

## Guia de Iniciação Rápido para acesso à rede [SERVIR](#) do [IGeoE](#)

### ***Equipamento necessário para operação em tempo real:***

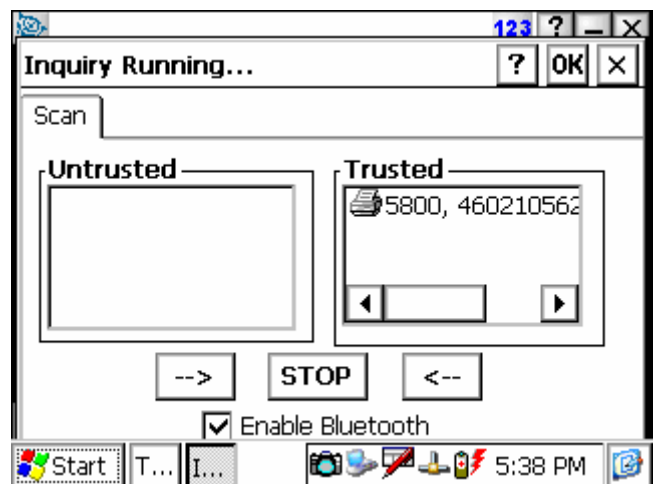
- Um controlador Trimble ACU ou TSCe
- Um telemóvel compatível. Deve possuir tecnologia Bluetooth e GPRS.
- Qualquer receptor Trimble a partir do modelo 5700

### ***Configuração do telemóvel no controlador***

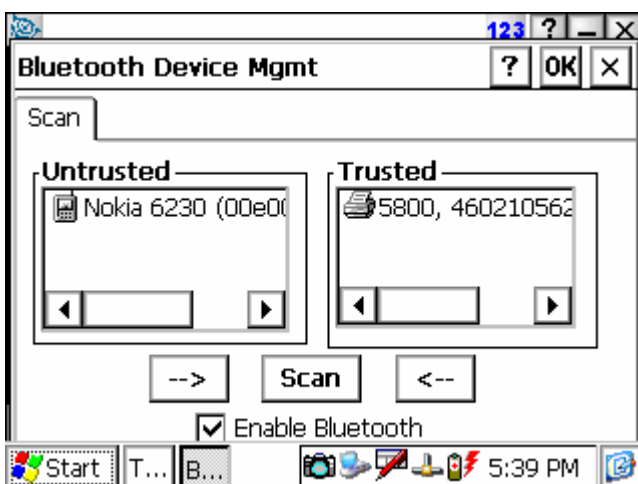
- Abrir o Trimble Survey Controller
- Menu configuração – Controlador – Bluetooth
- Premir em “Config” e efectuar um “Scan” para emparelhar o seu telemóvel



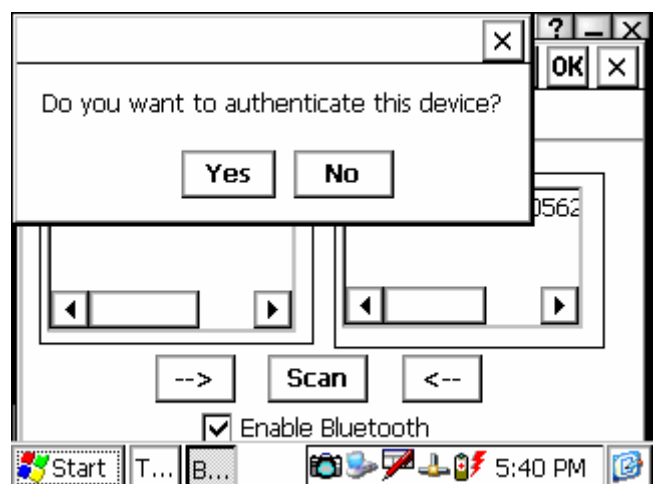
**1. Trimble Survey Controller**



**2. Procurar Telemóvel**

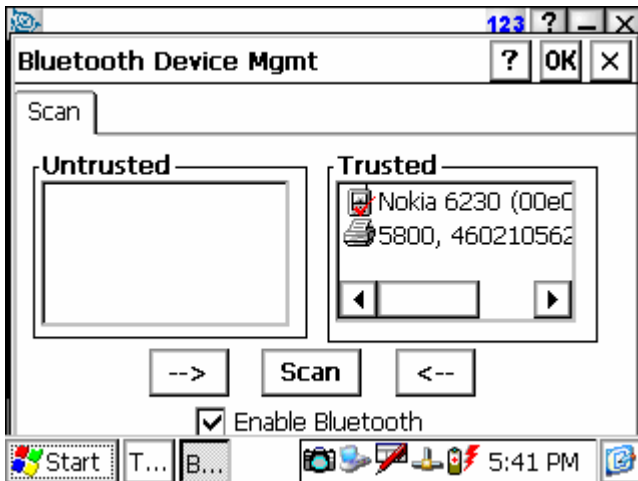


**3. Adicionar telemóvel**

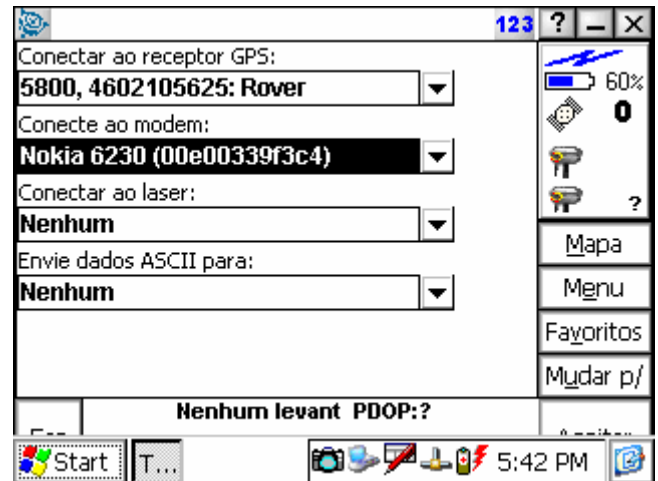


**4. Autenticação**

- Efectuar a operação de autenticação, inserindo um valor numérico à sua escolha, e que terá de ser o mesmo tanto no telemóvel como no controlador.
- Em seguida, tornar o telemóvel activo, premindo duas vezes em cima do ícone do telemóvel, no exemplo, o Nokia 6230, e seleccionar “Active”. Deverá ter uma imagem semelhante à do passo 5.
- Efectuar “Ok” e seleccionar o telemóvel emparelhado, para a opção “Conecte ao modem”



