

Hydrolite TM–Setup Manual



A small boat Hydro Survey System using Ohmex SonarMite echo sounder and Trimble GeoExplorer XT sub-meter DGPS

System Components

- SonarMite BT-TM system
- SonarMite Transducer with Mount
- Survey Pole with Transom Mount
- Trimble GeoExplorer XT
- SonarXP and Handheld software
- Optional external “Hurricane” GPS antenna for use in difficult GPS environments



Step 1 – Assemble System

1. Attach transducer and mount-

Use a 7/16ths or an 11m wrench to tighten transducer mount. See Ohmex documentation for more information on transducer mounting information.



2. Install transom mount

– Place transom mount halfway down pole, use thumbscrew and push-button for adjustment.



3. Connect survey pole pieces

– Attach the survey pole pieces with the threaded heads up. Place the survey prism at the bottom end of the pole.



Clip on Geo XT and SonarMite.-

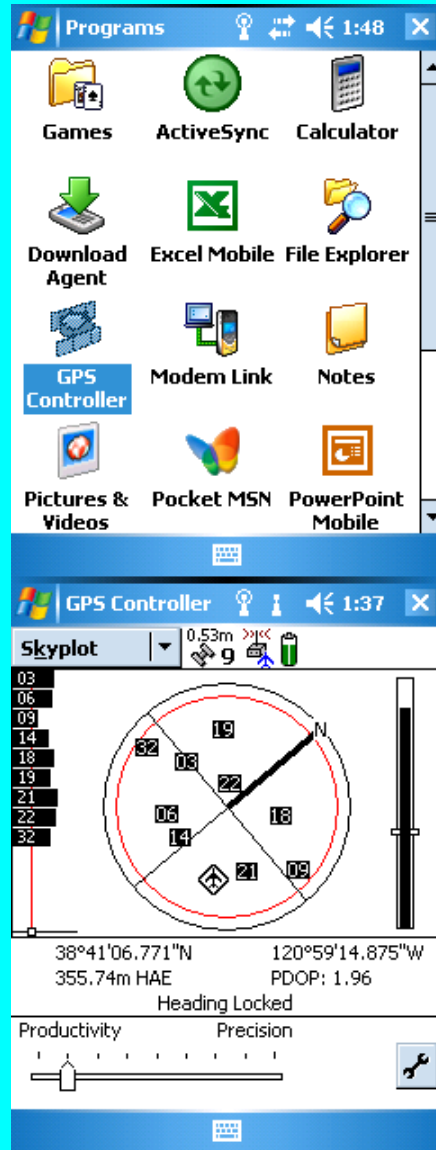
Make sure the Sonarmite is secured in the Velcro Harness. Attach to pole, securing Velcro strap and hand tightening the mount.



Step 2 - Run GPS Controller

Acquire satellites

After turning GeoXT on, select GPS in the bottom right corner of your initial windows screen. If your unit doesn't have this option, Tap Start / Programs, then tap the "GPS Controller" Icon. When opened, the GPS controller will automatically connect and acquire satellites. When the GPS is locked, the information window will show, Lat., Long., Elevation, PDOP (<5), and the words "heading locked". At the top of your screen the # of satellites will be displayed, to the right you have your corrections icon, once corrections are received there will be a visible blue airplane icon. Your sub meter corrections will be digitally displayed above your # of satellites. Once the position is acquired, do not tap the X button in the corner, this will cause the GPS to disconnect. Instead, press the windows icon in the upper left corner to use other applications.

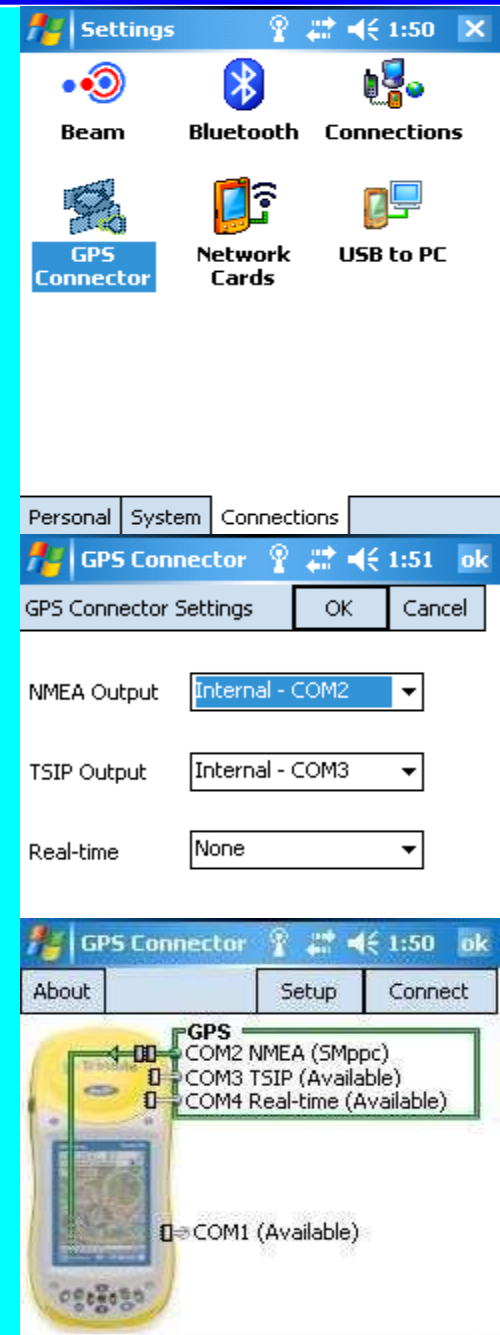


Set output

Tap on Start / Settings. In the Settings menu, choose the "Connections" tab at the bottom. Click on the "GPS Connector" icon

Press the "setup" tab to configure internal and external COM ports.

