

# Option Quick Start Guide

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**Option Confidential** 



## About this document

### **Overview and Purpose**

This document describes how to use the hardware, software and gives some installation instructions.

### **Confidentiality**

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### Version History

Date	Version	Author(s)	Revision(s)	Remarks
May 31, 2006	V01 – D1	R. Biesemans		Initial version
August 21, 2006	V02	J. Boeckx		Adapted to use for certification
December 1,2006	V03	J. Elebaut		Added some information

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### **1 DRIVER INSTALLATION**

Note: depending on the actual product you are trying to install the names may differ in some parts !

Following drivers are available for WinXP, Win2K and Win XP x64 edition:

- Multifunction Adapter : Globetrotter Module 3G+ Bus
- Modem : Globetrotter Module 3G+ Modem
- Network : Globetrotter Module 3G+ Network Card
- Ports : Globetrotter Module 3G+ Application Port
- Ports : Globetrotter Module 3G+ Diagnostics Port
- Smart Card : Globetrotter Module 3G+ Smart Card Interface (if applicable)

Installation procedure:

- 1. If you have not already done so, install and connect the cradle. The unit shall be connected correctly only if the "Welcome to the Found New Hardware Wizard" appears.
- 2. By connecting the unit to the PC, Windows will detect new hardware and will ask to install the drivers. Insert the CD and install the drivers following the windows driver installation wizard. As there are 4 drivers the "Found new hardware" wizards needs to run 4 times. Further installation instructions will be given for Windows XP.
- 3. For Windows XP: on the first dialog ("connect to Windows Update ?") select No, not this time:



Figure 1: Hardware wizard

4. On the next dialog, select "Install software automatically":

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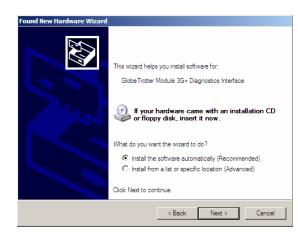


Figure 2: automatic search for driver

If Windows does not automatically find the correct driver, you should select Install from a list or specific location and browse to the folder "DriverXP\_2000" on the CD

5. For the driver signing warning, click "Continue Anyway":



Figure 3: Not signed driver warning

- 6. In total, five or six devices will be detected:
  - Globetrotter Module 3G+ Bus
  - Globetrotter Module 3G+ Modem
  - Globetrotter Module 3G+ Network Card
  - Globetrotter Module 3G+ Application Interface
  - Globetrotter Module 3G+ Diagnostics Interface
  - Globetrotter Module 3G+ Smart Card Interface (if available)

Repeat steps 3 through 5 for the 3 remaining devices to complete the installation.

On successful installation of the drivers, the four GT devices should show up in the device manager:

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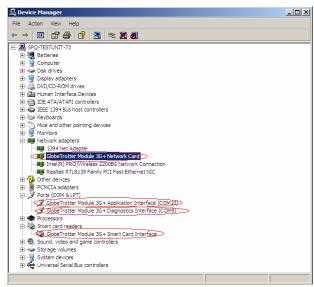


Figure 4: Device manager

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### **2 HYPERTERMINAL**

This section describes briefly how to setup HyperTerminal to enter AT commands.

1. Go to device manager, and check which port is the Application port. On my PC, the application port is COM6

<u>Eile A</u> ction <u>V</u> iew <u>H</u> elp	
🗄 🥝 DVD/CD-ROM drives	~
🔁 🎰 Human Interface Devices	
🕀 🗃 IDE ATA/ATAPI controllers	
🕀 🥪 IEEE 1394 Bus host controllers	
🕀 🔊 Infrared devices	_
🕀 🦢 Keyboards	
🕀 🕥 Mice and other pointing devices	
🖻 🦢 Modems	
k Agere Systems AC'97 Modem	
🚽 🖢 GlobeTrotter Module 3G+ Modem	
🕀 😼 Monitors	=
🗄 🔷 Multifunction adapters	-
🔁 🕮 Network adapters	
🕀 📓 PCMCIA adapters	
🕀 🥫 PCMCIA and Flash memory devices	
😑 🖉 Ports (COM & LPT)	
Communications Port (COM1)	
ECF Frinter Port (LPT1)	_
GlobeTrotter Module 3G+ Application Interface (COM6)	
Globe Tratter Module 3G+ Diagnostics Interface (COM5)	
🕀 🐲 Processors	~