5. Activar telemóvel



6. Seleccionar modem

## Configuração do estilo de levantamento para acesso GPRS

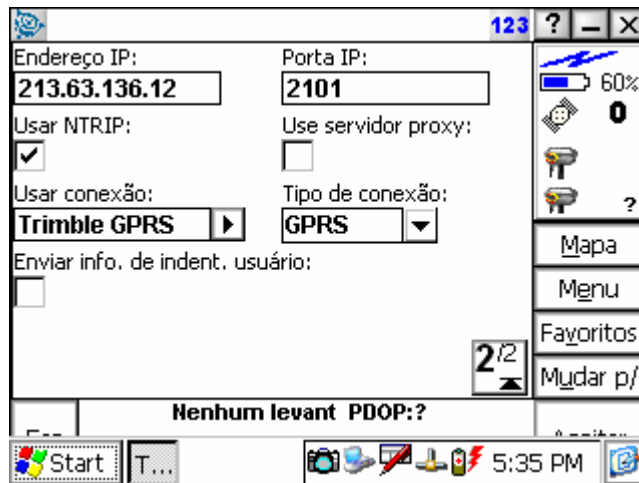
- Abrir o Trimble Survey Controller
- Menu Configuração – Estilos de levantamento – Novo
- Seguir as imagens seguintes; Estarão disponíveis os formatos CMR, CMR+, RTCM 2.3 e RTCM 3.0. Se desejar o formato CMR, seleccione VRS (CMR), se for RTCM, seleccione VRS (RTCM) na caixa de diálogo “Formato transmissão”
- A caixa “APN” deverá ser preenchida de acordo com o seu provedor de serviços móveis:
  - VODAFONE : internet.vodafone.pt
  - TMN: internet
  - OPTIMUS: internet



7. Configuração do Rover



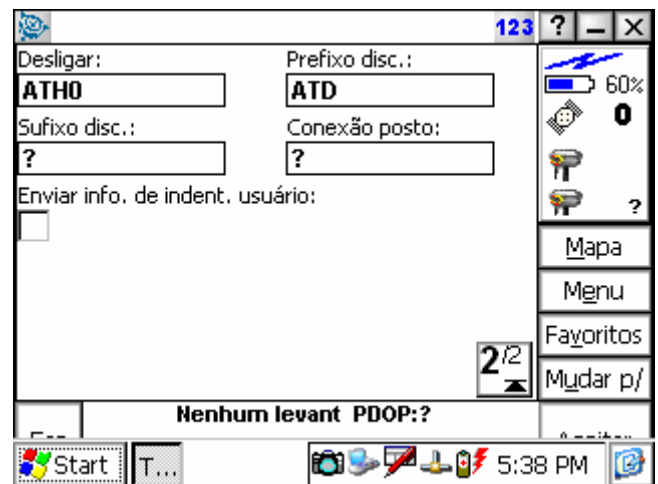
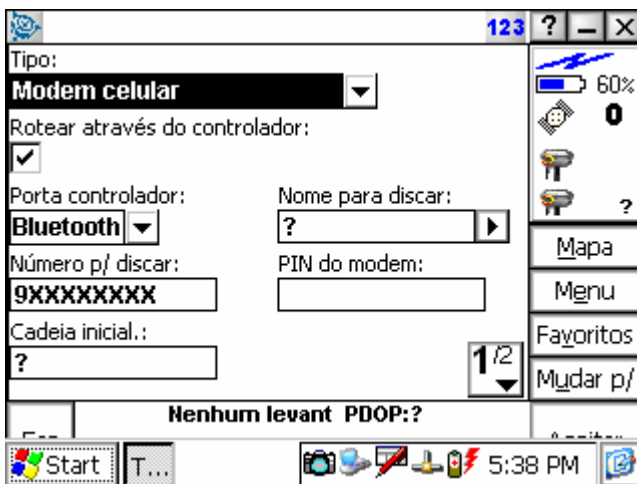
8. Configuração da ligação Internet



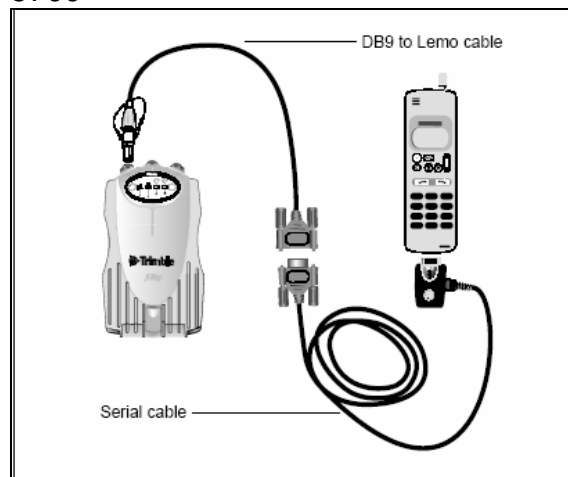
### 9. Configuração da ligação

### Configuração do estilo de levantamento para acesso GSM

- Igual à configuração para o GPRS, menos no menu seguinte:

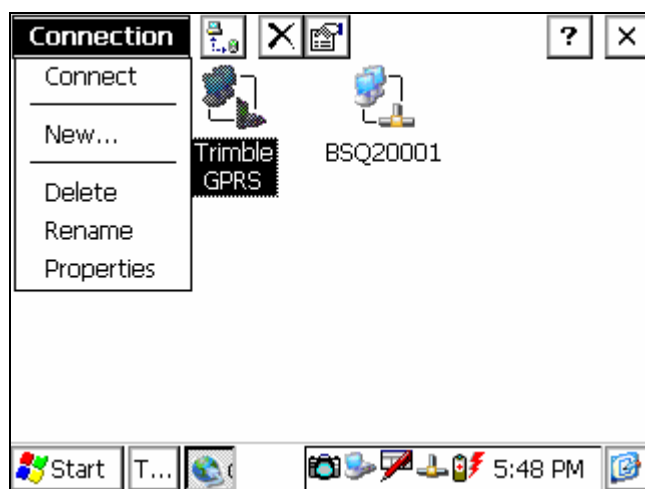


- Estas configurações são similares às que se encontram nos controladores TSC1. Uma lista de telemóveis compatíveis, encontra-se no documento “Guia de modems celulares”.
- Ligação por cabo com o 5700

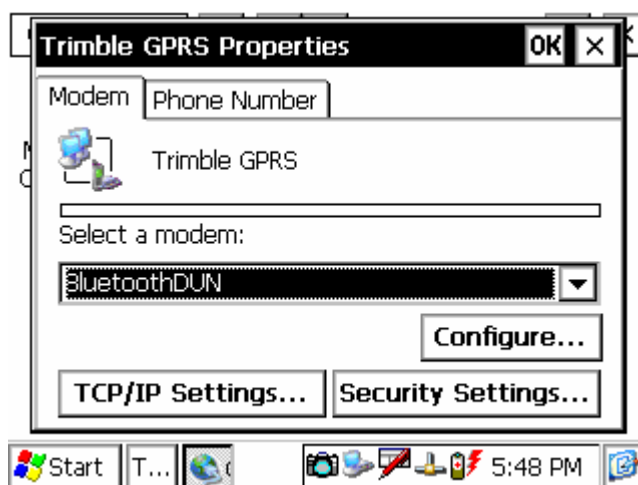


## Configuração da conexão Trimble GPRS

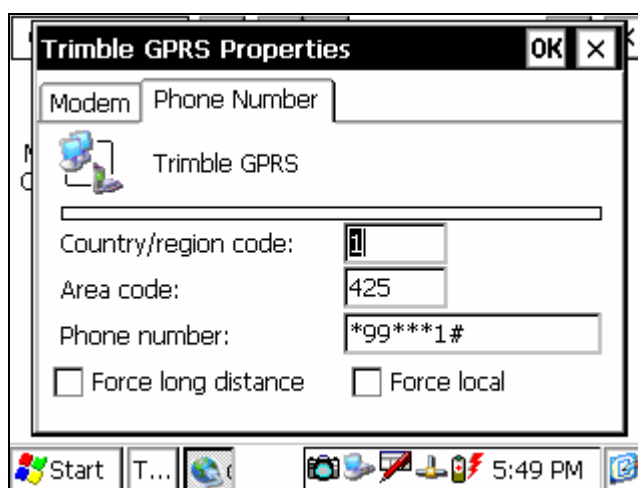
- Start – Settings – Network / Dial-up Connections
- Ir a Connection e seleccionar Properties



