LandCell™ 819-GPRS Modem

819-GPRS-XXX

GSM GPRS Serial Cellular Data Modem

Quick Start Guide

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This Quick Start covers the operation of the LandCell™ 819-GPRS GSM Cellular Data Modems. Specifications described are typical only and are subject to normal manufacturing and service tolerances.

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TECHNICAL SUPPORT

Our technical support staff is available Monday through Friday from 7:30 AM to 4:30 PM CDT via telephone at 507.833.8819; fax 507.833.6758 or email supportIMC@calamp.com.

Visit www.calamp.com to download product documentation and software drivers.

GENERAL

This guide details quick activation of a CalAmp LandCell™ 819-GPRS modem. The following modem setup examples apply for Windows 98, Me, NT, 2000 & XP®. Due to the divergent graphical interfaces of these different operating systems, there may or may not be an extra step to follow (e.g. an additional procedure to open a program from the Start Menu). This guide is optimized for Windows XP Professional. The 819-GPRS is available for GSM cellular networks. Please refer to the respective manual for further details.

MODEM USE

The LandCell™ 819-GPRS cellular modem is designed and intended for use in fixed and mobile applications. "Fixed" assumes the device is physically secured at one location and not easily moved to another location. The 819-GPRS would be routinely relocated in a mobile application. Please keep the cellular antenna of the 819-GPRS at a safe distance from your head and body while the modem is in use (see below).

IMPORTANT NOTICE

Maintain a distance of at least 20 cm (8 inches) between the transmitter's antenna and any person while in use. This modem is designed for use in applications that observe the 20 cm separation distance.

MOBILE APPLICATION SAFETY

- Do not operate the LandCell™ 819-GPRS while driving.
- Road safety is crucial. Observe National Regulations for cellular telephones and devices in vehicles.
- Avoid potential interference with vehicle electronics by correctly installing the LandCell™ 819-GPRS. We recommend installation by a professional.

INTERFERENCE ISSUES

Avoid possible radio frequency (RF) interference by following the following guidelines:

- The use of cellular telephones or devices in aircraft is illegal. Use in aircraft may endanger operation and disrupt the cellular network. Failure to observe this restriction may result in suspension or denial of cellular services to the offender, legal action or both.

- Do not operate in the vicinity of gasoline or diesel-fuel pumps unless use has been approved and authorized.
- Do not operate in locations where medical equipment that the device could interfere with may be in use.
- Do not operate in fuel depots, chemical plants, or blasting areas unless use has been approved and authorized.
- Use care if operating in the vicinity of protected personal medical devices, i.e., hearing aids and pacemakers.
- Operation in the presence of other electronic equipment may cause interference if equipment is incorrectly protected. Follow recommendations for installation from equipment manufacturers.

PACKAGE CONTENTS

- One (1) 819-GPRS Modem
- One (1) Product Documentation Card

USER SUPPLIED CONTENTS

- A user-provided PC running MS Windows
- An antenna
- A 9-28 VDC @ 18W (12 VDC, 1.5A)
- Power Supply
- An interface cable

LANDCELL PRODUCTS AND ACCESSORIES

PRODUCT	DESCRIPTION	CATALOG NO.
819-GPRS	GSM GPRS Data Modem	819-GPRS-XXX*
Antenna	4” Antenna 3” Mag Mount Antenna	L2-ANT0001 L2-ANT0003
Power Supply	110 VAC input DC Power Cable	L2-PWR0001 L2-PWR0002
Interface Cables	Serial Cable	L2-CAB0002

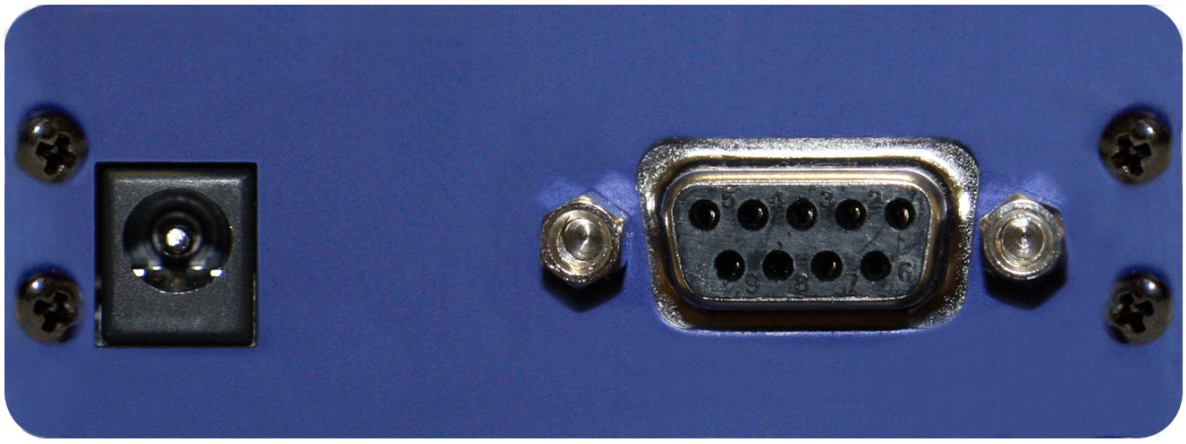
*XXX-carrier identifier

FRONT PANEL LED INDICATORS

PWR	Green Power LED
TX	Red Transmit/Receive
DCD	Amber Carrier Detect
RX	Green Received Signal Strength Indicator (RSSI)

