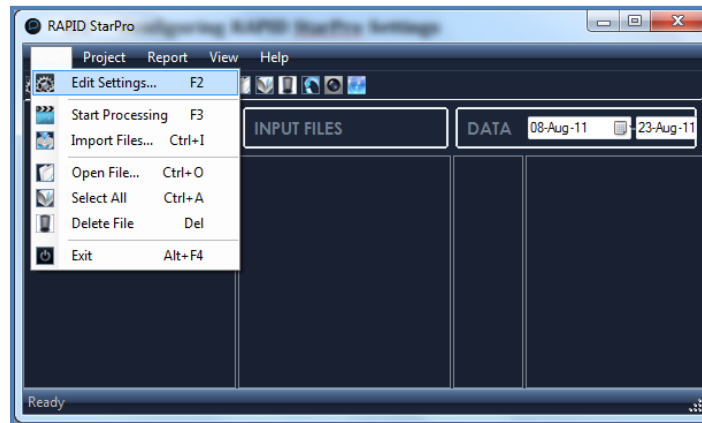
File Paths:

Input File Path: Directory where RAPID STARPRO scan for data to be processed. The default path is "C:\Program Files\RAPID ADMS\StarPro\DataIn", This should match the **output** file path of the RAPID DataChecker.

OutputPath: Sets the directory where the processed data will be saved. Default path is "C:\Program Files\RAPID ADMS\StarPro\DataOut"

Alarm Notification:
Admin Email: One email address is required for sending out Email notifications.
Modem Port: PC ComPort where the modem is connected. Modem will be required for SMS Alarm notifications.
Click OK to save settings.
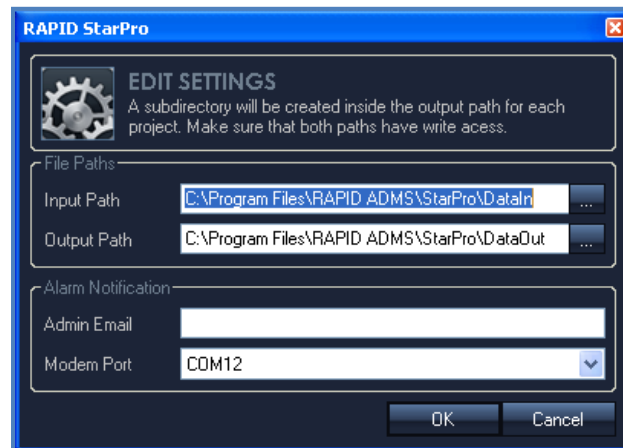
7.1.2. Creating/Adding new Project

1. On the Project Menu, click on Add Project.
2. The Project Settings will be displayed, Fill out the necessary settings for the Project:
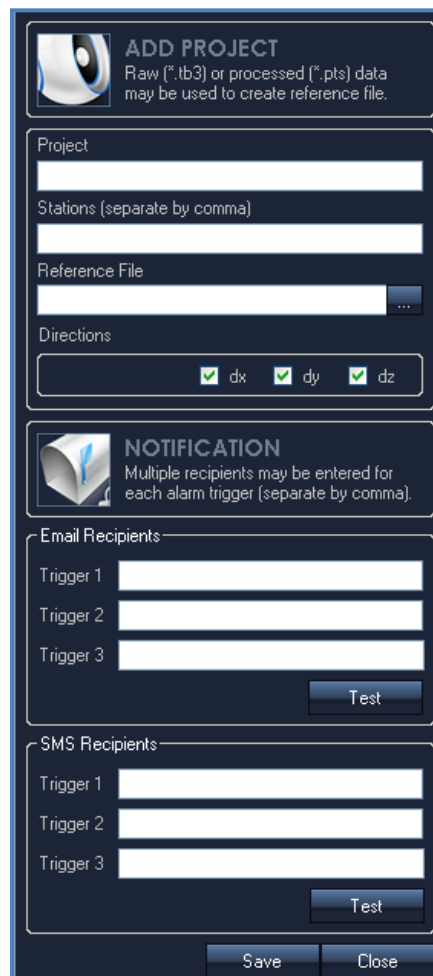
Project: Input the Project Name.

Station: Input the Project's Stations, one or more station can be input. Station names should be separated by coma.