10. Conexão Trimble GPRS



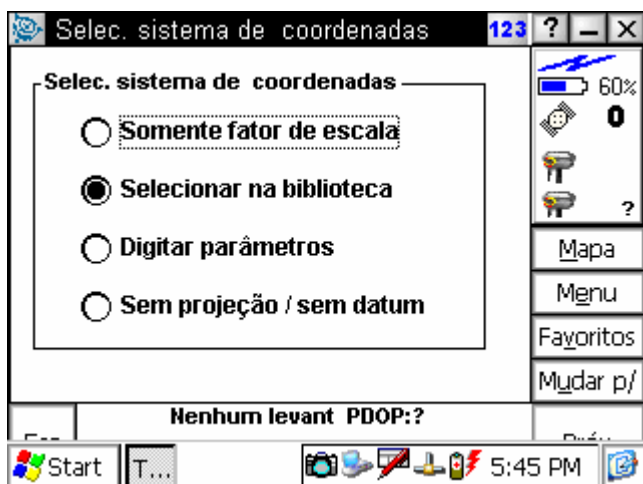
11. Propriedades de Trimble GPRS



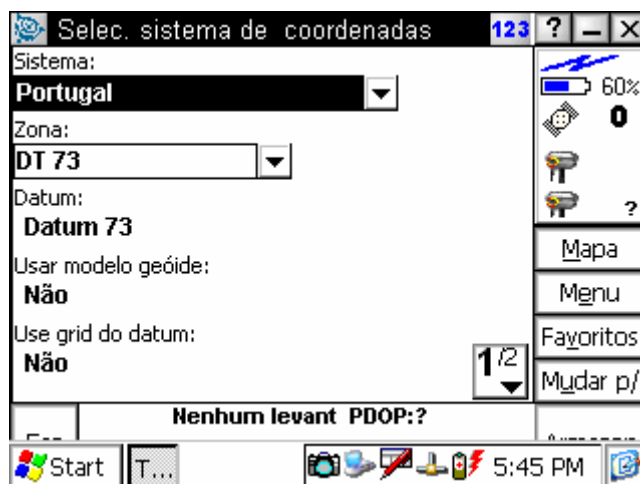
12. Número de ligação GPRS

# INÍCIO DE SESSÃO DE TRABALHO NA VRS COM O TRIMBLE SURVEY CONTROLLER

- Abrir o Trimble Survey Controller
- No menu Arquivos, seleccionar “Novo Trabalho”
- Dar um nome ao mesmo e seleccionar o datum em que deseja trabalhar, nos sist. de coordenadas.



13. Seleccionar sistema de coordenadas



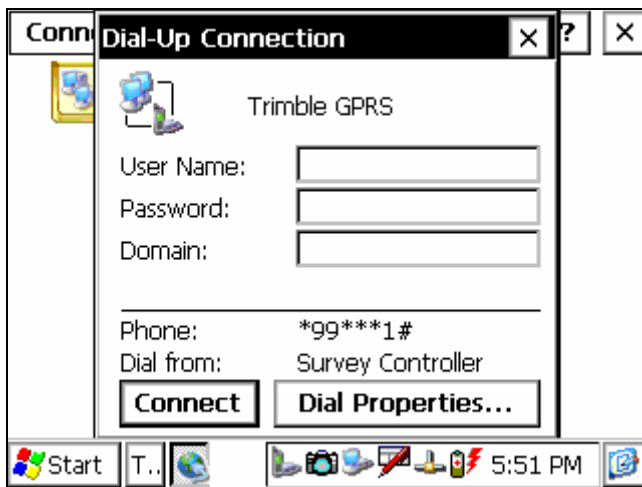
14. Data nacionais



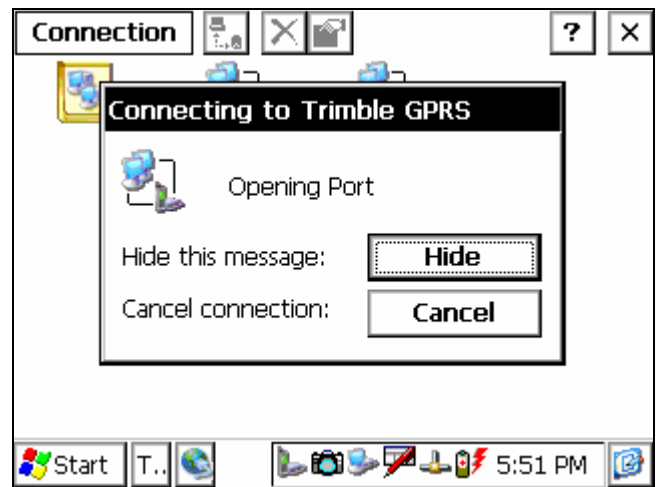
15. Sistema de coordenadas seleccionado

## Início da ligação GPRS

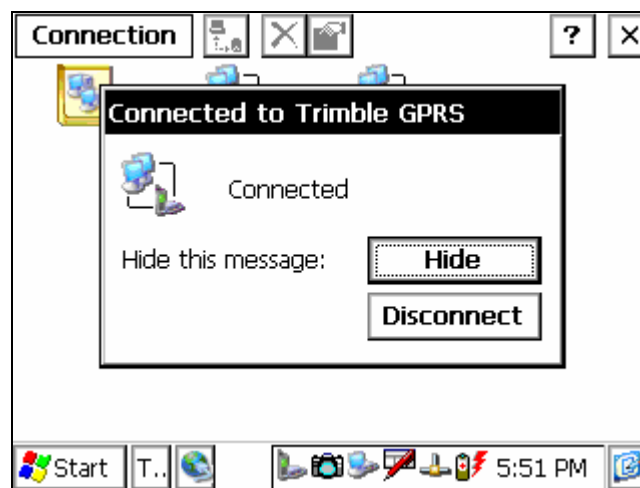
- Start – Settings – Network / Dial-up Connections
- Seleccionar a ligação Trimble GPRS, duplo clique e fazer Connect



16. Dial-Up connection



17. Connecting to Trimble GPRS

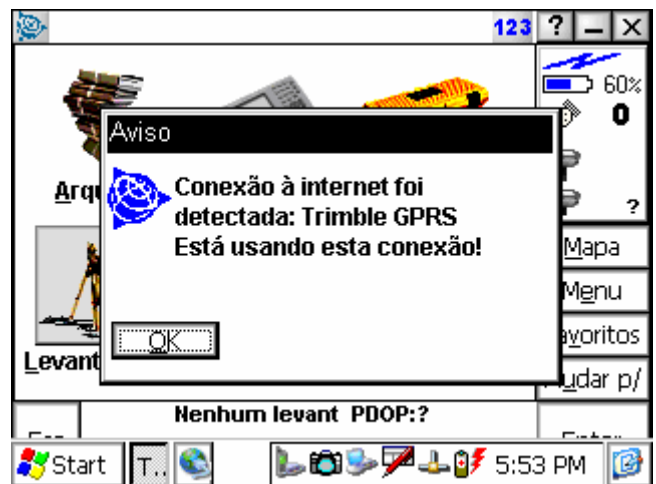


18. Ligação concluída

## Início da sessão de trabalho



19. Selecção do estilo de levantamento (VRS-GPRS)



20. Ligação Trimble GPRS

- A selecção de fonte de dados depende do formato escolhido no estilo de levantamento, nas opções do rover (RTCM ou CMR).
- Para obter um Nome e Senha para aceder à rede é necessário ir à página do projecto [Servir](#).