Set NMEA Output to "Internal - COM 2"



Step 3 – Run SMppc

1. Tap on 'Start' / Tap on 'Programs'. Find the 'File Explorer' icon and tap it.



2. Tap on the icon at the top and select "My Device"



3. Select the "Program Files" Folder.



4. Select the "connections" folder.



5. Inside the "connections" folder you will find your SMppc acquisition program. Tap on that



The software will begin running and will stay running in the background until closed using the memory editor.

To close the program:

1. Tap on Start / Settings. In the Settings menu, choose the "system" tab at the bottom.

2. Select the "Memory" Icon.

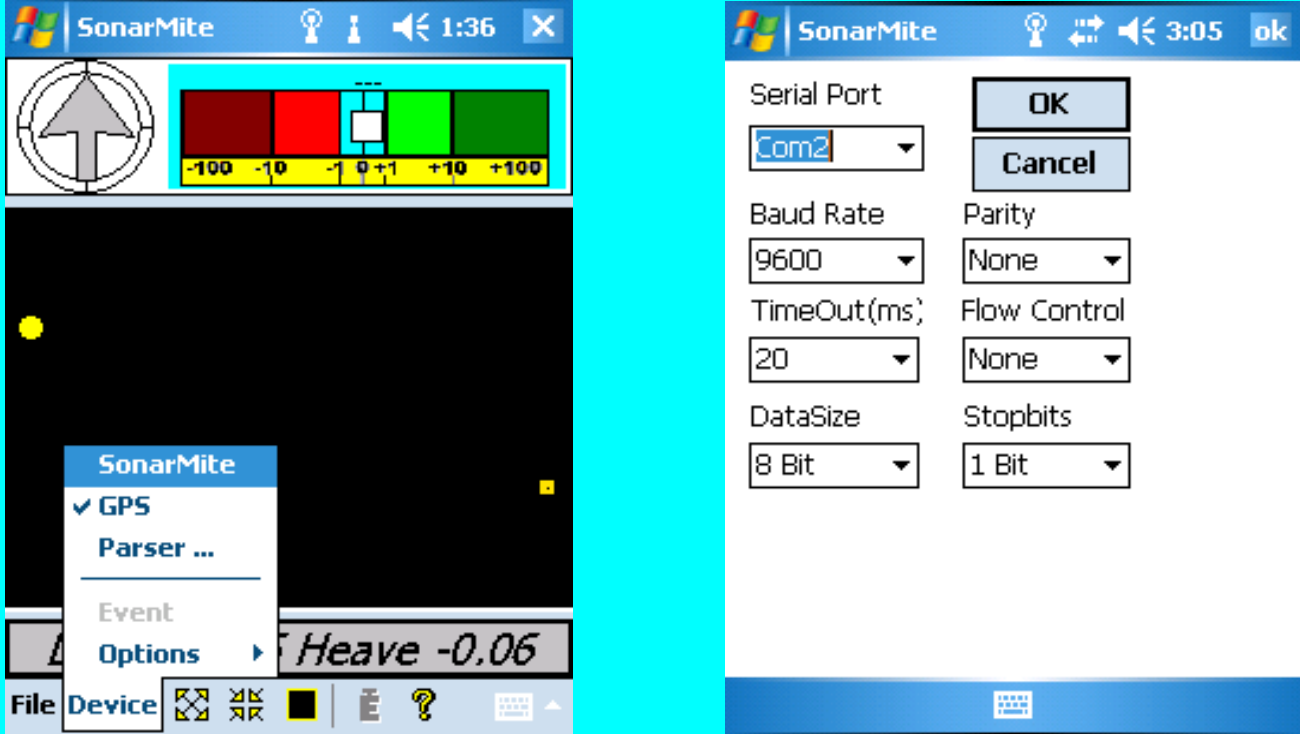


3. Select the "Running Programs" Tab and then tap the "Stop all" button.



Press "ok" and "X" button in the upper right hand corner to return to the Today screen.

Step 4 - Configure GPS in SMPPC



The image shows two screenshots from the SonarMite software interface. The left screenshot shows the main application window with a menu open over the 'Options' section, where 'GPS' is selected. The right screenshot shows the 'Serial Port' configuration dialog box with 'Com2' selected as the port, and other settings like Baud Rate (9600), Parity (None), and Data Size (8 Bit) visible.