### Figure 5: Device manager

- Open HyperTerminal Therefore you can follow the following path: Start → Programs → accessories → Communication → HyperTerminal
- 3. Enter a name for your HyperTerminal Connection and press OK.

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Connection Description	? 🗙
New Connection	
Enter a name and choose an icon for the connection:	
Name:	
test	
 Icon:	
🏽 🍣 🧼 🗠 🐼	8
	>
	ncel

**Figure 6: Connection Description** 

4. In the next window, change the connecting using field to the Application Port (COM6 for my PC). Click on OK.

Connect To	? 🛛
🧞 test	
Enter details for t	he phone number that you want to dial:
<u>C</u> ountry/region:	Belgium (32) 💽
Ar <u>e</u> a code:	1
Phone number:	
Co <u>n</u> nect using:	СОМ6 🗸 🗸
	OK Cancel

**Figure 7: Connection port** 

5. Now the next window will appear. Modify the Bit per second field to 115200 and Click the OK button.

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COM6 Properties	? 🗙
Port Settings	_
Bits per second: 115200	
Data bits: 8	
Parity: None	
Stop bits: 1	
Elow control: Hardware	
<u>R</u> estore Default:	3
OK Cancel Ap	ply

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O O P T I O N WIRELESS TECHNOLOGY

**Figure 8: Connection Properties** 

Now HyperTerminal is configured. You are now ready to check some basic settings.

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### **3 SET UPA DATA CALL**

Besides using dashboard applications, it is also possible to set up a data call using windows dial up networking. This section explains how to set up a dial up connection.

1. Go to Start → Control Panel → Network Connections and click on the icon "New Connection Wizard".

The following screen will appear:

New Connection Wizard	
S)	Welcome to the New Connection Wizard
	This wizard helps you:
	Connect to the Internet.
	<ul> <li>Connect to a private network, such as your workplace network.</li> </ul>
	To continue, click Next.
	< Back Next > Cancel

**Figure 9: Network connections** 

2. Click the 'next' button and Figure 10 will appear. Select "connect to the internet", and click next. Now Figure 11 will appear.

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New Connection Wizard
Network Connection Type         Image: What do you want to do?         Image: What do you want to do?
<ul> <li>Connect to the Internet Connect to the Internet so you can browse the Web and read email.</li> <li>Cgnnect to the network at my workplace Connect to a business network (using dial-up or VPN) so you can work from home, a field office, or another location.</li> <li>Set up an advanced connection Connect directly to another computer using your serial, parallel, or infrared port, or set up this computer so that other computers can connect to it.</li> </ul>
< Back Next > Cancel

**Figure 10: New network connection** 

New Connection Wizard		
Getting Ready The wizard is preparing to set up your Internet connection.		
How do you want to connect to the Internet?		
Choose from a list of Internet service providers (ISPs)		
Set up my connection manually		
For a dial-up connection, you will need your account name, password, and a phone number for your ISP. For a broadband account, you won't need a phone number.		
○ Use the <u>C</u> D I got from an ISP		
< Back Next > Cancel		

Figure 11: Manual connection setup

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3. Select "Set up the connection manually", and click the NEXT button. Choose the Connect using a dial-up modem option, and click the NEXT button.



Figure 12: Connection with dial-up modem

4. Select the correct modem (Modem - Globetrotter 3G+ modem interface), and click the 'next' button.

New Connection Wizard
Select a Device This is the device that will be used to make the connection.
You have more than one dial-up device on your computer. Select the devices to use in this connection:
Havailable ISDN lines multi-linked      Sister Strategy Strat
< <u>B</u> ack Next > Cancel

#### Figure 13: Select modem

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5. Type a name for the connection, which you will select the next time you need this dial-up connection, and click the 'next' button.