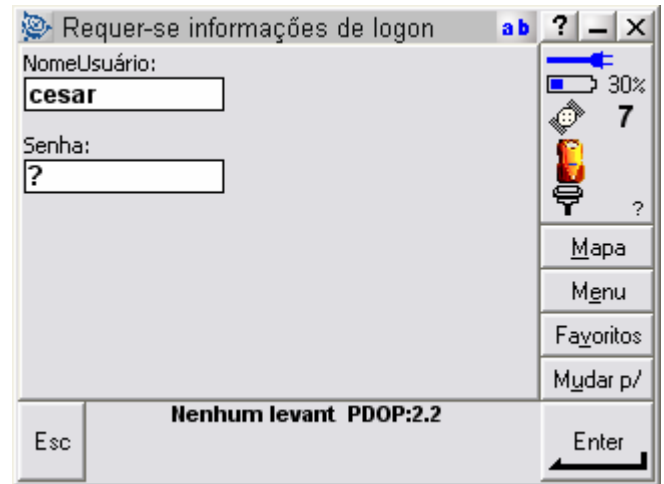
21. Estabelecer uma ligação



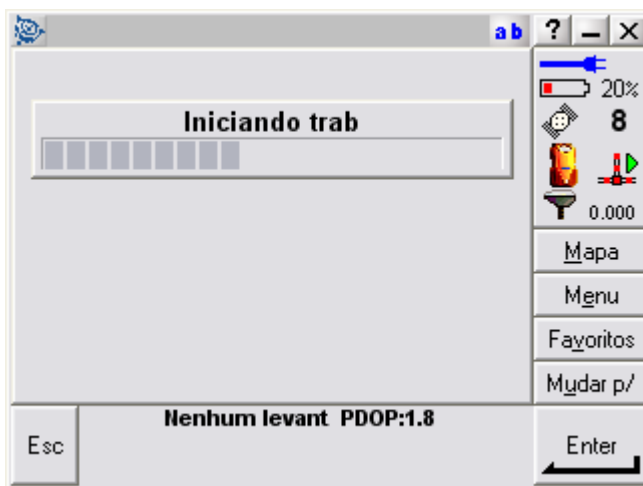
22. Seleccionar fonte de dados RTCM



23. Seleccionar fonte de dados CMR



24. Introdução de Nome e Senha



25. Início do Trabalho

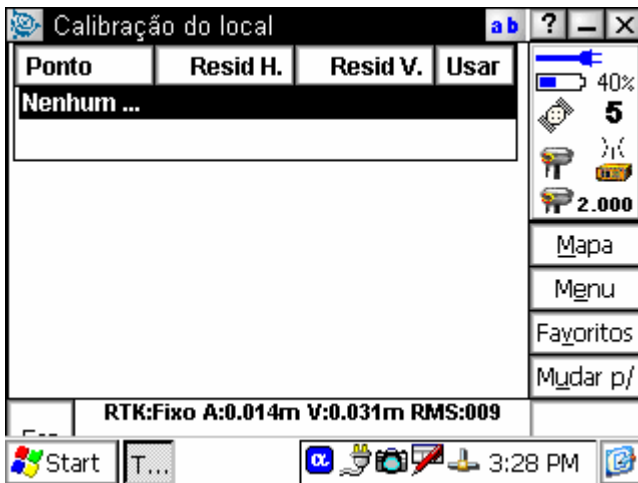


26. Ligação GPRS activa

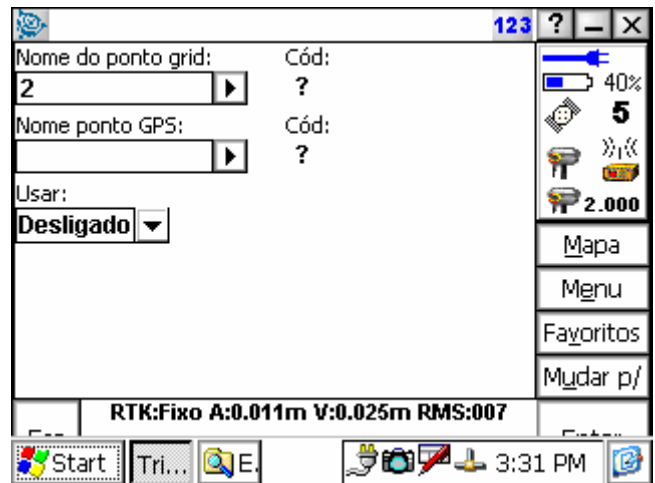


## Calibração do local no Survey Controller

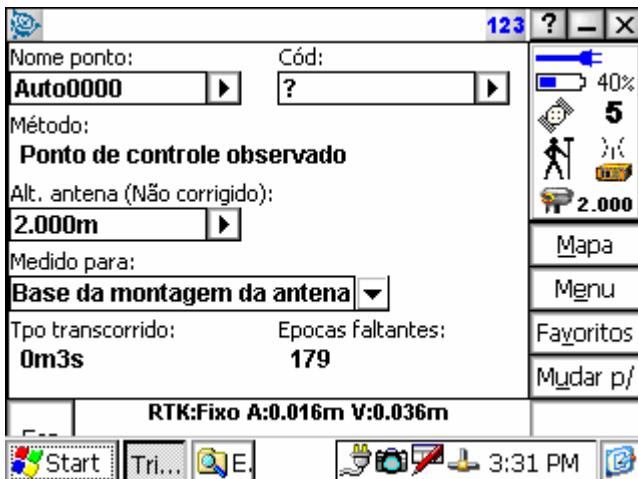
- Efectuar uma calibração para conseguir melhor precisão absoluta em obra