Select GPS Menu

Select COM port (COM 2)
This is the COM port used in "Set Output" section of "Step 2"

Step 5 – Configure Bluetooth in GEOXT

1. Tap on Start / Settings

Tap the “Connections”

Tab at the bottom

and then select the

Bluetooth icon



2. Make sure the device is turned on and is discoverable. Before you go to the next step, plug your transducer into the sonarmite. Next, tap the “Devices” tab at the bottom.



3. There should be a partnership between the Geo XT and the SonarMite. If not, tap the word “New Partnership”

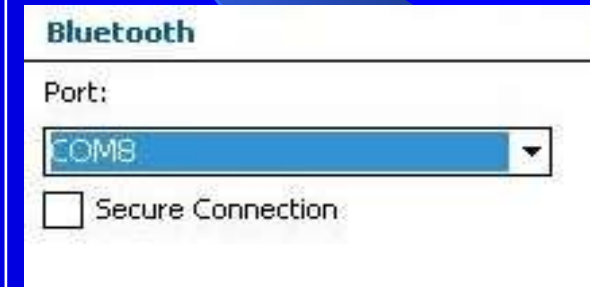


4. If you choose new partnership, the device will search for new Bluetooth devices. Once you find the SonarMite, select it and choose to share the Serial Port. ***IF AT ANY TIME YOU ARE ASKED FOR A PASSKEY, USE THE BLUETOOTH STANDARD 0000, 1111, or 1234***

5. Tap the “COM Ports” tab at the bottom. You should see an incoming COM port coming from the SonarMite.

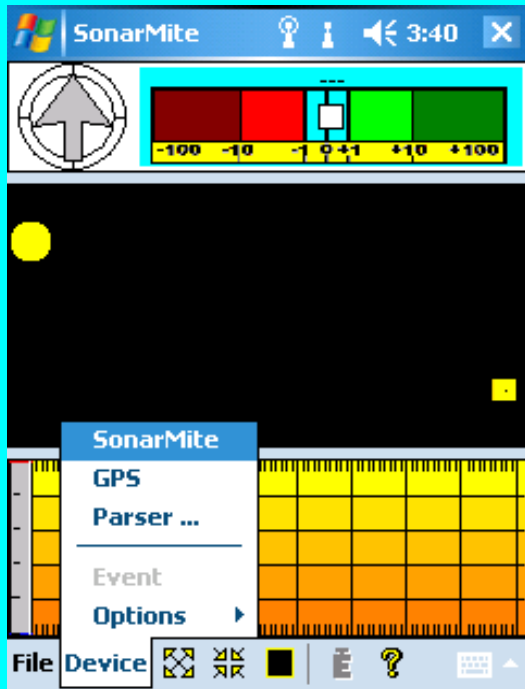
6. If Not, tap the words, “New Outgoing Port”. A list of Bluetooth Devices will show up, tap on the SonarMite Icon.

7. Choose a COM port that is not being used by the Geo XT. COM 8 works.

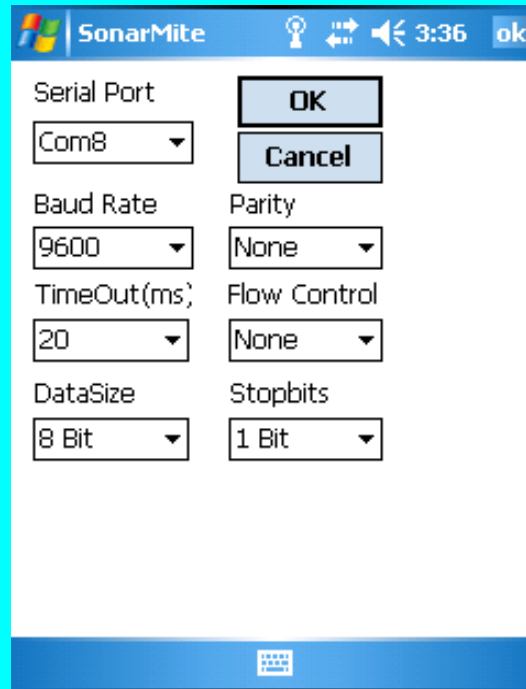


8. You should now be able to connect to the SonarMite in the SMppc program. The SonarMite should be assigned the COM Port that you assigned (higher than COM 6) The default for the Geo XT GPS is COM 2.

