UHF with Satel Protocol

Configuration Example

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UHF with Satel protocol Configuration Example

Please do not forget to attach the UHF/GSM antenna to TRIUMPH-1.

Attaching UHF/GSM Antenna

A broadband, rugged, in-building or outdoor antenna designed to service the whole 406-470 MHz UHF band and GSM quad band. With modest dimensions of 25 mm (OD) x 182 mm (height), this antenna radiates with a typical peak omnidirectional gain of +1 dBi. Internally, the radiating element is DC shunted to help protect the transceiver from nearby, but not direct ElectroStatic Discharge (ESD).

The TRIUMPH-1 modem antenna can be mounted on standard poles (5/8-11inches thread). Attached to the TRIUMPH-1 receiver this antenna gets a part of survey pole, making handling with receiver easy and simple.

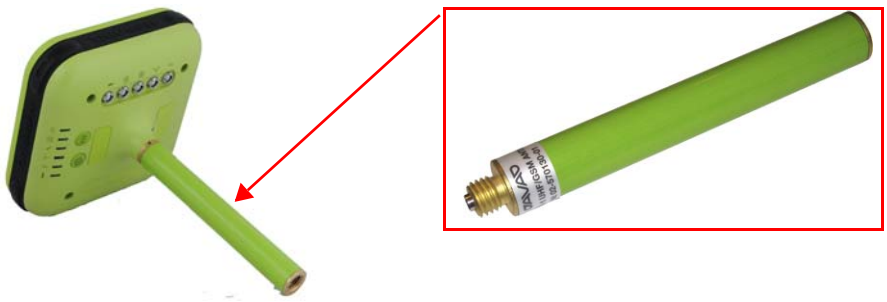

Figure 3-1. TRIUMPH-1 External UHF/GSM Antenna

Base Station Configuration

1. Start ModemVU.
2. Select *Triumph 1X Internal Radio* and click OK (Figure 3-2).

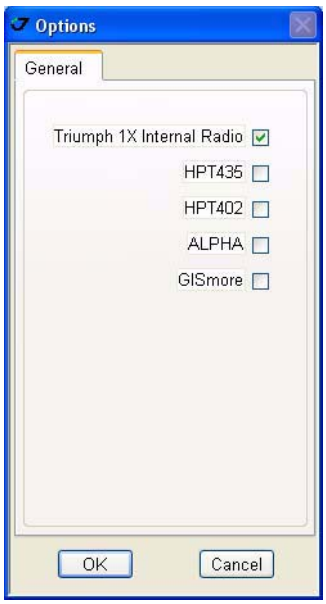

Figure 3-2. ModemVU. Options window

3. Select the port receiver is connected to and click *Connect* (Figure 3-3).

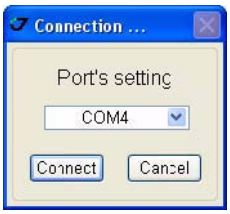

Figure 3-3. ModemVU. Connection

4. Select the *ON* mode for *Radio*, click *Apply*, and then click *Connect Radio* button (Figure 3-4).

Figure 3-4. ModemVU TRIUMPH Internal Radio selection

5. In the *Radio Link* tab set the following parameters, and click *Apply* (Figure 3-5):

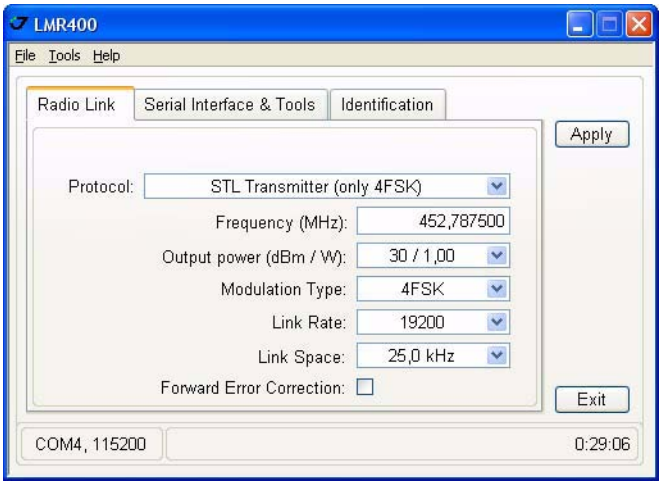

Figure 3-5. Radio Link tab settings

- Protocol: STL Transmitter (only 4FSK)
- Frequency (MHz): 406 to 470
- Output power (dBm/W): 30/1.00
- Modulation Type: 4FSK
- Link Rate: 19200
- Link Space: 25.0 kHz
- Forward Error Corrections: OFF