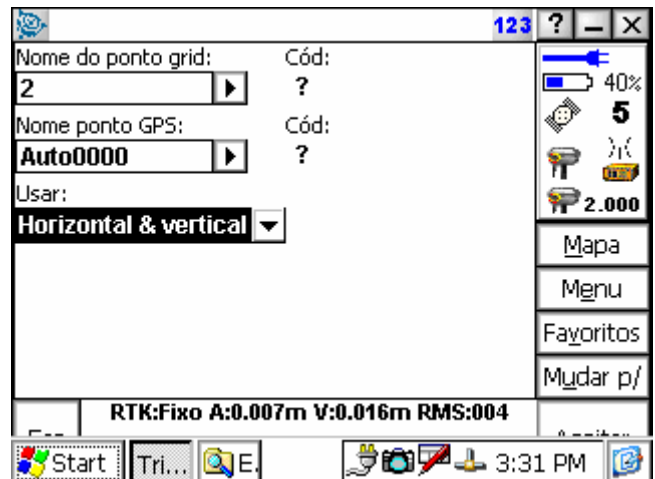
27. Menu calibração



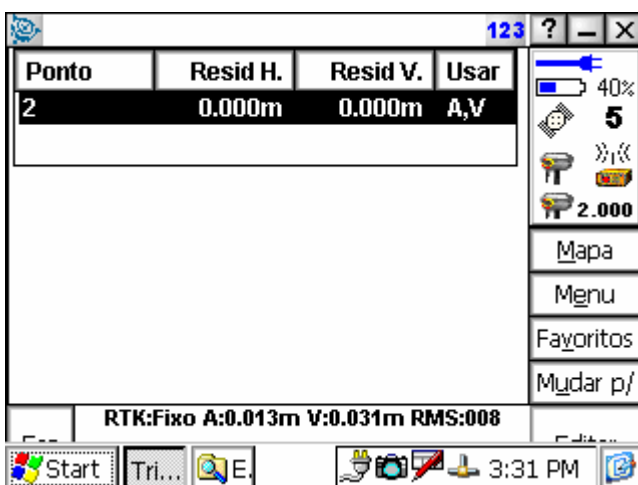
28. Adicionar Pontos



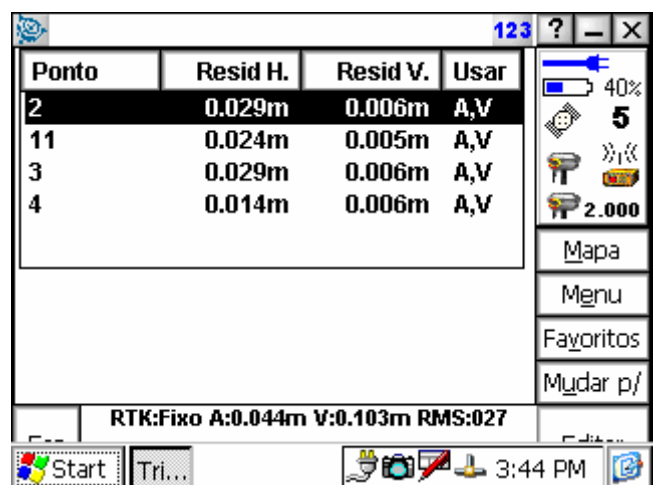
29. Medir ponto de controle



30. Usar Controlo H/V

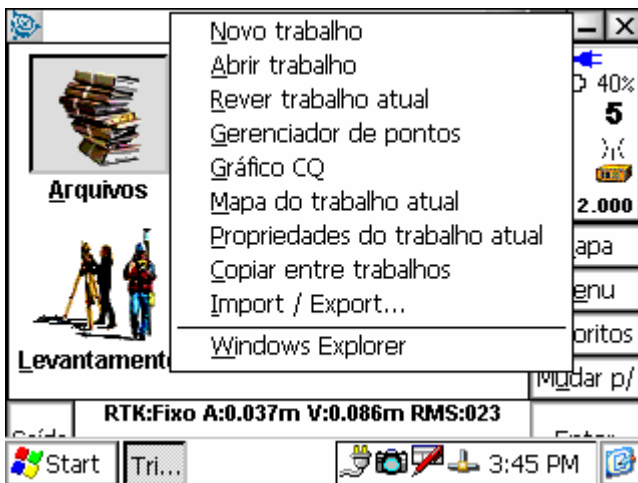


31. Ponto Adicionado

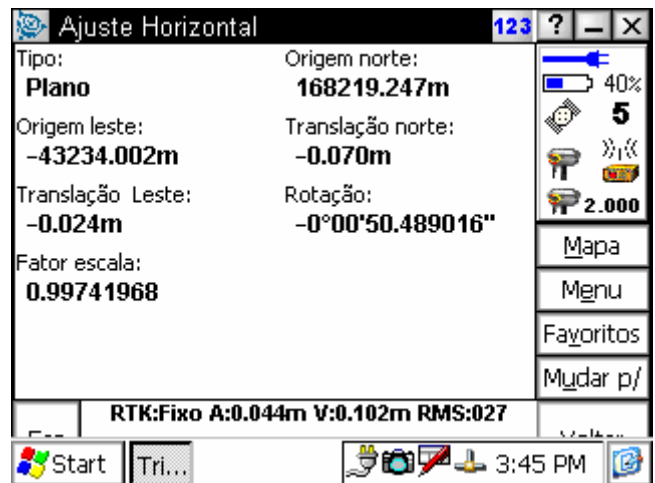


32. Calibração com 4 pontos

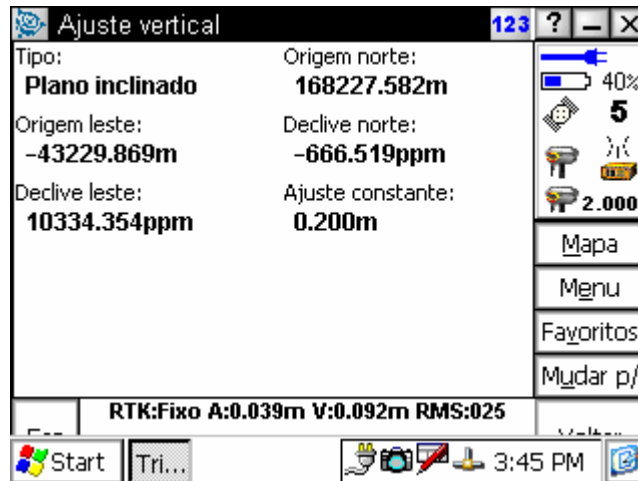
- Resultados da calibração



33. Rever trabalho actual



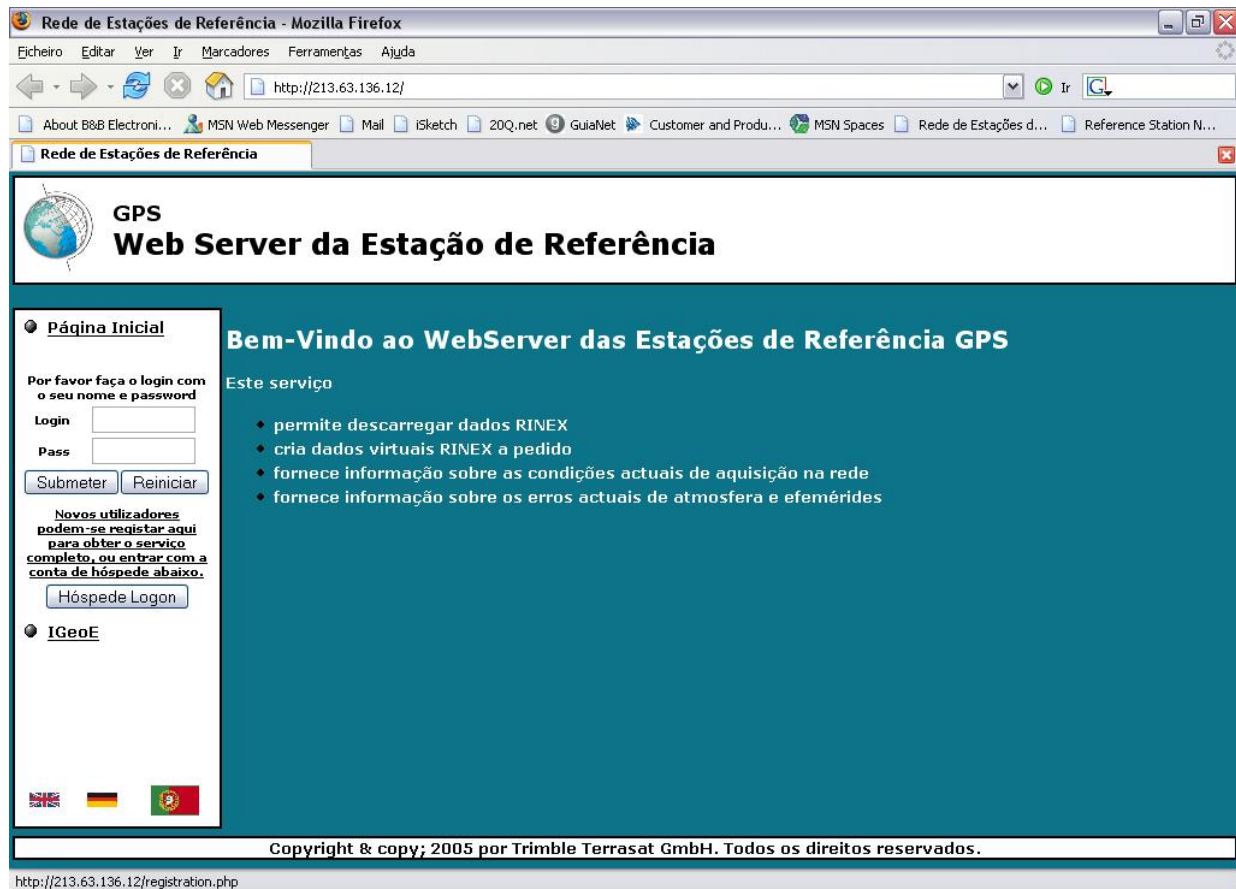
34. Ajuste horizontal



35. Ajuste vertical

## Pedido de acesso à rede SERVIR

- Este processo é necessário para obter um Nome e uma Senha de acesso.
- O endereço da página WEB que deve aceder é: <http://213.63.136.12/>



Rede de Estações de Referência - Mozilla Firefox

Ficheiro Editar Ver Ir Marcadores Ferramentas Ajuda

http://213.63.136.12/

About B&B Electroni... MSN Web Messenger Mail iSketch 20Q.net GuiaNet Customer and Produ... MSN Spaces Rede de Estações d... Reference Station N...

Rede de Estações de Referência

### GPS Web Server da Estação de Referência

**Página Inicial**

Por favor faça o login com o seu nome e password

Login

Pass

Submeter Reiniciar

Novos utilizadores podem-se registar aqui para obter o serviço completo, ou entrar com a conta de hóspede abaixo.

Hóspede Logon

**IGeoE**

**Bem-Vindo ao WebServer das Estações de Referência GPS**

Este serviço

- permite descarregar dados RINEX
- cria dados virtuais RINEX a pedido
- fornece informação sobre as condições actuais de aquisição na rede
- fornece informação sobre os erros actuais de atmosfera e efemérides

Copyright & copy; 2005 por Trimble Terrasat GmbH. Todos os direitos reservados.

http://213.63.136.12/registration.php

### 36. WebServer das estações de referência

Rede de Estações de Referência - Mozilla Firefox

Ficheiro Editar Ver Ir Marcadores Ferramentas Ajuda

http://213.63.136.12/

About B&B Electroni... MSN Web Messenger Mail iSketch 20Q.net GuiaNet Customer and Produ... MSN Spaces Rede de Estações d... Reference Station N...

Rede de Estações de Referência

## GPS Web Server da Estação de Referência

**Página Inicial**

Por favor faça o login com o seu nome e password

Login

Pass

Novos utilizadores podem-se registar aqui para obter o serviço completo, ou entrar com a conta de hóspede abaixo.