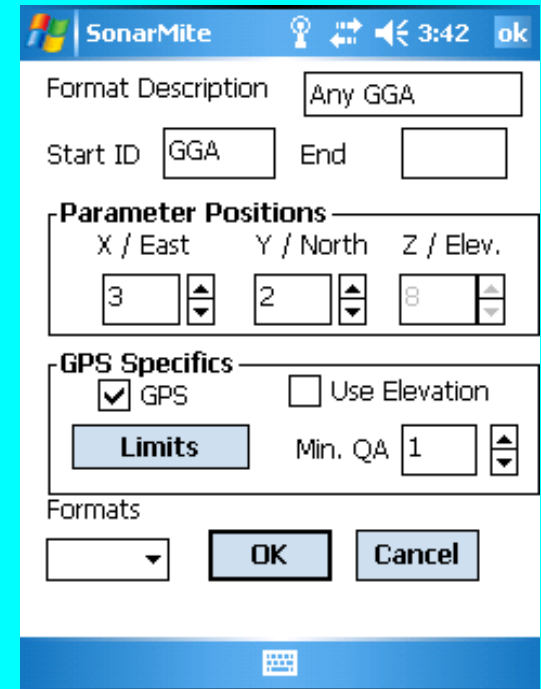
Step 6 – Configure Sonarmite in Smppc



Select SonarMite menu



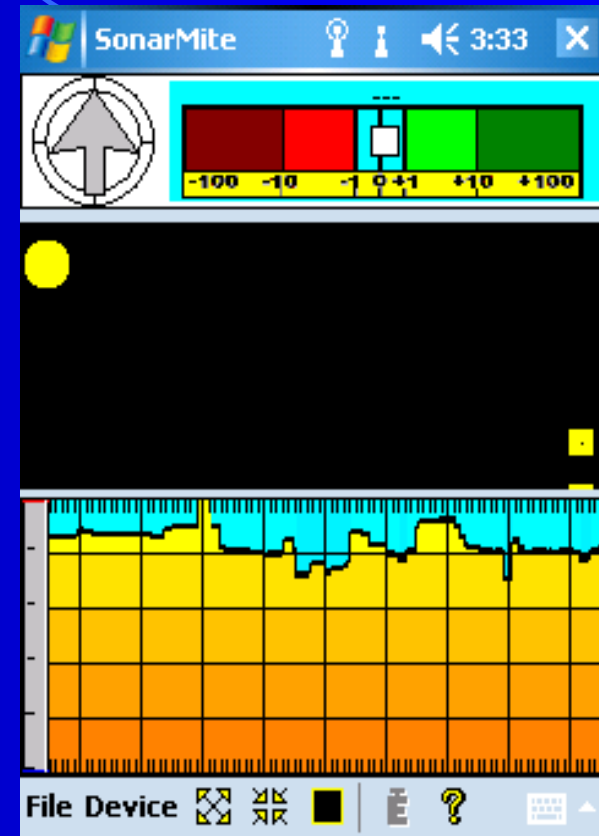
Select Port Usually higher than COM 6.(This is the port used in #7 of "Step 5")



GPS Parser The Factory default setting will work with HydroLite-TM

Step 7 – Check Software

- Is GPS coming in and being tracked on middle pane?
- Is Echo Sounder data being displayed on bottom pane?
- While logging, press the “E” to the right of the bar at the bottom to log an event?

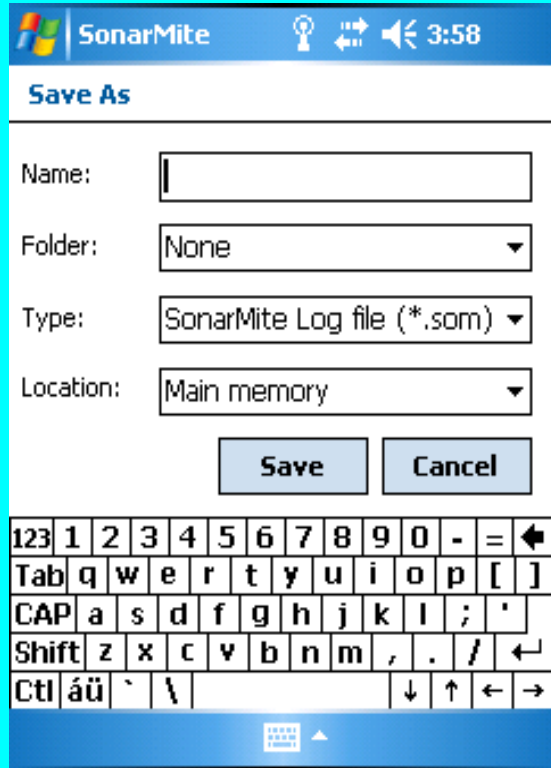


Step 8 – Enter File name



The screenshot shows the 'File' menu of the SonarMite application. The menu items are: New, Open..., Save, Save As..., Export, **LogFile** (highlighted in blue), Logging, WayPoints ►, and Exit. At the bottom of the menu, there are icons for 'File' and 'Device'.

Select Log file menu
When a file name is entered
“logging” will become available.



The screenshot shows the 'Save As' dialog box in the SonarMite application. The title bar reads 'SonarMite' and the system tray shows a lightbulb icon, a refresh icon, a speaker icon, and the time '3:58'. The dialog has the following fields and controls:

- Name:
- Folder:
- Type:
- Location:
- Buttons: Save, Cancel

Below the dialog is a virtual keyboard with the following layout:

123	1	2	3	4	5	6	7	8	9	0	- =	←	
Tab	q	w	e	r	t	y	u	i	o	p	[]		
CAP	a	s	d	f	g	h	j	k	l	;	'		
Shift	z	x	c	v	b	n	m	,	.	/	←		
Ctl	á	ü	`	\						↓	↑	←	→

Enter desired file name
Logging to this file can be toggled on
and off using the “Logging” option in
the “File” menu.