FRONT PANEL CONNECTIONS

RF	Female SMA
SIM	SIM card slot



BACK PANEL CONNECTIONS

Power Jack	2.1x5.5mm DC barrel (Center Positive)
RS-232	Serial Port, Standard DE-9 female

GSM-GPRS COMMUNICATIONS

Only GSM models have SIM cards. Your wireless service provider will supply the SIM card.

SETTING UP AN 819-GPRS MODEM USING THE 819-GPRS GSM DRIVER:

Note: You may download all necessary modem driver files from our website at www.calamp.com. If you are installing the modem using the drivers from the website, refer to the steps listed in the **819-GPRS User Manual**.

SETTING UP THE 819-GPRS USING NATIVE WINDOWS DRIVERS:

1. Click on Start → Settings → Control Panel. Select **Phone and Modem Options**.
2. Select the **Modem Tab** and then select **Add...** and follow the Wizard. Check **Don't Detect My Modem**.
3. Select **Standard 19200 bps Modem**. Click **Next**.
4. Assign the modem to the COM port connected to the modem. Click **Next**.
5. Click **Finish**.

CONFIGURING THE MODEM

1. Click on Start → Settings → Control Panel. Click **Phone and Modem Options**.
2. Click **New**.
3. In **Location Name**, enter a name to distinguish this connection as the 819-GPRS. Type your area code in the **Area Code** box.
4. Click **Apply** and **OK**. The window should exit out to the **Phone and Modem Options** box.
5. Click the tab at the top titled **Modems**. Select the **Standard 19200 bps Modem** (or the **MC75 Modem (GPRS)** if you're using the driver from the website) and click **Properties**.
6. Click the **Modem Tab** at the top of this new box. The box titled **Maximum Port Speed** should read: 115200. If not, scroll down to **Select 115200**. Click **OK**. Click **Apply**. Click **OK**.

OPERATIONAL STATES

The modem has three operational states:

- Command State
- Online State
- Online Command State

When first powered on, the modem is in the Command State where it is able to accept AT commands. When instructed to dial out or to answer a data call, the phone is in the Online State.

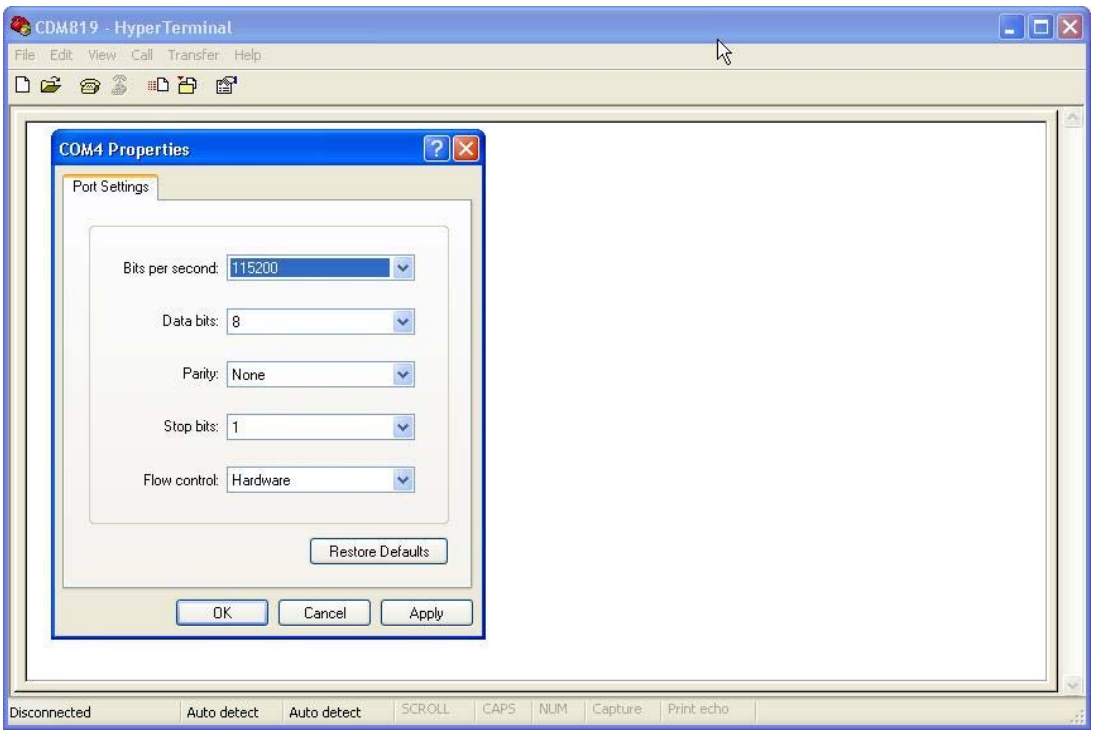
SIM CARD VERIFICATION

1. Insert the SIM card into the modem, gold connection side up as shown in Figure 1.

Figure 1: SIM Card Placement

2. Connect the modem to an active COM port on a PC with an RS-232, 9 pin straight through cable.
3. Attach the antenna and power connector.
4. Connect with a Hyper-Terminal session set to 115,200, 8 Bits, No Parity, 1 Stop Bit, and Hardware Flow Control enabled. See Figure 2.