Reference File: Import the reference file. TB3 file or processed .PTS data can be imported. Once the Reference file was successfully loaded, Reference file will be shown on the right panel of the application.

Directions: Users can choose which directions should be processed by StarPro. (dx, dy, dz)

Email Recipients: Input the list of emails that will be notified whenever a trigger alert was reached. Multiple emails can be input (separated by coma).

Click on Test Button to verify if the email can be sent successfully.

SMS Recipients: Input the phone numbers that will be notified wherever a trigger alert was reached. SMS Alert will contain the Project Name, Date, Time, Monitoring cycle, Point name which reached the trigger alert and the value.

Click on Test Button to verify if the SMS can be sent successfully.

7.1.3. Editing the Reference File

1. On the listed reference file on the right panel of the application, Right click on the point or Select All to edit multiple points.

2. Check the check box of the settings to be changed. Rotation Angle, Alarm Triggers, Easting, northing and reduced level can be adjusted.
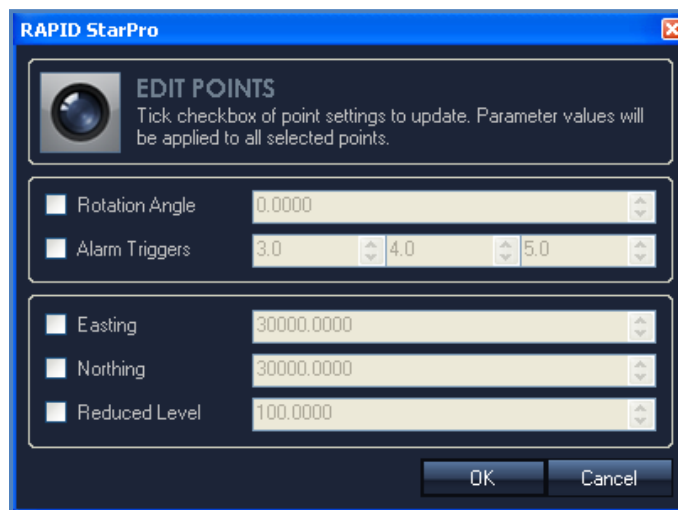
Click OK to save the changes.

7.1.4. Data Processing:

1.   Make sure StarPro is running to start data processing, Start or Stop data processing by clicking File Menu>Start/Stop Processing.

2.   MSP RAPID StarpPro automatically detects the input files on the directory of Input File Path ("C:\Program Files\RAPID ADMS\StarPro\DataIn"

3.   Input files are shown on the middle panel of the application.
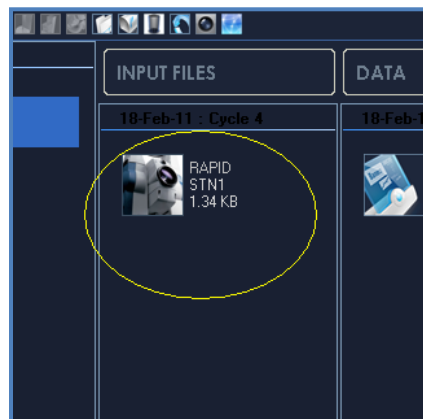
4.   Processed data will be listed on the Data Panel of the application.
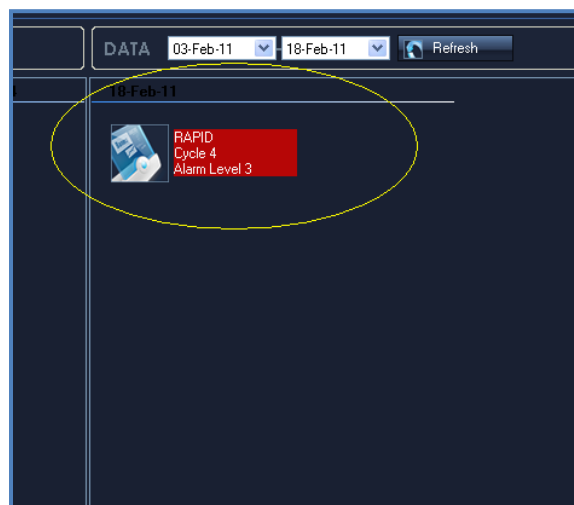
Data that reached a trigger level will be highlighted. Green color for level 1, Orange for Level 2, Red for level 3. Tabulated readings can be viewed by double clicking the data and will be opened on Microsoft Excel.