Troubleshooting Tip:

- If the GeoXT locks up or is not functioning correctly, press and hold the green power button for 15 seconds to reset the unit. When the screen goes blank the system has been reset. If this doesn't respond, try 65 seconds. Your saved data will not be harmed by using this reset method.

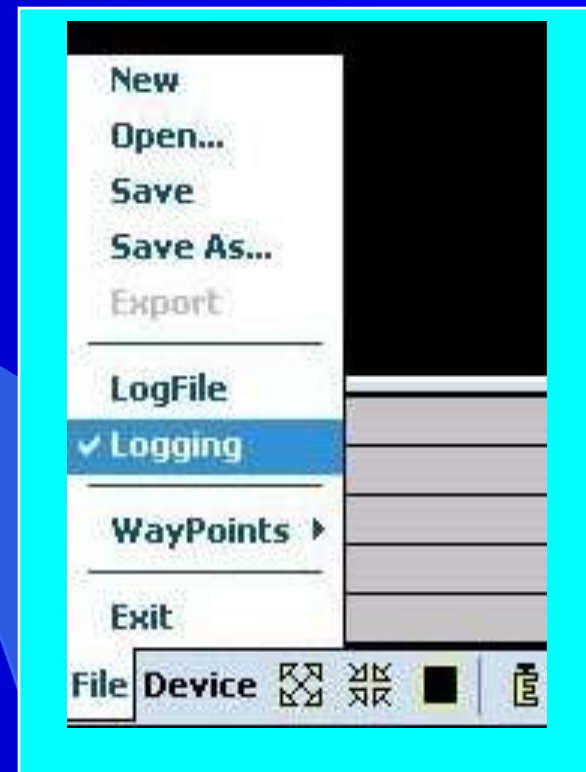


Step 9 – System Running

Use Logging On/Off to toggle data collection

Create a new logfile.

Select logging to start logging, select logging again to End logging. Each time logging is check on and off you are amending to the current file, create a new logfile to close out the existing logfile if you are not planning to acquire under that specific file.



File Menu

Step 10 Way Points

Waypoints are a series of geographical points consisting of Latitude, Longitude, and a sequential waypoint number. This enables the surveyor to select a point to start from and a point to go to. Your left/right indicator at the top of your SMppc acquisition program uses these points to help you navigate down your survey lines.

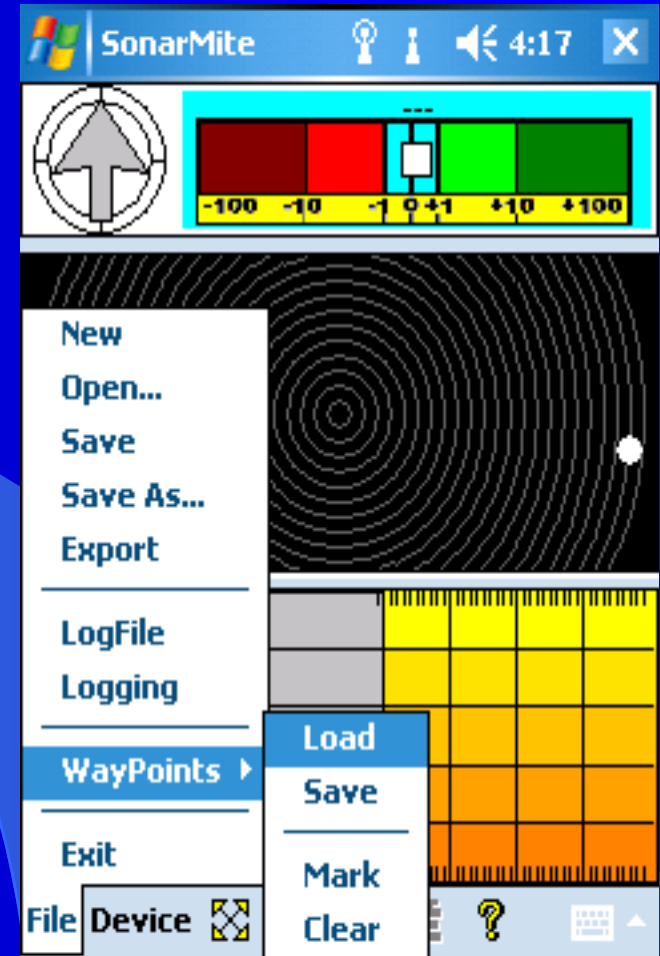
These waypoint files need to be in the following format-

Lat Lon P1

Lat Lon P2

And so on. Both of the coordinates for each way point need to be **degrees.decimal degrees**. This xyz file is space delimited.

All files need to be created in notepad and saved as a .xyz file. You then use active sync to place the .xyz file within a file on your GeoXT. Go into your directory on your PC and copy the .xyz file. Within active sync select explore. Paste your .xyz file in a folder on your GeoXT that you will later access from your SMppc to load as a waypoint file.