6. Quit ModemVU by clicking *Exit* button.

7. Start TriVU. Select port the receiver is connected to and click OK (Figure 3-6).

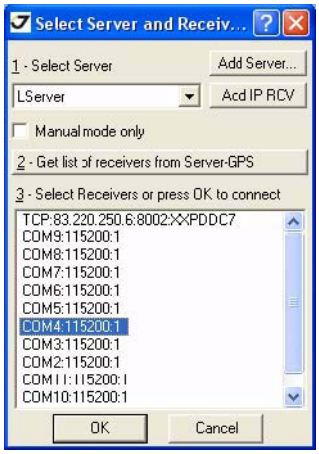

Figure 3-6. TriVU. Selecting port

8. Click *Configuration* ▸ *Receiver.*
9. In the *Base* tab click the *Get from receiver* button. Reference geodetic coordinates appear. Click *Apply* (Figure 3-7).

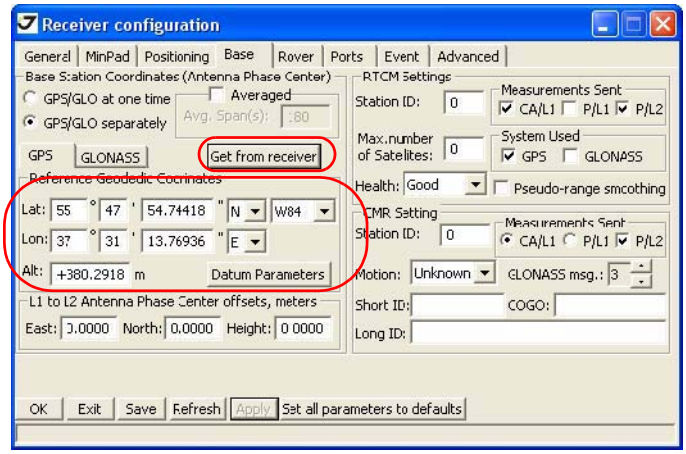

Figure 3-7. Base tab

10. In the *Ports* tab set the Port D *Output mode* to RTK CMR, and click *Apply*, then OK (Figure 3-8).

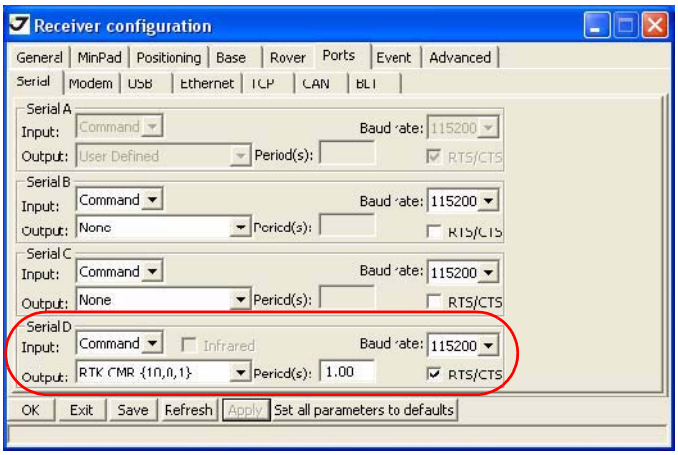

Figure 3-8. Rover tab

11. Click *File* ▸ *Exit* to quit TriVU.

Rover Configuration

1. Start ModemVU.
2. Select *Triumph 1X Internal Radio* and click OK (Figure 3-9).

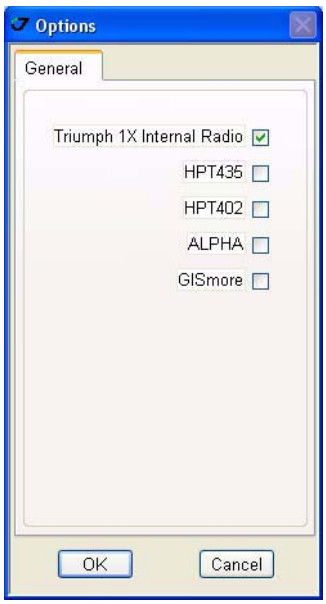

Figure 3-9. ModemVU. Options window

3. Select the port receiver is connected to and click *Connect* (Figure 3-10).

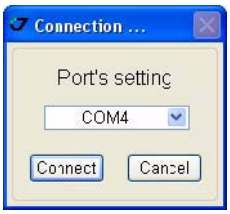

Figure 3-10. ModemVU. Connection

4. Select the *ON* mode for *Radio*, click *Apply* and click *Connect Radio* button (Figure 3-11).

Figure 3-11. ModemVU TRIUMPH Internal Radio selection