Point	Base E	Base N	Base RL	Easting	Northing	Reduced Leve	dE	dN
STN1	30000	30000	100	30000	30000	100	0	
REF001	29998.8502	29999.0449	100.7306	29998.8502	29999.0449	100.7306	0	
REF002	29997.8469	29999.7688	100.7296	29997.8469	29999.7688	100.7296	0	
XYZ002	30024.7219	29909.4347	113.8181	30024.7297	29909.4371	113.8208	7.8	
XYZ003	30016.024	29913.539	113.8561	30016.0317	29913.541	113.8591	7.7	
XYZ004	30000.8244	30001.9244	100.747	30000.8243	30001.9244	100.747	-0.1	

7.2. Reports

7.2.1. Generating Reports

Note: Microsoft Excel is required for viewing reports.

1.   Right click on a data or highlight multiple data, choose the type of report to generate:

Daily Profile:

Daily profile report shows the following image.

Date	Cycle	STN1	REF001	REF002	XYZ002	XYZ003	XYZ004
18-Feb-11	4	0.0	0.0	0.0	2.4	2.0	0.0
	5	0.0	0.0	0.0	2.4	2.0	0.0
	6	0.0	0.0	0.0	2.4	2.0	0.0
	7	0.0	0.0	0.0	2.4	2.0	0.0
Date		STN1	REF001	REF002	XYZ002	XYZ003	XYZ004
18-Feb-11		0.0	0.0	0.0	2.4	2.0	0.0
Max(+Ve)	2.4	0.0	0.0	0.0	2.4	2.0	0.0
Min(-Ve)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
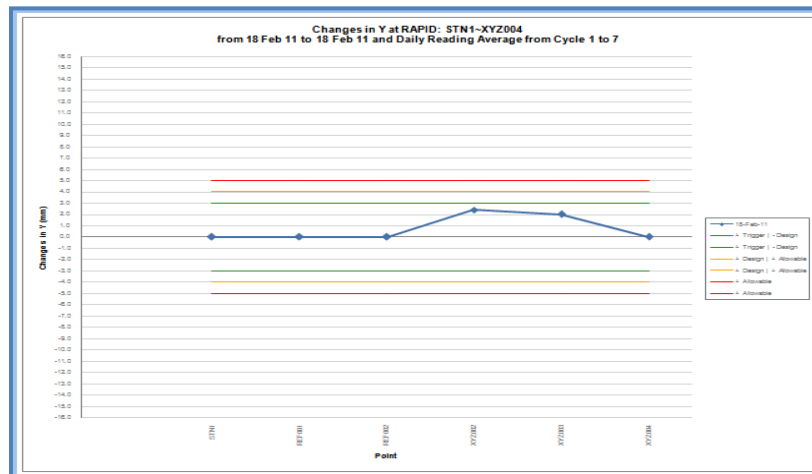
Cycle Profile:

Cycle profile report shows the following image.

Date	Cycle	STN1	REF001	REF002	XYZ002	XYZ003	XYZ004
18-Feb-11	4	0.0	0.0	0.0	2.4	2.0	0.0
	5	0.0	0.0	0.0	2.4	2.0	0.0
	6	0.0	0.0	0.0	2.4	2.0	0.0
	7	0.0	0.0	0.0	2.4	2.0	0.0
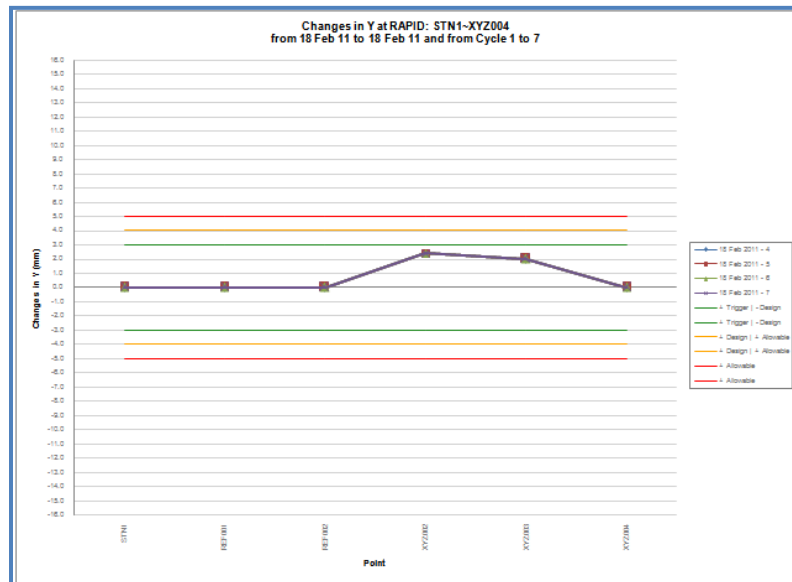
History Report:

History report shows the following image.

Date	Cycle	STN1	REF001	REF002	XYZ002	XYZ003	XYZ004
18-Feb-11	14:45	0.0	0.0	0.0	2.4	2.0	0.0
	14:45	0.0	0.0	0.0	2.4	2.0	0.0
	14:45	0.0	0.0	0.0	2.4	2.0	0.0
	14:45	0.0	0.0	0.0	2.4	2.0	0.0
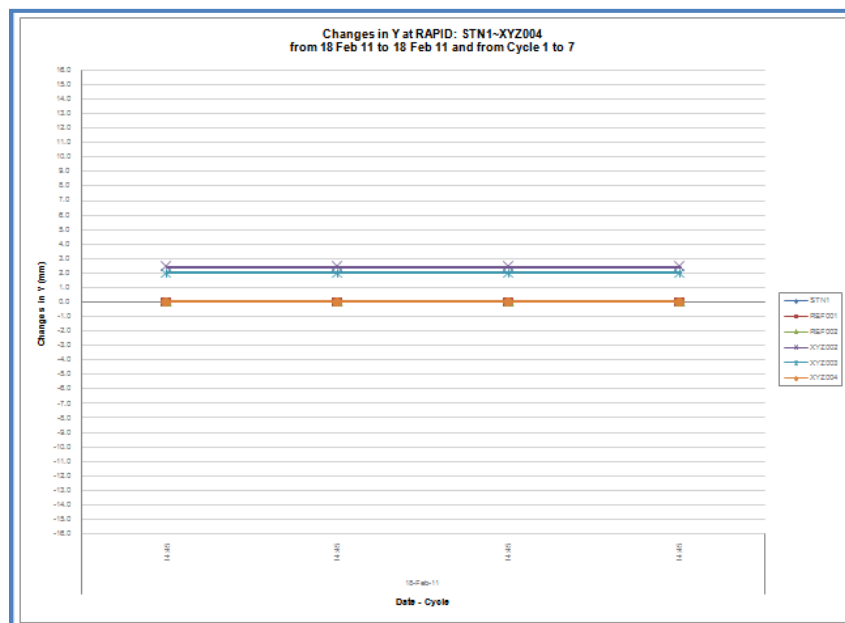
Generated Reports are listed on the right side panel of the application.