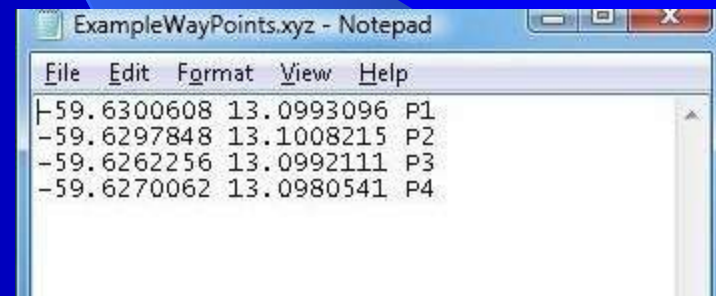
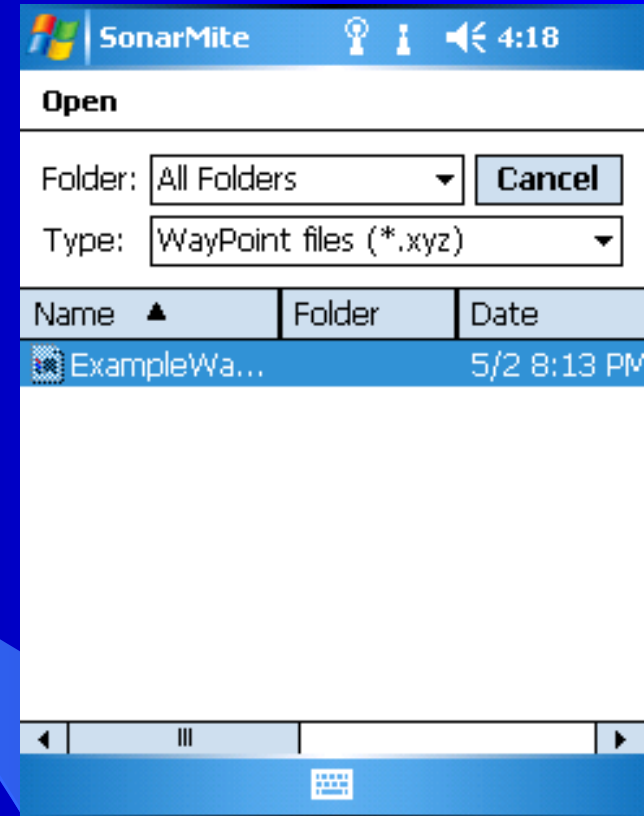
Step 11 Way Points Loading and using

*If your GPS Controller and SMppc program are already running, skip step 1 and 2.

1. Start GPS Controller
2. Start SMppc Program.
3. Devices>GPS>COM 2>OK=GPS enabled

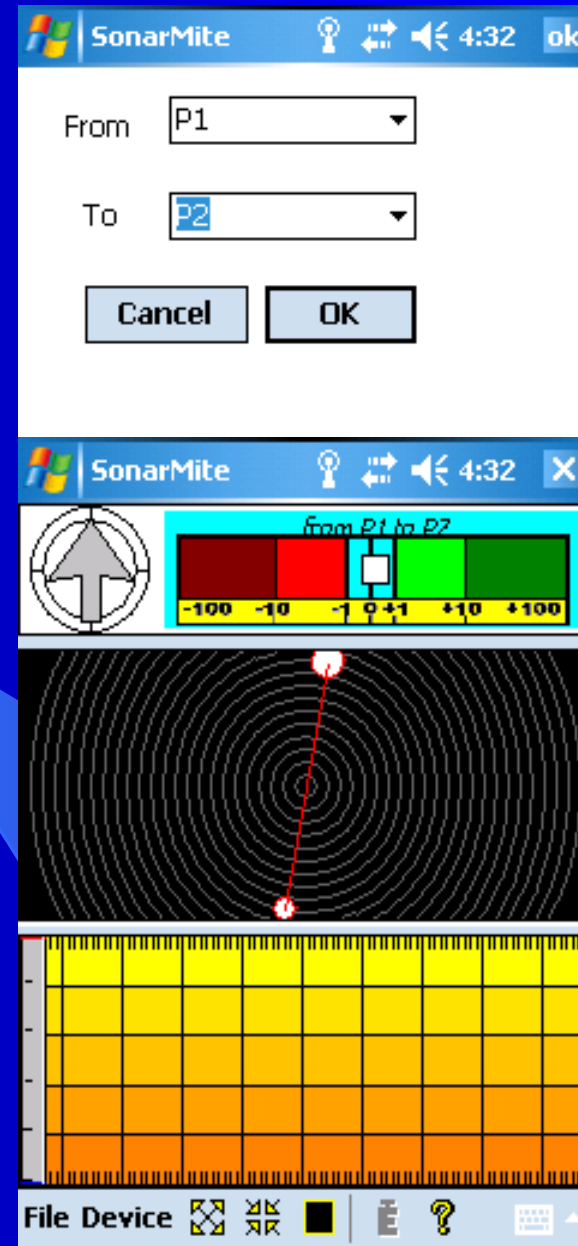
*Within SMppc you must first connect with the GPS controller and visually see Points coming in before you can load your Waypoint file....Next go to.....

1. File>Waypoint>Load. Within this menu your xyz file should automatically be displayed. If not, think back to the file you copied it into with active sync, locate that file and load your xyz waypoints.
2. Your waypoint file should now be loaded in your GPS points screen.



