THALES NAVIGATION	**Technical Support Tips**		
Z-MAX	**NCSA: 2003** **Number: 04**	**Nov. 2003**	By: B.LeMoine Checked:

Z-Max GSM RTK
Configure GSM RTK Base & GSM RTK Rover

The following procedure outlines the steps for using the Z-Max GSM cellular communication modules (GSM Com Mod) for RTK surveying. It is assumed GSM SIM cards have been inserted into each of the two respective GSM Com mod's, and the end user has an active GSM (Voice/Data) Circuit Switched Data (CSD) wireless service plan for both SIM cards.

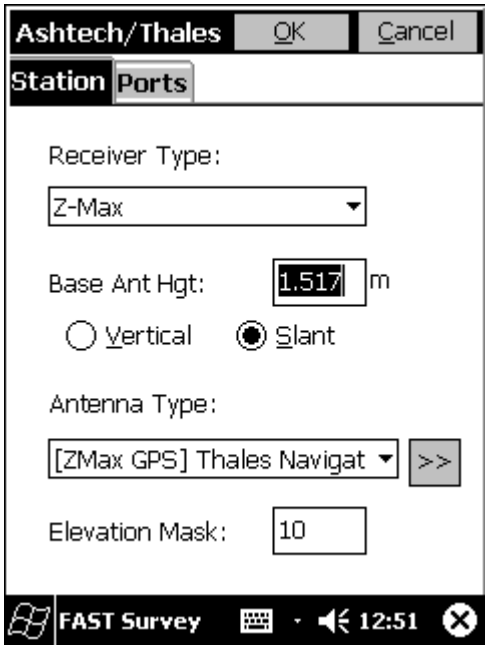
Typically, the SIM Cards will each be assigned a ten-digit telephone number. Designate one telephone number/SIM card to the BASE. Designate the other telephone number/SIM card to the ROVER. The GSM RTK Rover calls the GSM RTK Base station during the RTK survey.

Attach the Base GSM Com Mod to the Z-Max Base unit, power on the Z-Max RTK Base unit. Attach the Rover GSM/PDL Com Mod to the Z-Max Rover, power on the Z-Max RTK Rover unit. If your Z-Max system uses the GSM/U-Link Com Mod, attach this Com Mod to the Z-Max RTK Rover.

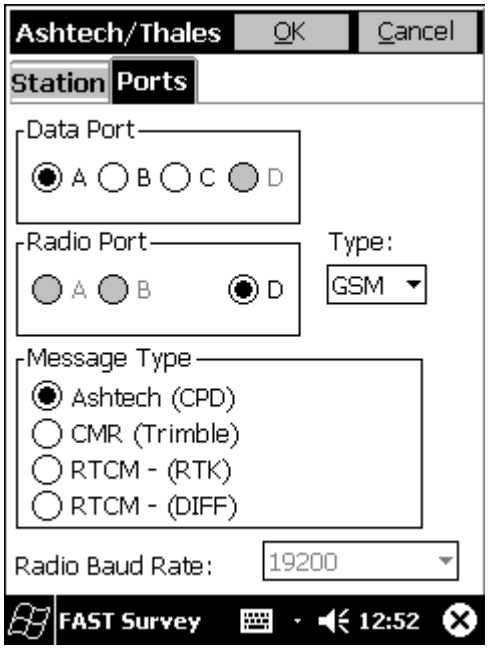
Start the FAST Survey software on the data collector…
Start by first configuring the Z-Max GSM RTK Base equipment,
then configure the Z-Max GSM RTK Rover.

