LAN-Cell Gateway Series

Secure Cellular Data Gateway

Quick Start Guide

Model
GPRS-401

September 2006

proxicast®

Introducing the LAN-Cell GPRS Mobile Gateway

The LAN-Cell is the ideal gateway for all data passing between cellular carrier data networks and LAN-attached devices. By integrating a full-featured IP router (including NAT, firewall and VPN capability) with an embedded cellular data modem, Proxicast's LAN-Cell is a complete security solution that protects your intranet, efficiently manages data on your network, and intelligently controls the use of cellular data network access. The embedded web configurator is easy to operate and totally independent of the operating system platform you use.

I. Hardware Installation

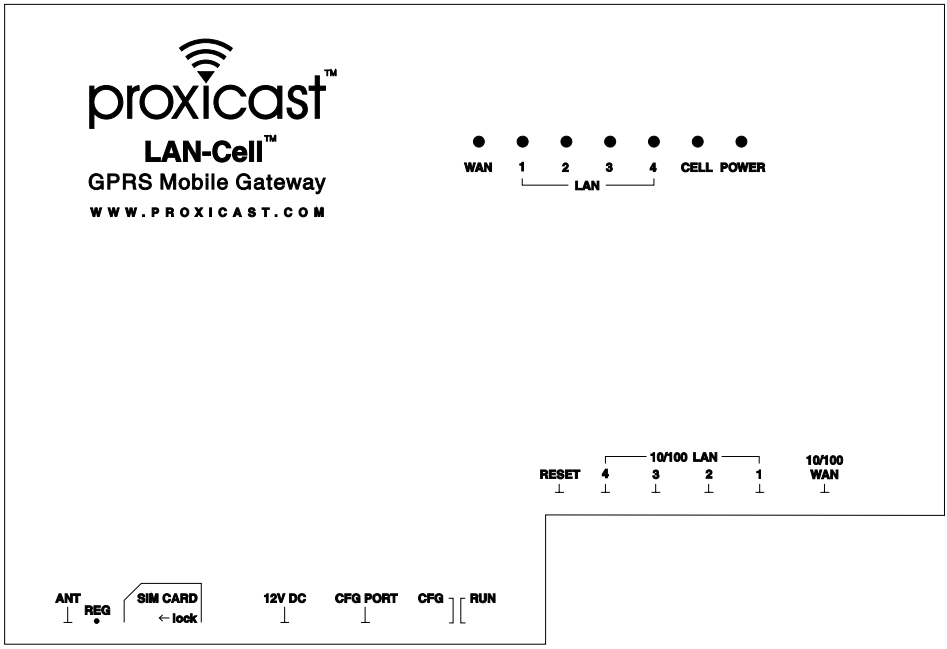

Figure 1: LAN-Cell GPRS Mobile Gateway (*Model GPRS-401*)

Front Panel LEDs

LABEL	DESCRIPTION
Power	Indicates that power is supplied to the LAN-Cell. The Power LED flashes while performing system testing and stays on if the testing is successful. Red indicates that the supplied voltage is too low.
Cell	Indicates activity between the router and its embedded cellular modem.
WAN & LAN 1-4	Indicate Link Status and Activity on the corresponding ports. Green = 10 Mbps, Orange = 100 Mbps
REG	Blinks as the embedded cellular modem searches for the presence of a signal from the carrier for which it is configured. Solid once the LAN-Cell has successfully registered on the network.

Front Panel Connections

LABEL	DESCRIPTION
12VDC	Connect the included power adapter (use only this adapter) to this power socket.
CFG Port	This DB9 connection is used to access the embedded cellular modem for configuration, if necessary (see *Activating the Cellular Modem*). The CFG Port communication parameters are 115200 bps, no parity, 8 data bits, 1 stop bit and hardware flow control. Use the supplied DB9/DB25 serial cable.
CFG/RUN Switch	Set this switch to **CFG** to access the modem configuration via the CFG Port. Otherwise, set the switch to **RUN**. Note: moving the switch from **RUN** to **CFG** will disconnect any active cellular modem connection.
Reset	Only use this button if you've forgotten the LAN-Cell's password. It returns the LAN-Cell its factory defaults (password is 1234, LAN IP 192.168.1.1), not necessarily the "as-shipped" configuration for your specific carrier. Use only as a last resort.
10/100 LAN 1–4	Connect computer equipment to these ports with Ethernet cable. These ports are auto-negotiating (can connect at 10 or 100 Mbps) and auto-sensing (automatically adjust to the type of Ethernet cable you use, straight-through or crossover).
10/100 WAN	Connect a cable/DSL modem or other Ethernet-based WAN equipment to this port.
SIM Card	Insert the SIM card in the orientation shown until it is fully inside the LAN-Cell. You will feel the card "click" into position. Slide the SIM card lock cover to the left to hold the card in place. To remove the SIM card, slide the lock tab to the right and press and release the SIM card to eject it. Do insert or eject the SIM card while power is applied to the unit.
ANT	Attach the supplied antenna to the SMA connector. Use only the antenna supplied with your unit. Be sure to tighten the antenna connector fully to ensure a reliable cellular connection.