**IGeoE**

### Formulário de registo

Nome

Apelido

Endereço de email

Empresa

Rua

Cidade

Distrito

Código Postal

País

Número de Telefone

Número de Fax

Copyright & copy; 2005 por Trimble Terrasat GmbH. Todos os direitos reservados.

Terminado

### 37. Formulário de registo na rede

Rede de Estações de Referência - Mozilla Firefox

Ficheiro Editar Ver Ir Marcadores Ferramentas Ajuda

http://213.63.136.12/

About B&B Electroni... MSN Web Messenger Mail iSketch 20Q.net GuiaNet Customer and Produ... MSN Spaces Rede de Estações d... Reference Station N...

Rede de Estações de Referência

## GPS Web Server da Estação de Referência

**Página Inicial**

Por favor faça o login com o seu nome e password

Login

Pass

Novos utilizadores podem-se registar aqui para obter o serviço completo, ou entrar com a conta de hóspede abaixo.

**IGeoE**

### Formulário de registo

Nome

Apelido

Endereço de email

Empresa

Rua

Cidade

Distrito

Código Postal

País

Número de Telefone

Número de Fax

Copyright & copy; 2005 por Trimble Terrasat GmbH. Todos os direitos reservados.

http://213.63.136.12/registration.php

### 38. Fornecimento dos dados de utilizador

Rede de Estações de Referência - Mozilla Firefox

Eicheiro Editar Ver Ir Marcadores Ferramentas Ajuda

http://213.63.136.12/ Ir

About B&B Electroni... MSN Web Messenger Mail iSketch 20Q.net GuiaNet Customer and Produ... MSN Spaces Rede de Estações d... Reference Station N...

Rede de Estações de Referência

## GPS Web Server da Estação de Referência

**Página Inicial**

Por favor faça o login com o seu nome e password

Login

Pass

Submeter Reiniciar

Novos utilizadores podem-se registar aqui para obter o serviço completo, ou entrar com a conta de hóspede abaixo.

Hóspede Logon

**IGeoE**

**Registo bem sucedido!**

A informação seguinte foi enviada para o Administrador:

Nome: Joaquim  
Apelido: Manuel  
Endereço de email: Joaquim\_manuel@mail.pt  
Empresa: Topo  
Rua: Santa Comba  
Cidade: Portalegre  
Distrito: portalegre  
Código Postal: 5500  
País: Portugal  
Número de Telefone: 238875667  
Número de Fax:

Irá receber informação sobre a **conta** por email assim que o seu pedido seja processado.

Copyright & copy; 2005 por Trimble Terrasat GmbH. Todos os direitos reservados.