Z-Max GSM RTK Base:

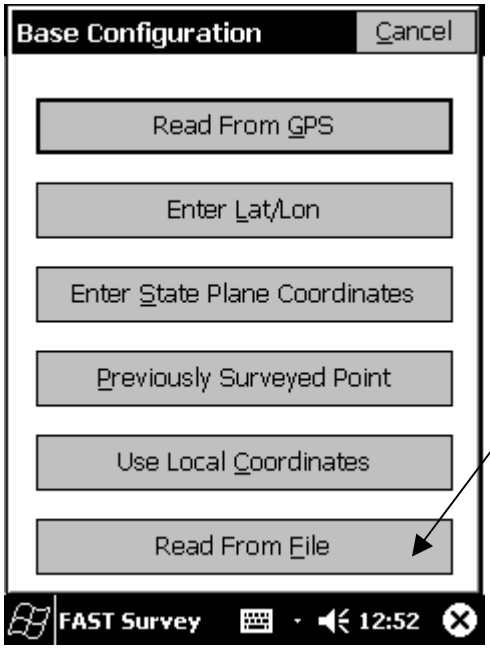
Equip | Configure Base…



In the **Station** menu, select the Receiver Type, enter Base Antenna height & Antenna flag. Select the Antenna Type.



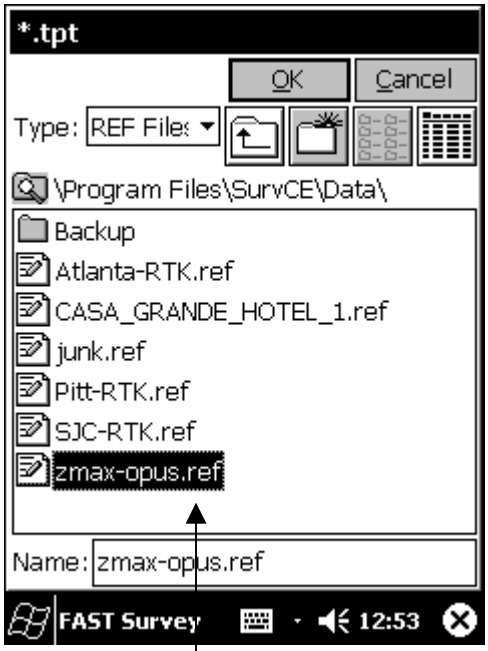
In the **Ports** menu, select the Data Port, Radio Port, Telemetry Type, Message Type, select the Radio Baud Rate, then tap **OK…**
Data Port A = Cable
Data Port C = Bluetooth



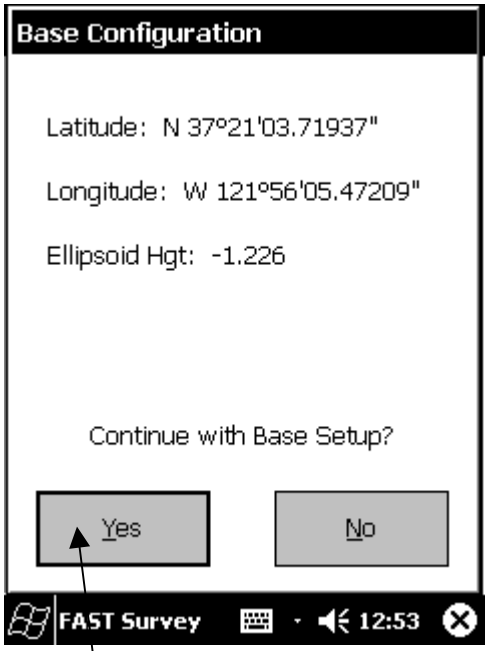
In the **Base Configuration** menu,
Select the appropriate option to obtain the position for the RTK Base.

In this example, the **Read from File** option was selected.

This option instructs FAST Survey to obtain the RTK Base position from a Reference file (jobname.ref), stored in the data collector.

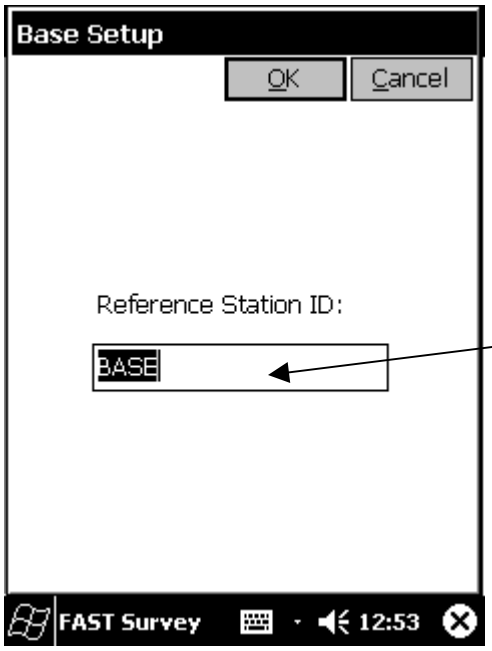


Selects the **Ref** file associated to the current project.