5. In the *Radio Link* tab set the following parameters, and click *Apply* (Figure 3-12):

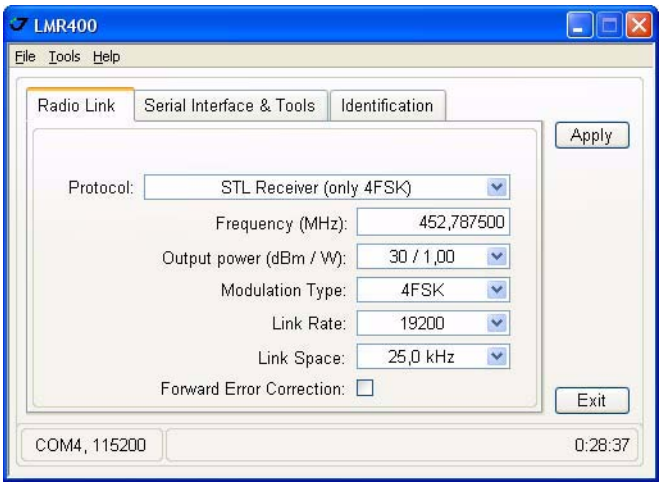

Figure 3-12. Radio Link tab settings

- Protocol: STL Receiver (only 4FSK)
- Frequency (MHz): 406 to 470
- Output power (dBm/W): 30/1.00
- Modulation Type: 4FSK
- Link Rate: 19200
- Link Space: 25.0 kHz
- Forward Error Corrections: OFF

6. In the *Serial Interface & Tools* tab set the desired *Clock correction* value (ON/OFF), and click *Apply* (Figure 3-13).

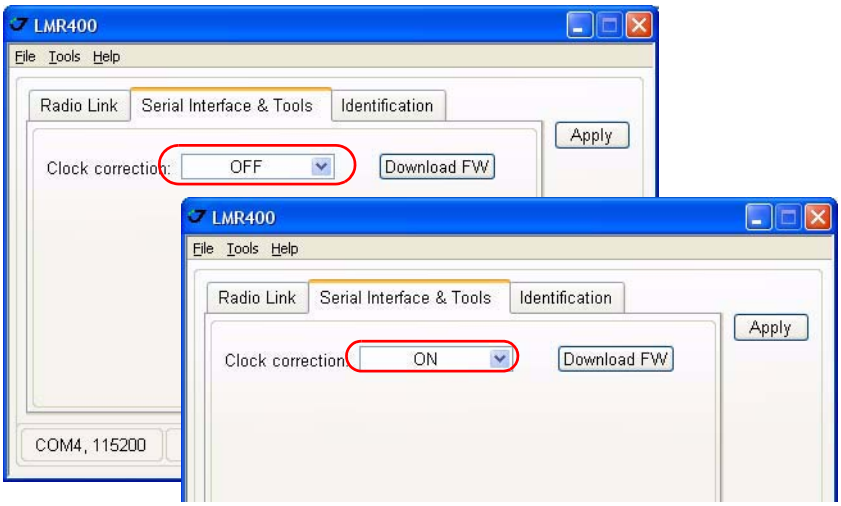

Figure 3-13. Clock correction parameter

Note: The different Satel Radio models may require or not the *Clock correction* parameter activation. It is strongly recommended to make sure if this parameter is required to be activated. To do this make the following: change the value of this parameter and control LQ (see Figure 3-18 on page 12). The maximal value of LQ parameter shows that the *Clock correction* parameter is set correctly.

7. Quit ModemVU by clicking *Exit* button.
8. Start TriVU. Select port the receiver is connected to and click OK (Figure 3-6).