Terminado

### 39. Registo efectuado com sucesso

| Cellular modem connected to the controller by Bluetooth™ |       |                        |                       |                               |                               |
|--|-------|------------------------|-----------------------|-------------------------------|-------------------------------|
| Make   | Model | Circuit switched Rover | GPRS / Internet Rover | Circuit switched Base         | GPRS / Internet Base          |
| Nokia  | 3650  | Yes                    | Yes                   | Not tested <sup>(10,12)</sup> | Yes                           |
| Nokia  | 6310  | Yes                    | Yes                   | Not tested                    | Not tested                    |
| Nokia  | 6310i | No <sup>(2)</sup>      | No <sup>(2)</sup>     | No <sup>(2)</sup>             | No <sup>(2)</sup>             |
| Nokia  | 7650  | No <sup>(3)</sup>      | Yes                   | Not tested                    | Not tested                    |
| Ericsson   | T39   | Yes <sup>(4)</sup>     | Yes                   | No <sup>(5)</sup>             | Yes                           |
| Ericsson   | T68i  | Yes <sup>(12)</sup>    | Yes <sup>(11)</sup>   | Not tested <sup>(10,12)</sup> | Not tested <sup>(10,11)</sup> |
| Ericsson   | T610  | Yes <sup>(12)</sup>    | Yes <sup>(11)</sup>   | Not tested <sup>(10,12)</sup> | Not tested <sup>(10,11)</sup> |
| Ericsson   | P800  | Yes <sup>(12)</sup>    | Yes <sup>(11)</sup>   | Not tested <sup>(10,12)</sup> | Yes <sup>(11)</sup>           |
| Ericsson   | P900  | Yes <sup>(12)</sup>    | Yes <sup>(11)</sup>   | Not tested <sup>(10,12)</sup> | Not tested <sup>(10,11)</sup> |
| Siemens  | Me45  | N/A                    | N/A                   | N/A                           | N/A                           |
| Siemens  | S55   | No <sup>(1)</sup>      | Yes <sup>(6)</sup>    | Not tested                    | Not tested                    |
| Siemens  | M35i  | N/A                    | N/A                   | N/A                           | N/A                           |
| WaveCom  | WMOD2 | N/A                    | N/A                   | N/A                           | N/A                           |

| Cellular modem connected to the controller by cable |       |                            |                                |                            |                                |
|---|-------|----------------------------|--------------------------------|----------------------------|--------------------------------|
| Make  | Model | Circuit switched Rover     | GPRS / Internet Rover          | Circuit switched Base      | GPRS / Internet Base           |
| Nokia   | 3650  | No <sup>(15)</sup>         | No <sup>(15)</sup>             | No <sup>(15)</sup>         | No <sup>(15)</sup>             |
| Nokia   | 6310  | Not tested                 | Not tested                     | Not tested                 | Not tested                     |
| Nokia   | 6310i | Yes <sup>(7)</sup>         | Yes                            | Yes                        | Yes                            |
| Nokia   | 7650  | No <sup>(8)</sup>          | No <sup>(8)</sup>              | No <sup>(8)</sup>          | No <sup>(8)</sup>              |
| Ericsson  | T39   | Yes <sup>(4)</sup>         | Yes <sup>(16)</sup>            | Yes <sup>(5)</sup>         | Yes <sup>(16)</sup>            |
| Ericsson  | T68i  | Yes                        | Yes <sup>(16)</sup>            | Not tested <sup>(10)</sup> | Not tested <sup>(10)(16)</sup> |
| Ericsson  | T610  | Not tested <sup>(10)</sup> | Not tested <sup>(10)(16)</sup> | Not tested <sup>(10)</sup> | Not tested <sup>(10)(16)</sup> |
| Ericsson  | P800  | Yes <sup>(13,14)</sup>     | Yes <sup>(16)</sup>            | Not tested <sup>(10)</sup> | Yes <sup>(16)</sup>            |
| Ericsson  | P900  | Not tested <sup>(10)</sup> | Not tested <sup>(10)</sup>     | Not tested <sup>(10)</sup> | Not tested <sup>(10)</sup>     |
| Siemens   | Me45  | Yes                        | Yes                            | Not tested                 | Not tested                     |
| Siemens   | S55   | Yes                        | Yes                            | Not tested                 | Not tested                     |
| Siemens   | M35i  | Not tested                 | Not tested                     | Not tested                 | Not tested                     |
| WaveCom   | WMOD2 | Yes                        | N/A                            | Yes                        | N/A                            |

| Cellular modem connected to the receiver by cable |       |                            |                       |                       |                      |
|---|-------|----------------------------|-----------------------|-----------------------|----------------------|
| Make  | Model | Circuit switched Rover     | GPRS / Internet Rover | Circuit switched Base | GPRS / Internet Base |
| Nokia   | 3650  | No <sup>(15)</sup>         | No <sup>(15)</sup>    | No <sup>(15)</sup>    | No <sup>(15)</sup>   |
| Nokia   | 6310  | Yes                        | N/A                   | Not tested            | N/A                  |
| Nokia   | 6310i | Yes                        | N/A                   | Yes <sup>(9)</sup>    | N/A                  |
| Nokia   | 7650  | No <sup>(8)</sup>          | N/A                   | No <sup>(8)</sup>     | N/A                  |
| Ericsson  | T39   | Yes <sup>(4)</sup>         | N/A                   | No <sup>(5)</sup>     | N/A                  |
| Ericsson  | T68i  | Yes                        | N/A                   | Yes <sup>(9)</sup>    | N/A                  |
| Ericsson  | T610  | Not tested <sup>(10)</sup> | N/A                   | Not tested            | N/A                  |
| Ericsson  | P800  | Not tested <sup>(10)</sup> | N/A                   | Not tested            | N/A                  |
| Ericsson  | P900  | Not tested <sup>(10)</sup> | N/A                   | Not tested            | N/A                  |
| Siemens   | Me45  | Yes                        | N/A                   | Not tested            | N/A                  |
| Siemens   | S55   | Yes                        | N/A                   | Not tested            | N/A                  |
| Siemens   | M35i  | Yes                        | N/A                   | Not tested            | N/A                  |
| WaveCom   | WMOD2 | Yes                        | N/A                   | Yes                   | N/A                  |

See Footnotes below for details of annotated items, for example <sup>(1)</sup>.

Footnotes

|    |  |
|----|--|
| 1  | The Siemens S55 cannot be used as a modem for dial-up calls to other modems over Bluetooth. It can be used for GPRS/Internet connections using a cable or Bluetooth.   |
| 2  | <b>Bluetooth doesn't work.</b> The Nokia 6310i cannot be configured to communicate using Bluetooth to Trimble Survey Controller.<br><b>Note</b> - The Nokia 6310 can connect to Trimble Survey Controller using Bluetooth.   |
| 3  | Trimble Survey Controller does not make a Circuit switched connection to Nokia 7650 using Bluetooth. There is no known workaround.   |
| 4  | <b>Random hang up.</b> Cellular data calls may randomly hang up. This may be because of a particular cellular modem or network provider. When this happens, use the redial function to reconnect to the base. If you keep the lid of a flip phone open, you may avoid the problem.   |
| 5  | <b>Auto answer.</b> You cannot configure an Ericsson T39 to answer a data call automatically. Therefore, you cannot use it at the base.  |
| 6  | <b>Init-String in Dial-up configuration:</b> +cgdcont=1,"IP"," <i>providername</i> " (instead of at+cgdcont=1,"IP"," <i>providername</i> ")  |
| 7  | Dial string must be set to ATD.  |
| 8  | <b>No cable.</b> You must use Bluetooth with a Nokia 7650, as there is no cable available for this cellular modem.   |
| 9  | Use init string: AT&D0S0=1   |
| 10 | Although this has not been officially tested, we have no reason to believe that it shouldn't operate correctly.  |
| 11 | Requires v1.10 or later of the Bluetooth2Mobile application.   |
| 12 | Requires v10.71 or later of Trimble Survey Controller software.  |
| 13 | To get the P800 RS232 cable to work with an ACU and/or TSCe, you need to go into the "Control Panel" on the P800, select the "Connections" tab and tap the "Cable" option. Make sure that the "Modem" option is selected.  |
| 14 | Note that "Flow Control" and "Baud Rate" can be adjusted for the cable connection on the P800. You should make sure that the settings for your connection on the ACU or TSCe match those configured on the P800.   |
| 15 | A data cable is not available for the Nokia 3650 at this time.   |
| 16 | When using an Ericsson cellular modem connected to Survey Controller by cable and Bluetooth to the receiver, after ending a GPRS survey you may not be able to restart a new survey. When you try to start another survey you will get "Remote Networking: Disconnected", then "Could not start streamed corrections". To solve this problem press the hang-up button before trying to restart the survey. |