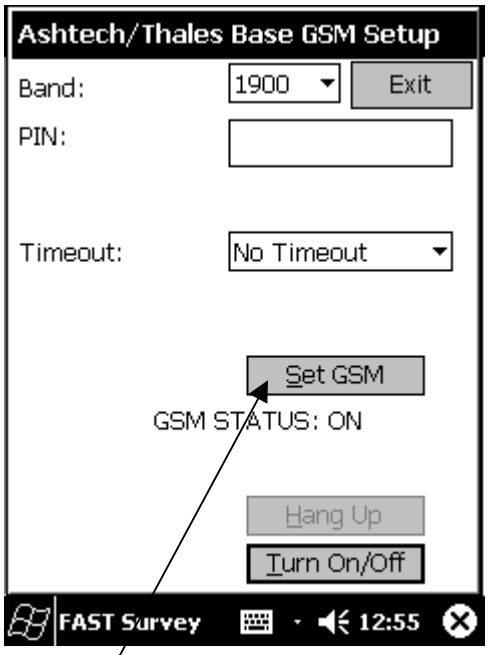
In the **Base Configuration** menu, inspect / confirm this is the correct Lat-Long-Ellip Ht.

Tap **Yes** to continue…



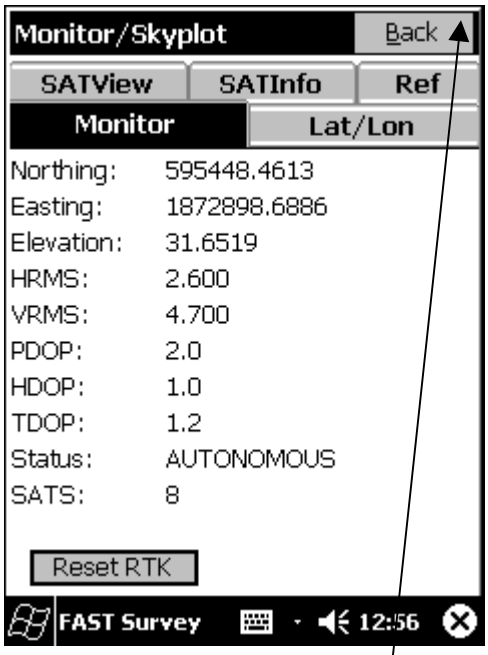
In the **Base Setup – Reference Station ID:** Menu, enter an appropriate station ID.

The Station ID is used in naming any RTK Vectors collected, **Survey | Store Points | Average** menu…



In the USA, select 1900 Band
Tap **Set GSM**

(No PIN Number is required)