Step 12 Way Points Left/Right indicator

- To enable your left/right indicator.....Go to..
- Start>Waypoint>Mark.
- Select the point you'll be starting **From** and the point you'll be going **To**. Once those 2 points are loaded, your left/right indicator will show how far off line you go to Port or Starboard.
- 3. Be sure to run each line beginning with the point specified as **From** and end that line with the point specified as **To**. This ensures that your left/right indicator is true to the direction of travel.



Step 13 – Connect PC Cradle

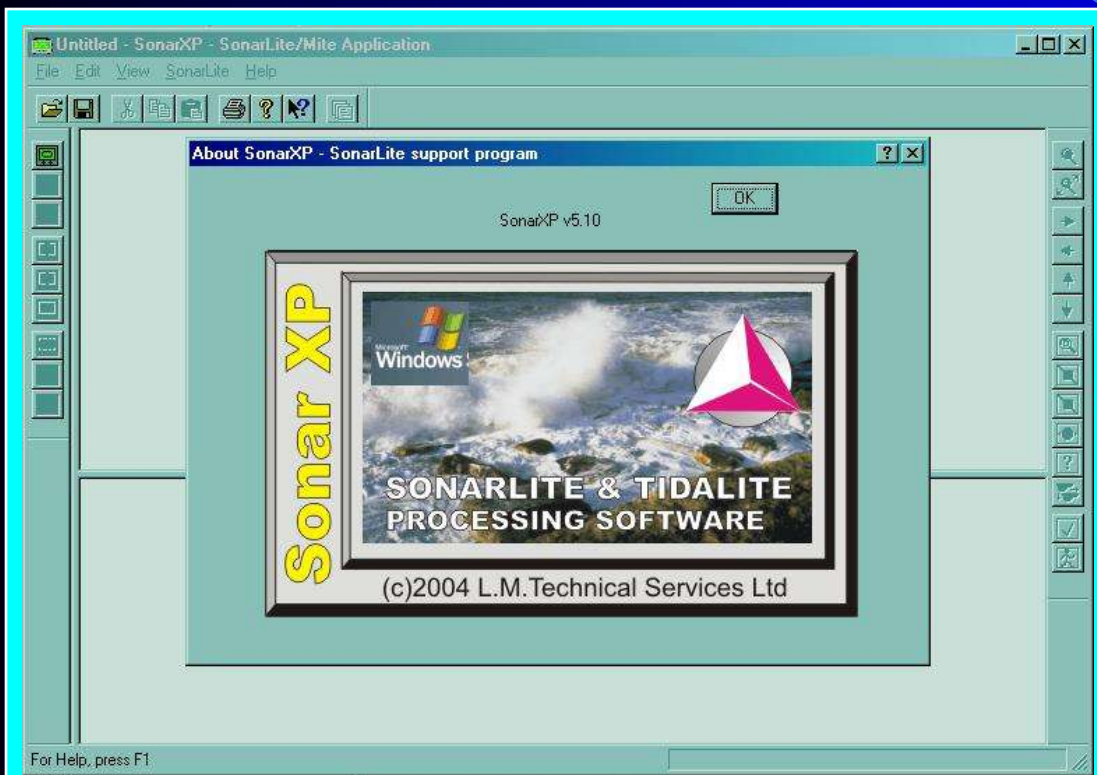


GeoExplorer in Trimble PC cradle device



Connect using ActiveSync

Step 14 – Import data to SonarXP

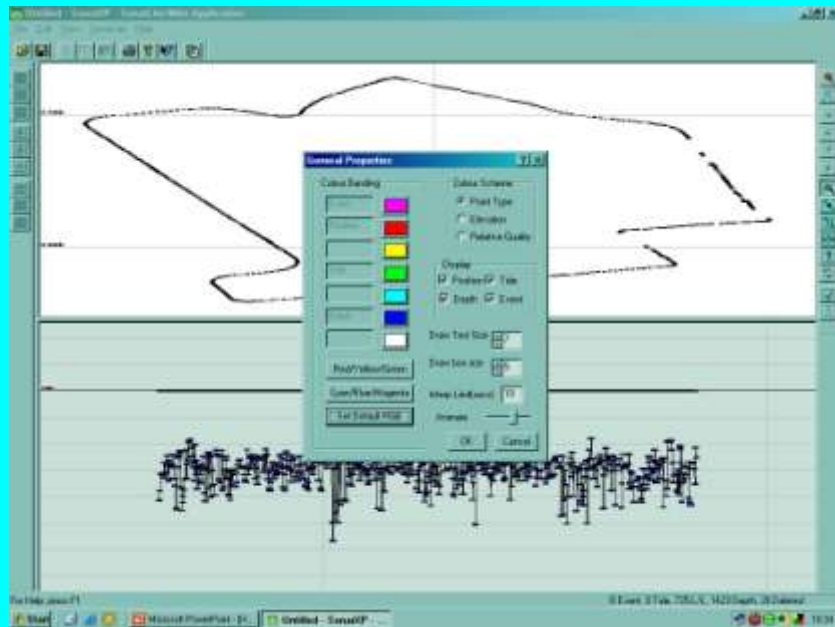


SonarXP post process software