Definitions

|   |  |
|---|--|
| <b>Circuit Switched - rover or base</b> | When you dial a phone number and a phone or modem answers.<br>Pay by the minute.   |
| <b>GPRS / Internet - rover or base</b>  | When you dial an access code and the device connects directly to the Internet by one of the following:<br>- the General Packet Radio Service<br>- an ISP (Internet Service Provider)<br>Pay by the amount of data.   |
| <b>Yes</b>                              | The phone supports this function. It has been tested and proven to work.<br>Note: not all versions of Survey Controller have been tested in all configurations with all cell phones. If you find a configuration that does not work, please contact Trimble Support with details of the problem. |
| <b>No</b>                               | This function has been tested but does not work every time. There may be a problem with an incorrect configuration or with a particular network provider.  |
| <b>Not tested</b>                       | This function has not been tested.   |
| <b>N/A</b>                              | Not applicable. This equipment does not support this function.   |

## Cellular Service Providers

|  |
|--|
| <p><b>USA: T-Mobile using GPRS, Trimble Survey Controller v10.72 and earlier:</b><br/>With provider T-Mobile, select open terminal before dialing. Then manually enter the APN. Enter:<br/>"AT+CGDCONT=1,"IP","internet3.voicestream.com"</p>  |
| <p><b>USA: T-Mobile using circuit switched:</b> to receive a Circuit Switched call with cellular provider T-Mobile, you must request a unique data phone number that will allow incoming data calls.</p>   |
| <p><b>NZ: Vodafone:</b> advises that the IP address assigned to the controller determines the controller's behaviour. Vodafone NZ have only a limited number of public IP addresses. When these are all in use, the controller is assigned a private address and can then only perform web browsing. It cannot communicate with other devices on the network. This is an insurmountable issue with the Vodafone NZ network. You cannot obtain a permanent public IP address for the controller.</p> <p>Vodafone NZ also advise that Internet gateway masking restricts access between addresses. Some IP addresses appear to be in the same range as public ones, but are actually a mask for a private, restricted address.</p> |
| <p><b>Internet providers and Servers:</b> when Trimble Survey Controller is operating as a base station connected to the Internet over GPRS, it is a server. Some Internet Service Providers do not support servers running on their GPRS networks. If you use a land-line modem to connect the base to the Internet, you may also encounter problems, because some ISPs do not allow subscribers to run a server on their dial-up connection. Trimble envisages that this configuraton (a permanent base with a dial-up Internet connection with unlimited data access, accessed by GPRS Internet rovers) will be popular, but customers will need to find an ISP that does not restrict the use of servers.</p>                |

## Other known issues

|   |
|---|
| <p><b>Auto answer first only.</b> Some cellular modems automatically answer only the first data call. If you are using one of these phones at the base and you lose the connection, you may need to return to the base to reset the cellular modem.</p>   |
| <p><b>Failure to hang up, failure to dial.</b> The phone occasionally fails to hang up or fails to dial the number. This happens usually because a previous function did not work correctly.<br/>Try switching off the phone and switching it on again.</p>   |
| <p><b>Trimble Survey Controller version 10.72 and earlier.</b><br/>If you use redial in a RTCM VRS survey, and the receiver is in Fixed mode and the controller is connected to the 5800 with Bluetooth, you must first hang up the connection. Otherwise, errors may occur in Trimble Survey Controller, such as: receiver not responding, failure to re-connect with receiver, or status line says: RTK:Error. You will not be able to initialize the survey, and Trimble Survey Controller will run very slowly.</p>   |
| <p><b>Trimble Survey Controller version 10.70.</b><br/>With RTCM VRS:<br/>- The rover continuously sends GGA status = 1 (autonomous), irrespective of the rover status. This means that the VRS service provider is receiving incorrect information regarding the rover initialization status.</p>  |
| <p><b>Trimble Survey Controller version 10.71</b><br/>This has been improved in Trimble Survey Controller version 10.71</p>   |
| <p><b>Trimble Survey Controller version 10.80.</b><br/><b>The APN command fails on some cellular modems.</b><br/>If the APN command from Trimble Survey Controller fails, try the following:<br/>(1) Connect the cellular modem to your office computer through a serial cable or using Bluetooth wireless technology.<br/>(2) Start HyperTerminal and then open the appropriate COM port.<br/>(3) Send the command AT to verify that your connection is working. The cellular modem should respond with OK.<br/>(4) Send the command AT+CGDCONT=1,"IP","&lt;Access Point Name&gt;". For example, if the Access Point Name for your mobile provider is www.mygpsprovider.com , then send the following command: AT+CGDCONT=1,"IP","www.mygpsprovider.com".<br/>(5) Send the command AT&amp;W to store the settings in the cellular modem.<br/>(6) If you want to verify that the settings are correctly stored in the cellular modem, send the command:<br/>AT+CGDCONT?<br/>The current settings appear, for example, AT+CGDCONT=1,"IP","www.mygpsprovider.com",0,0</p>   |
| <p><b>Trimble Survey Controller version 10.80.</b><br/><b>The COM port locks if you cancel the Internet connection dialog</b><br/>Trimble Survey Controller may lock-up if you tap Cancel while the message "Connecting to &lt;connection name&gt;: Opening port" is displayed. When this occurs, the "Establishing a network connection" dialog remains open in the background and cannot be closed.<br/><b>Solution:</b> Disconnect and then reconnect the cellular modem cable. Alternatively, if you are using Bluetooth, power cycle the cellular modem.<br/><b>The COM port locks if you cancel the Dial-up network connection dialog</b><br/>The Windows dial-up networking dialog may lock-up if you tap Cancel while the message "Opening port" is displayed in a Windows dial-up network connection. When this occurs, the "Opening port" dialog remains open and cannot be closed. In addition, the cellular modem may display the message "Connecting". Even if you manually cancel the cellular modem connection, the "Opening port" dialog remains open.<br/><b>Solution:</b> Disconnect and then reconnect the cellular modem cable. Alternatively, if you are using Bluetooth, power cycle the cellular modem.<br/><b>Network connection does not exist</b><br/>If you use a custom Internet connection in the "Use connection" field when you set up a Survey Style, you may receive the error message "Network connection does not exist" when you start a survey using that style.<br/><b>Solution:</b> When you set up your own Internet connection in Windows Network/Dial-up Connections:<br/>1. In the [Modem] tab of the [My Connection Properties] dialog, tap the [Configure] button.<br/>2. In the [Device Properties] dialog, tap [OK].<br/>This sets the required registry entry for your Internet connection.</p> |