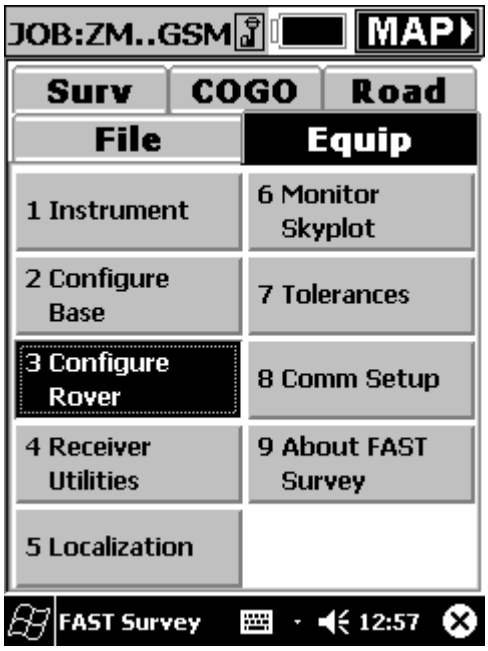


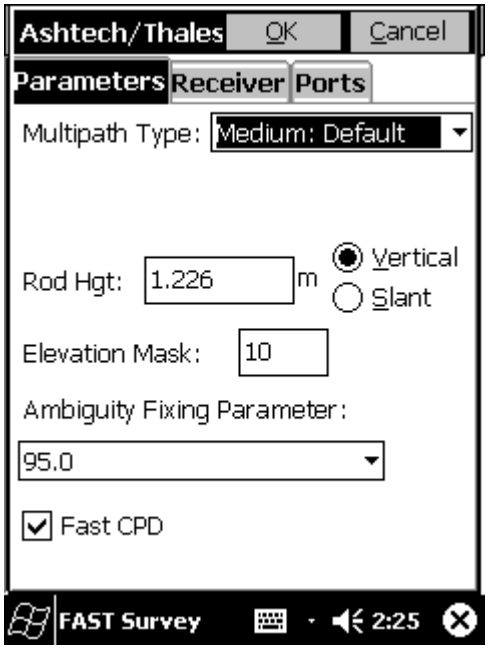
View the **Equip | Monitor Skyplot | Monitor** menu

Tap **Back** to return…

Z-Max GSM RTK Rover:

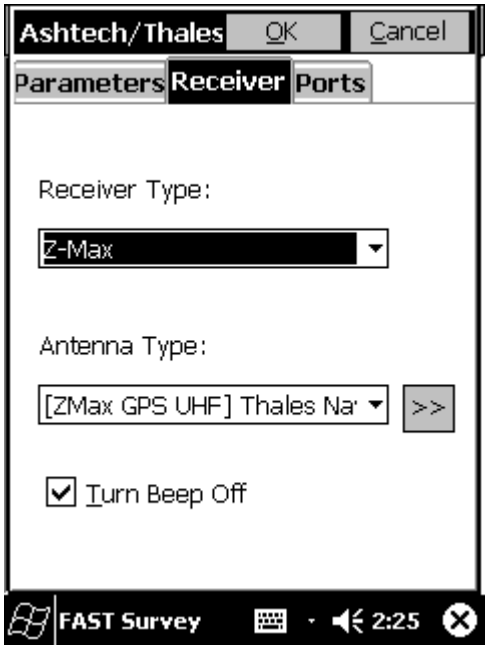
Equip | Configure Rover



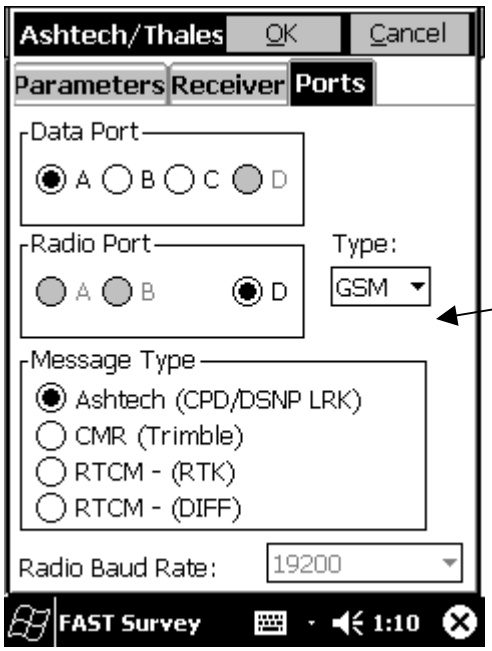


Enter **Rod Hgt,** select appropriate Antenna Flag.