New Connection Wizard
Connection Name What is the name of the service that provides your Internet connection?
Type the name of your ISP in the following box. ISP N <u>a</u> me
Data Card Test
The name you type here will be the name of the connection you are creating.
< <u>₿</u> ack <u>N</u> ext > Cancel

Figure 14: Connection name

6. Type in the Phone number to dial, which is \*99#, and click the 'next' button.

New Connection Wizard	
Phone Number to Dial What is your ISP's phone number?	Ð
Type the phone number below. <u>P</u> hone number:	
*99#	
You might need to include a "1" or the area code, or both. If you are not sure you need the extra numbers, dial the phone number on your telephone. If you hear a modem sound, the number dialed is correct.	
< <u>B</u> ack <u>N</u> ext > Cancel	

Figure 15: Number to dial

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7. Choose the option you like, and then click the 'next' button.

New Connection Wizard			
Connection Availability You can make the new connection available to any user or only to yourself.			
A connection that is created for your use only is saved in your user account and is not available unless you are logged on.			
Create this connection for:			
⊙ Anyone's use			
○ My use only			
< <u>B</u> ack <u>N</u> ext > Cancel			

Figure 16: Connection availability

8. If your service provider requests to enter username and password for setting up a PS data call connection, please enter it using the screen below.

New Connection Wizard				
Internet Account Informa You will need an account	tion name and password to sign in to your Internet account.	I)		
	ne and password, then write down this information and sto orgotten an existing account name or password, contact y			
<u>U</u> ser name:		]		
Password:		]		
Confirm password:		]		
Use this account nar this computer	ne and password when anyone connects to the Internet fr	om		
Make this the default	Internet connection			
	<u>≺B</u> ack <u>N</u> ext >	Cancel		

### **Figure 17: Internet Account Information**

9. The connection is set up and ready to used. Click the 'finish' button to close the wizard window.

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### **Figure 18: Connection complete**

10. If your card is registered on the network, you can use the just configured dial-up connection to activate a PDP context.

Go to Start  $\rightarrow$  Connect to  $\rightarrow$  "Your Connection name here" and select it. Click the Dial button. After a while, a connection to the internet is made.

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# 4 SET UP A VOICE CALL

Voice calls can be set up using HyperTerminal. In chapter 2 a description is given how HyperTerminal can be configured. Here the necessary AT commands are specified to make a voice call.

- AT\_ODO=0 With this AT command circuit switched data transfer, which is needed for voice calls, is enabled The response on this AT command should be: OK
- AT\_OPCMENABLE=1 As a default the voice part of the firmware is disabled. To enable digital voice, the command above must be set. The response on this AT command should be: OK
- AT\_OPCMCONFIG=0,0,0,256,0,1,4
   When this AT command is entered, the PCM voice codec on the module/datacard is configured correctly.
   The response on this AT command should be: OK
- 4. ATD<phone number>;

To set up the call, the ATD command followed by a phone number must be used. NOTE: Do not forget the semi don (;) at the end of the AT command!!! The response on this AT command should be: OK

### **5 WHEN CARD DOESN'T REGISTER**

When the module/datacard doesn't register, you can try to evaluate following settings:

1. At\_opbm

\_

When not working in a shielded environment, all life networks could interfere with the signal coming from the CMU. When the simulated network is not in the same band as the surrounding life networks, this problem can be avoided by deselecting all other basebands but the one you are working in.

This could be done using the at\_opbm command:

Extract from datasheet:

### Preferred Band Mode \_OPBM

Command	Possible response(s)
_OPBM= <band>,<n></n></band>	ОК
_ OPBM =?	_OPBM: (list of supported <band>s)</band>
_ OPBM?	<band>: <n>[<cr><lf><band>: <n>[]]</n></band></lf></cr></n></band>

### Description

This command is used to disable/enable specific frequency bands.