7.3. MSP RAPID StarPro Workflow

```
┌─────────────────────────────────────────────────────────────┐
│                                                               │
│              ┌─────────────────────────┐                      │
│              │ Setup Input File Path /  │                     │
│              │     Output File Path     │                     │
│              └─────────────────────────┘                      │
│                          │                                    │
│              ┌─────────────────────────┐                      │
│              │ Add and configure Project│                     │
│              │        Settings          │                     │
│              └─────────────────────────┘                      │
│                          │                                    │
│              ┌─────────────────────────┐                      │
│              │   Import Reference File  │                     │
│              └─────────────────────────┘                      │
│                          │                                    │
│              ┌─────────────────────────┐                      │
│              │  Input SMS and email     │                     │
│              │     notification         │                     │
│              └─────────────────────────┘                      │
│                          │                                    │
│              ┌─────────────────────────┐                      │
│              │    Start RAPID StarPro   │                     │
│              └─────────────────────────┘                      │
│                          │                                    │
│        ┌────────────────────────────────┐                    │
│        │  Scan for input file in         │◄──────────┐        │
│        │  the Data In Folder             │           │        │
│        └────────────────────────────────┘           │        │
│                          │                           │        │
│        ┌────────────────────────────────┐      ┌─────────┐   │
│        │ Data in detected in the         │─────►│   No    │   │
│        │ StarPro Data in folder          │      └─────────┘   │
│        └────────────────────────────────┘                    │
│                          │                                    │
│                    ┌─────────┐                                │
│                    │   Yes   │                                │
│                    └─────────┘                                │
│                          │                                    │
│              ┌─────────────────────────┐                      │
│              │ Call StarNet for Processing│                   │
│              └─────────────────────────┘                      │
│                          │                                    │
│        ┌────────────────────────────────┐      ┌─────────┐   │
│        │ Is StarNet Installed or         │─────►│   No    │   │
│        │ Dongle detected?                │      └─────────┘   │
│        └────────────────────────────────┘                    │
│                          │                                    │
│                    ┌─────────┐                                │
│                    │   Yes   │                                │
│                    └─────────┘                                │
│                          │                                    │
│              ┌─────────────────────────┐                      │
│              │ Generate output data into│                     │
│              │      Dataout folder      │                     │
│              └─────────────────────────┘                      │
│                          │                                    │
│              ┌─────────────────────────┐                      │
│              │ User Manually generate   │                     │
│              │ Tabulated report from    │                     │
│              │ choosen date and cycle   │                     │
│              └─────────────────────────┘                      │
│                                                               │
└─────────────────────────────────────────────────────────────┘
```

8.0 Licensing

8.1 Licensing Key

MSP RAPID ADMS Suite is protected by a USB dongle key. MSP RAPID ADMS License package is included at the MSP RAPID USB Dongle; the license package will determine which application in the MSP RAPID ADMS Suite is activated. Without RAPID License dongle RAPID PC can only operate on demo mode. On Demo mode users can only train up to 5 prisms and 1 round of cycle. Please contact your nearest distributor to request for a hardware key.
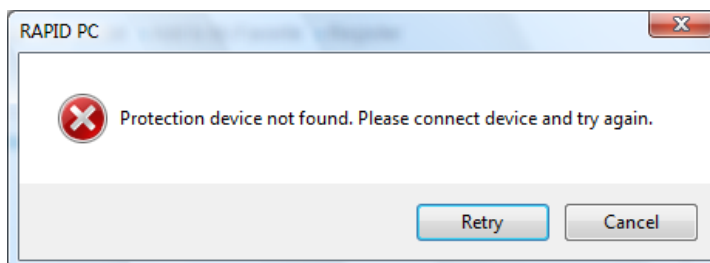
Two type of RAPIDUSB Dongle key:

**MSP RAPID USB Dongle key for Site:** This contains License for MSP RAPID PC and MSP RAPID SiteComs.

MSP RAPID USB Dongle key for Office: This contains License for MSP RAPID OffComs, MSP RAPID DataChecker, MSP RAPID StarPro.

Using USB Dongle License Key:

Launching RAPID ADMS Software without license, a notification window will be displayed.

Insert the RAPID USB Dongle key in order to use the full feature of Rapid PC. If RAPID PC is to run on demo mode, click on cancel:
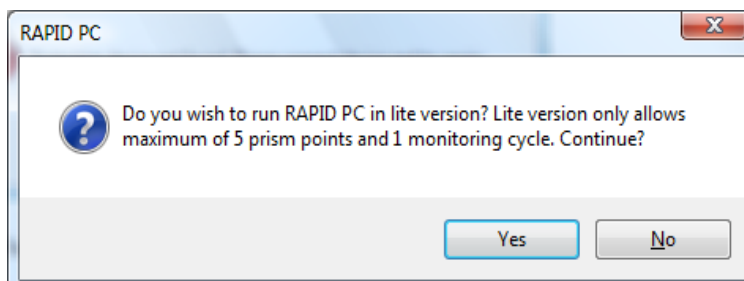
An option to the user will be displayed whether to continue on Demo mode or to exit application.

Note: Only RAPID PC can run on demo mode. MSP RAPID DataChecker, MSP RAPID SiteComs, MSP RAPID OffComs, MSP RAPID StarPro cannot run on demo mode.