Select Amb Fixing Parameter



Tap **Receiver** menu,
Select **Receiver Type, Antenna Type…**



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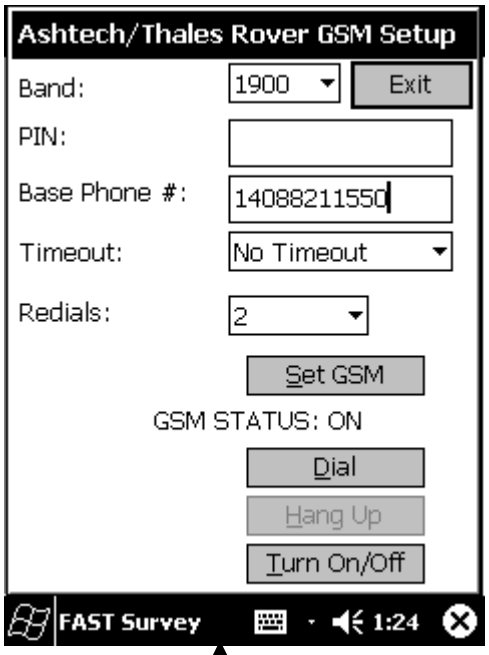
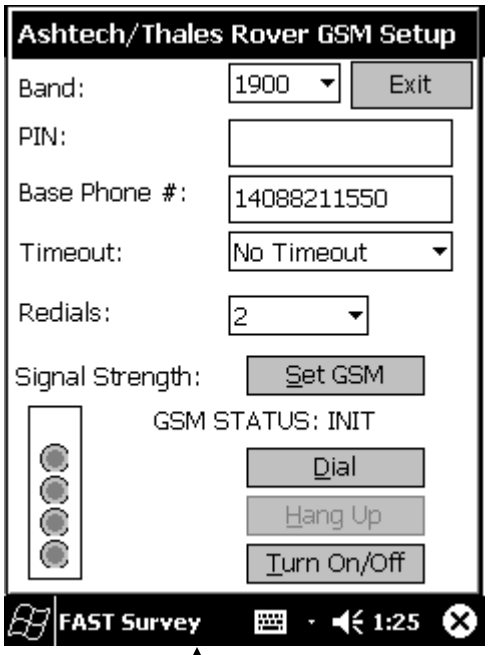


Enter the telephone number for the GSM RTK Base,
tap **Set GSM…**

(No Pin Number is Required)

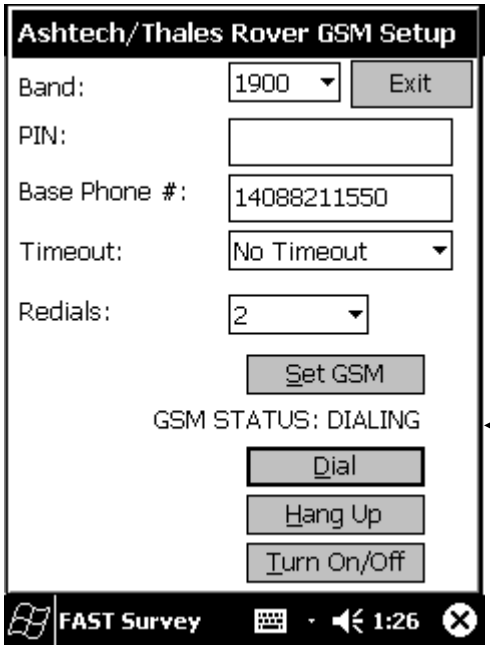


Once the GSM is Initialized,
The GSM Status = **INIT**

This may take up to 30-sec's
Be Patient…

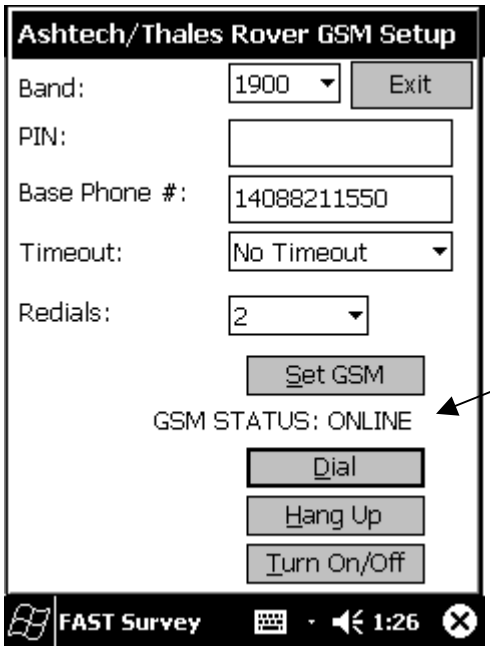
Signal Strength is indicated,
More dots are better…