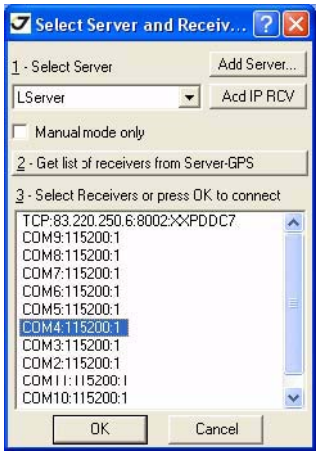

Figure 3-14. TriVU. Selecting port

9. Click *Configuration* ▸ *Receiver.*

10. In the *Positioning* tab set RTK fixed *Positioning Mode*, then click *Apply* (Figure 3-15).

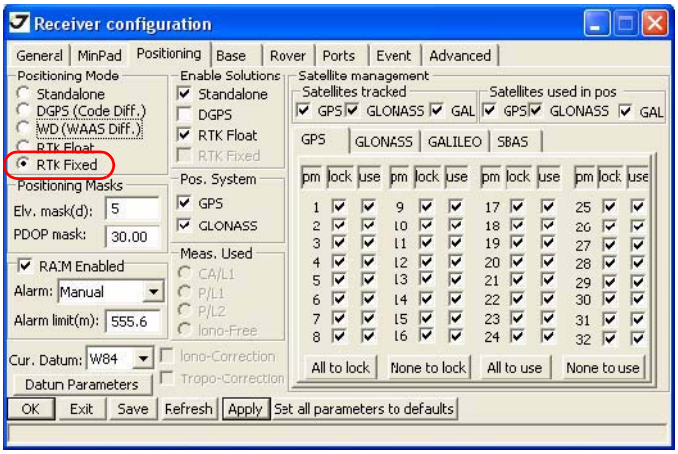

Figure 3-15. Positioning tab

11. In the *Rover* tab set RTK fixed mode (Figure 3-16), then click *Apply*:

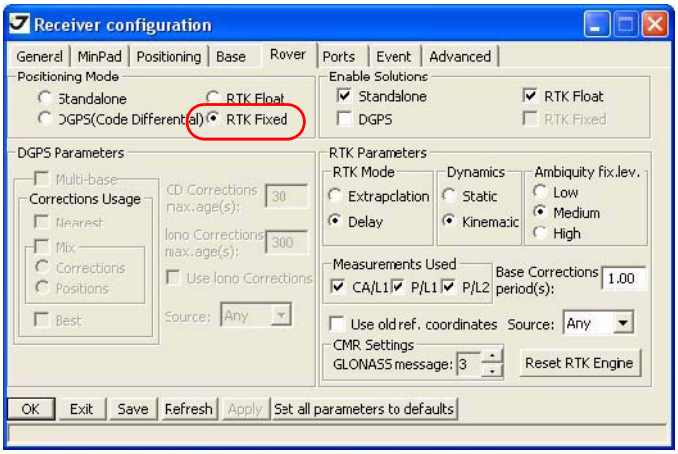

Figure 3-16. Rover tab

12. In the *Ports* tab set the *Input* mode for port D to CMR, then click *Apply* and OK (Figure 3-17).

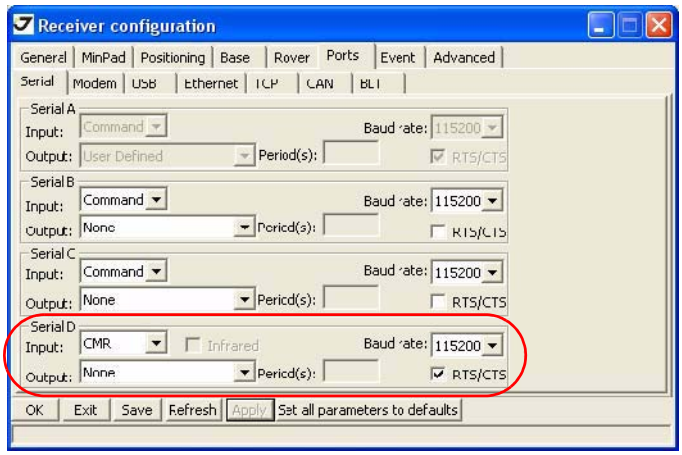

Figure 3-17. Ports tab

13. The receiver will obtain the RTK Fixed solution (Figure 3-18).

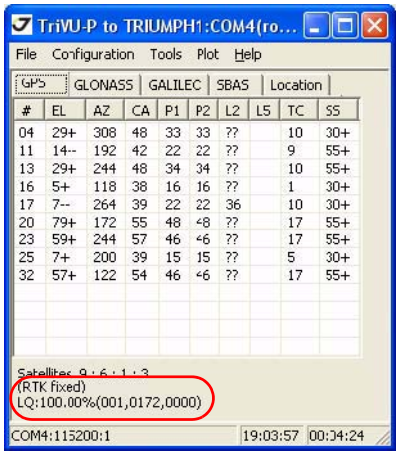

Figure 3-18. TriVU. RTK fixed

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