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#### **Defined Values**

chands

0 1

<band></band>		
"ANY"		: any band
"EGSM"		: EGSM (900MHz) band
"DCS"		: DCS (1800MHz) band
"PCS"		: PCS (1900MHz) band
"G850"		: GSM 850MHz band
"U2100"		: WCDMA 2100MHz band
"U1900"		: WCDMA 1900MHz band
"U1700"		
"U17IV"		
"U850"		: WCDMA 1900MHz band
<n></n>		
0	: disable	

: enable

Eg: if you use GSM1900 (PCS) band, select only this band. All other bands have to be deselected. It is also very important to deselect EVERY UMTS band when trying to connect to a GSM network and vice versa:

At\_opbm = "PCS",1 (selection of PCS band) At\_opbm = "DCS",0 (deselection of DCS band) Same for the other bands, also the UMTS bands!!!

To check if the band is really (de)selected, use "at\_opbm?" The bands showing 0 are deselected, the bands showing 1 are selected.

#### 2. AT\_OPSYS

When the band settings did not work, try the OPSYS command: this command selects the UTRAN and the packet and/or circuit switched domain.

Extract from datasheet:

#### Preferred SYStem "AT OPSYS"

Command	Possible Response(s)
_OPSYS=[ <mode>[,<domain>]]</domain></mode>	OK
_OPSYS?	_OPSYS: <mode>,<domain></domain></mode>
_OPSYS=?	_OPSYS: (0-5),(0-6)

#### Description

This command changes the preferred system, GSM/WCDMA, the acquisition order and the service domain preference PS/CS.

### **Defined values**

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<mode>:

- 0 GSM only
- 1 WDMA only
- 2 GSM first
- 3 WCDMA first
- 4 No change 5 Auto

<domain>:

- 0 Acquire only circuit-switched systems
- 1 Acquire only packet-switched systems
- 2 Acquire circuit-and/or packet-switched systems
- 3 Any domain will do; no preference

Eg:

at\_opsys=0,2 selects options: GSM only and CS & PS domains

### 6 ADDITONAL AT COMMANDS

This section contains some basic at commands you may need when using our datacard/modules.

1. at\_osec

This command sets the RRC security setting. Please note that a hard reset of the card is required before the setting will take effect.

Extract from datasheet:

### SECurity "AT OSEC"

Command	Possible Response(s)
_OSEC=[ <sec>]</sec>	OK
_OSEC?	_OSEC: <sec></sec>
_OSEC=?	_OSEC: (list of supported <sec>s)</sec>

#### Description

This command sets the RRC security setting. Please note that a hard reset of the card is required before the setting will take effect.

#### **Defined values**

	<sec>: 0 None 1 Integrity</sec>		
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2 Ciphering3 Fake Security4 Integrity and Ciphering

2. ata

This commands accepts a MT call.

3. at+chup

This commands terminates a call.

### 7 CRADLE MODE

Datacards : Nominal voltage = 3,5V Modules: Nominal voltage = 3,3V

Changing card from cradle mode to laptop mode and vica versa is done with the port change command at\_opos. For cradles with a usb connection this is normally not needed. It is important to use the port settings as described in the hyperterminal section otherwise it will not be possible to make a connection with the card.

Use "at\_opos?" to see the current value.

a. From cradle mode to laptop mode

You can communicate with the cradle through COM1 (or whatever the name is of the port you attached the cradle to)

At\_opos=x,x,1,x → when in cradle: at\_opos=2,10

b. From laptop to cradle mode

You can communicate with the cradle through the application port or modem port. You can see their port numbers when you doubleclick the safe removal button.

At\_opos=x,x,10,x → to change the card to laptop mode, you can change the opos parameters by using at\_opos=2,1. Now you CAN'T CONNECT through modem-port.

For fujiGT there are some different settings:

a. From cradle mode to laptop mode

At\_opos=1,4

b. From laptop mode to cradle mode

	At_opos=1,1		
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