Tap **Dial** to make the call…



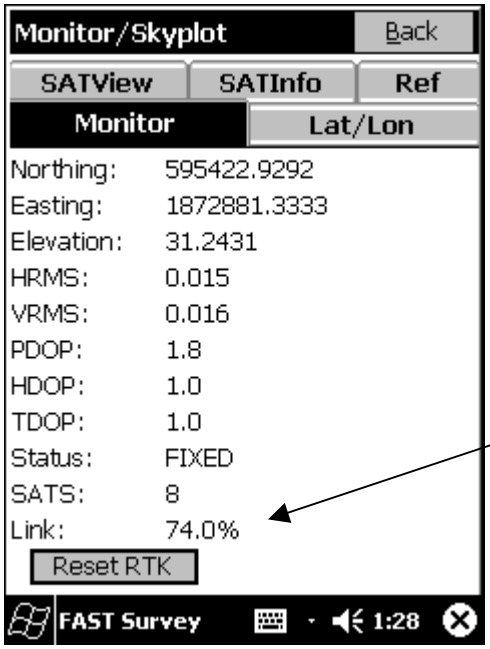
GSM Dialing Status…

This may take a few seconds to connect – Be Patient …



Ashtech/Thales Rover GSM Setup
GSM Status: ONLINE

You should be able to view the Flashing LEDs on the Z-Max RTK Rover, the Radio icon and Fix/Float LED's should be blinking Green. Every other second



Tap on the **Equip | Monitor Sky plot** menu,

Tap on **Monitor**, observe the **Link %**…
If the Link percentage climbs above zero,
The RTK Rover is communicating to the RTK Base.

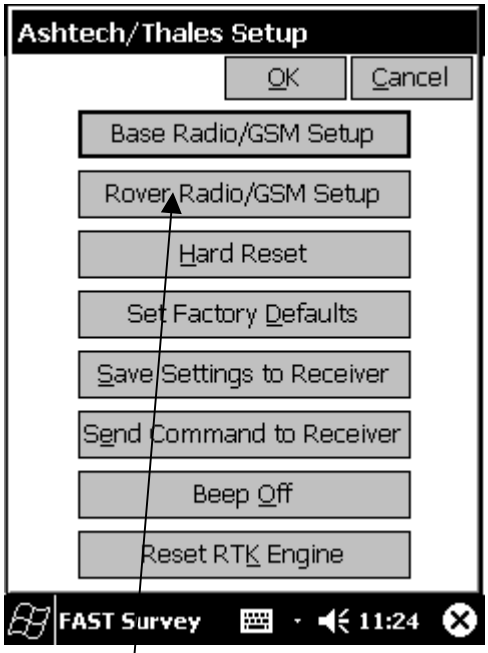
If the percentage stays at 0 %, the GSM RTK Rover has not made a successful connection to the GSM RTK Base Station. Increase Redials – Dial Again.

Try changing/moving your location somewhat, you may have poor cellular signal reception.

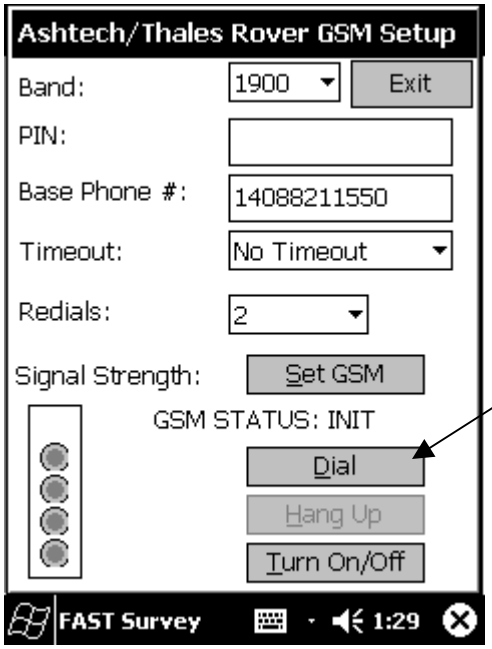
If at any time, the Cellular call gets dropped…
The GSM RTK Rover can re-dial the GSM RTK Base Station.