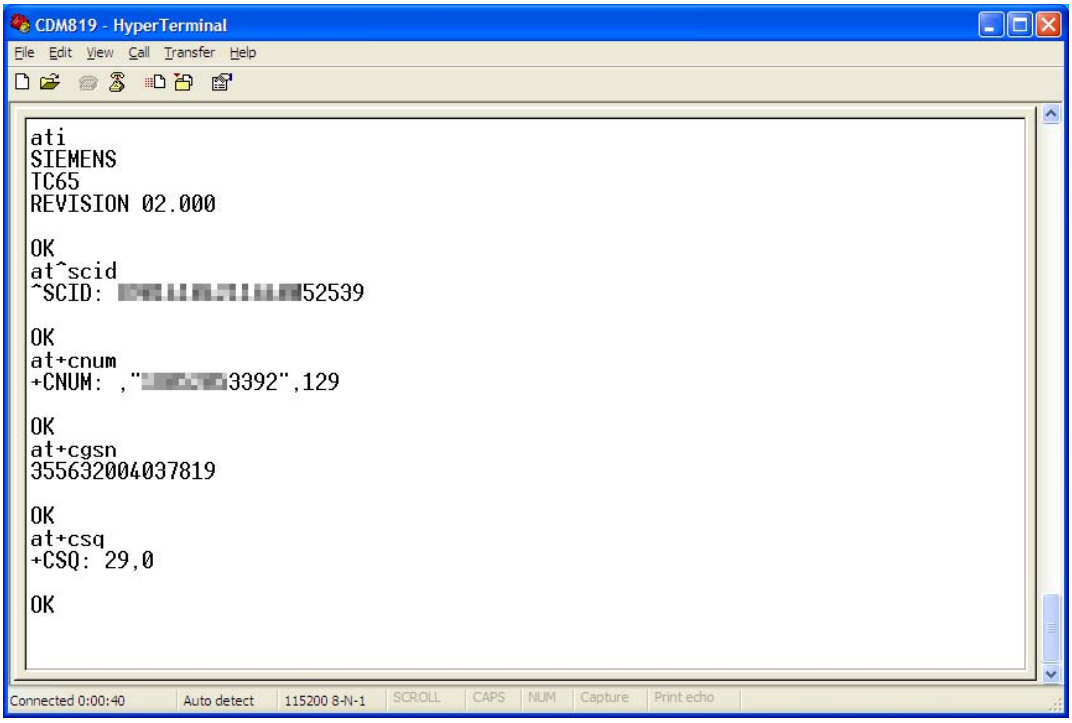
Figure 2: 819-GPRS HyperTerminal Port Settings



5. Confirm contact with the modem by typing **ATI**. This prints out the manufacturer, model, and revision of the cell module. See Figure 3.
6. Verify good signal strength with the **AT+CSQ** command. A typical reply is +CSQ: 29, 0. Signal strength ranges from 0 to 31, the higher the number the better the signal.
7. Confirm your registration on the cellular network with the **AT^SCID** command. You should get a 20 digit number. If the reply says “ERROR”, the SIM card is not installed or has not been activated properly. Contact your service provider.
8. You can confirm the ESN of the cell module by typing the **AT+CGSN** command.
9. Confirm the phone number currently in the modem with the **AT+CNUM** command. It should be 11 digits i.e. 1XXXXXX3392. If the SIM card is not in the unit or not activated properly, the modem will reply with “ERROR”.

10. If your account supports voice, you can confirm modem activation by performing a voice call to another phone with the **ATD**<Cell Phone Number>;command. (Use no spaces or angle brackets). Your other phone should ring and the Caller ID should display the modem's phone number.

Figure 3: 819-GPRS HyperTerminal Modem Verification



Configuration and test of a Circuit Switch Data (CSD) call, and Packet Data Call (TCP/IP) are discussed in the user manual.

STANDARD RS-232 DE-9 PINOUT

Table 1: DE-9 Pin Out Description (Direction is DTE relative to DCE)

Pin	Name	Direction	Description
1	CD	←	Carrier Detect
2	RX	←	Receive Data
3	TX	→	Transmit Data
4	DTR	→	Data Terminal Ready
5	GND		System Ground
6	DSR	←	Data Set Ready
7	RTS	→	Request to Send
8	CTS	←	Clear to Send
9	RI	←	Ring Indicator

Figure 4: RS-232, DB9 Pin out Diagrams