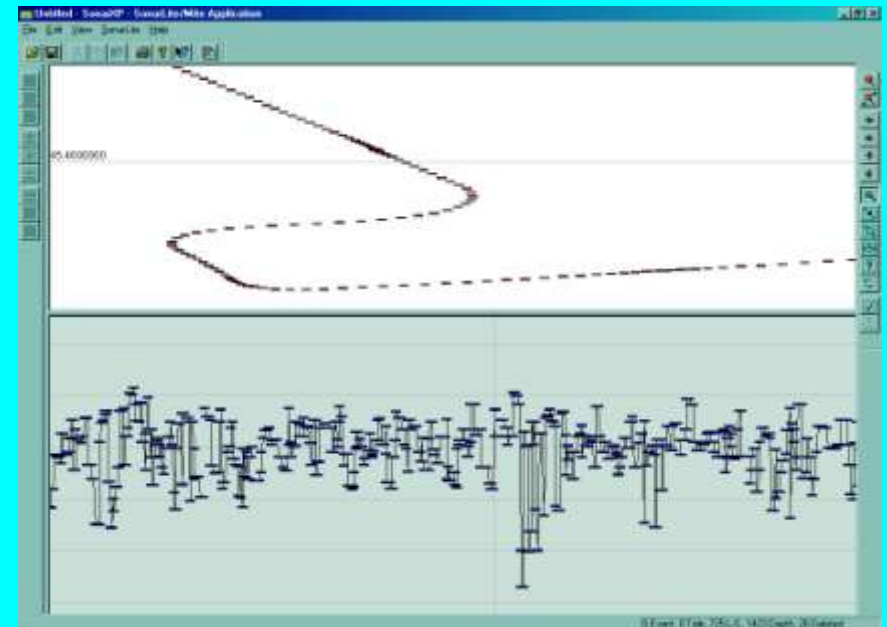


File Import menu

Step 15 – Edit data in SonarXP

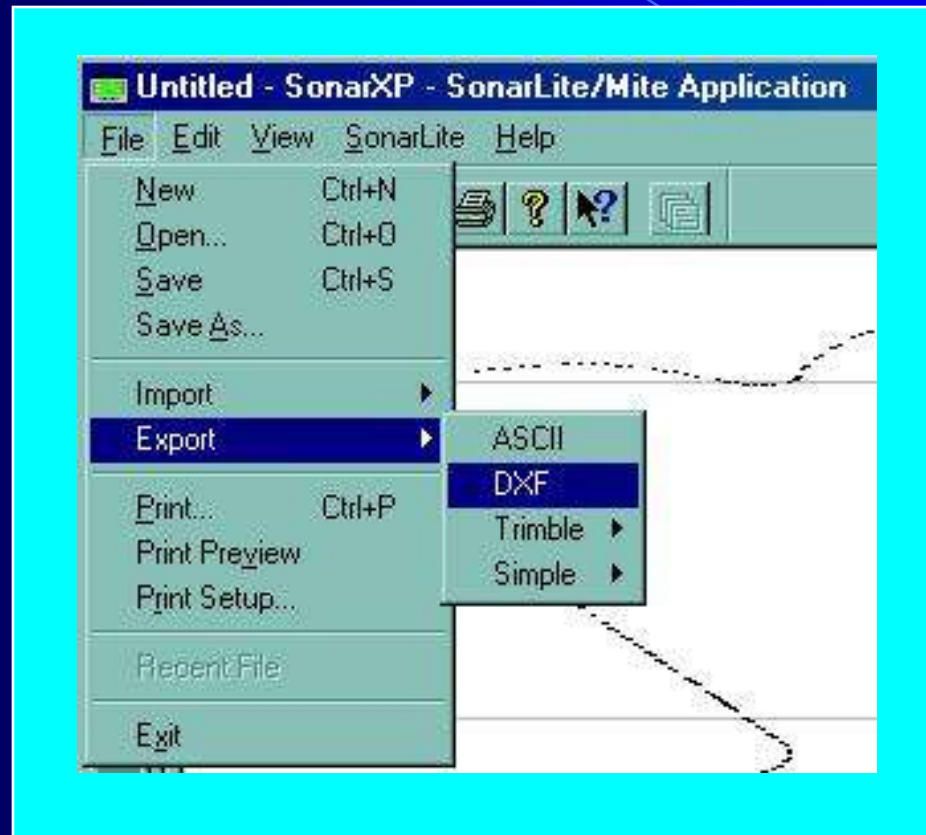


Display Properties Setting



Full on-screen editing

Step 16 – Save/Export to CAD



Systems other than GEO XT

IF you are using a portable data logger that is not the GEOxt it is imperative that it runs on the windows mobile operating system. The software to run the Sonar Mite is designed to run on this platform. Please use the previous information and adjust according to the Data logger you are using. Systems that have been tested in-house that are compatible with our hard/software include: Trimble Ranger, Recon, Nomad, TSC2, TSCe. Other devices should work as long as they are running the Windows Mobile operating system.