To access the GSM RTK Rover menu: **Equip | Receiver Utilities…**

Tap **Equip | Receiver Utilities…**



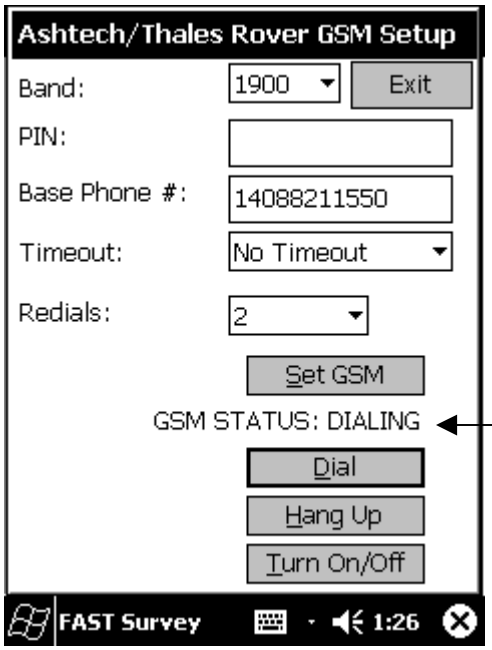
Tap **Rover Radio / GSM Setup**



If the GSM Status = INIT

Enter the Base Phone #,

Tap **Dial…**



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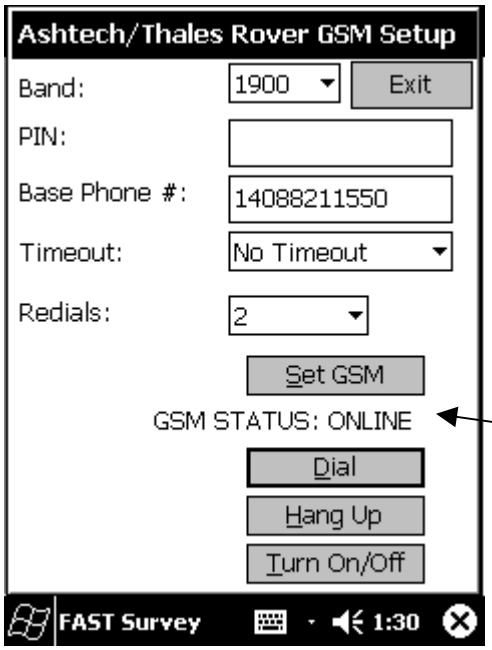

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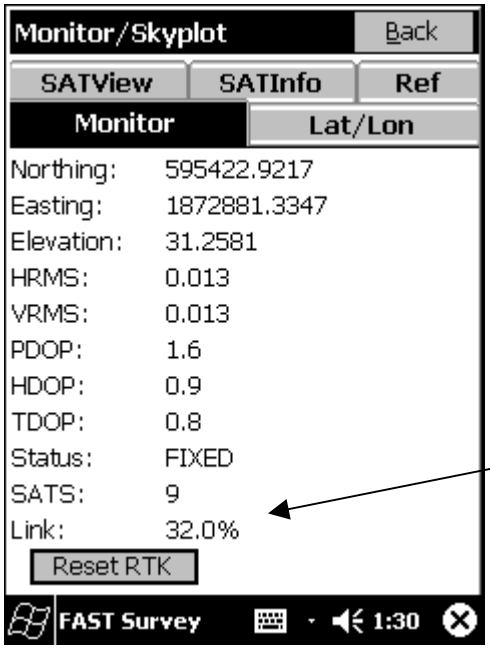

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