II. LAN-Cell Default Connection Parameters

The factory default settings for the LAN-Cell's key interfaces are:

LAN-Cell's IP Address	192.168.1.1
LAN DHCP Server	ON
LAN DHCP Settings	192.168.1.33 to .64 Subnet mask 255.255.255.0
WAN DHCP Client	ON
Management Access Password	1234
CFG Port	115200 bps, no parity, 8 data bits, 1 stop bit and hardware flow control.

III. Configuring the LAN-Cell

Activating the Cellular Modem

Your LAN-Cell requires a Subscriber Identity Module (SIM) card in order to access a specific carrier's GSM/GPRS network. In addition, the LAN-Cell's firmware must be configured to access the correct Access Point name (APN) depending upon your carrier and the service features included on your cellular account.

If you ordered your LAN-Cell bundled with a cellular data service plan, then the SIM card and correct settings have been configured at the factory or by your reseller. If so, a SIM card will be installed and the LAN-Cell's cellular telephone number (Mobile Identification Number or MIN) will be indicated on the label on the bottom of the unit. If this is the case, your LAN-Cell is ready to use. Otherwise, follow the steps below to activate the cellular modem.

You must subscribe to a carrier's cellular data plan and obtain a SIM card before configuring the LAN-Cell.

LAN-Cell IMEI	
Mobile Information Number (MIN)	

Step 1: Contact your GSM/GPRS cellular carrier and subscribe to a cellular data service plan. You may need to provide the carrier with the LAN-Cell's IMEI number. Cellular carriers recognize the LAN-Cell by its internal cellular modem module (Enfora SA-GL / Enabler II-G / GSM1218). Ask them to provide you with the Mobile Identification Number (MIN).

Step 2: Insert the SIM card into the slot on the front of the LAN-Cell.

Step 3: Slide the CFG/RUN switch to the **RUN** position. Power on the LAN-Cell.

Step 4: Launch the LAN-Cell's Web Configurator (see next section) and go to the Main Menu / WAN / Cellular Modem tab.

Step 5: Enter the required username and password for your data account with the cellular carrier (some carriers do not require a username/password or require blank values; others use case-sensitive APN, usernames and passwords).

Step 6: Modify the INIT STRING value to include the correct APN name your service provider, replacing *APN-NAME* as appropriate in the example below. The double-quotation marks are part of the command string and are required.

AT+CGDCONT=1,"IP","*APN-NAME*","",0,0

Step 7: Confirm that the access telephone number is correct. Most carriers use *99***1#.

Step 8: Click the APPLY button at the bottom of the web page to save your settings.

If you have the LAN-Cell configured for "ALWAYS ON", it will immediately connect to the GPRS network. Otherwise, it will connect whenever devices on the LAN generate packets destined for the GPRS network, depending upon your call control settings.

Your LAN-Cell is now ready to be configured for your specific application. Please see the *User's Guide* for additional information.

The following table contains a list of common APNs and login information for various GSM carriers. Proxicast has not confirmed the accuracy of these settings with all carriers; they are subject to change. In general, WAP-type GPRS connections will NOT work with the LAN-Cell; you must request full IP service support from your carrier.

Please contact your specific carrier to request the APN that corresponds to the data service features included in your account.

Common GPRS Service Provider APNs

Carrier	APN & Login Info	Notes
Cingular (US)	APN: **wap.cingular**	Private IP addresses
'Orange SIM'	APN: **isp.cingular**	Public IP addresses Note: Most inbound TCP/UDP ports are blocked by this APN. For remote access, you must establish a VPN connection. Useful for general Internet browsing and VPN setup.
Support: 800-331-0500 800-304-3044	APN: **internet** Username: ISP@CINGULARGPRS.COM Password: CINGULAR1	Public IP addresses Unblocked inbound TCP/UDP ports. To access the "internet" APN, you must request *Mobile Terminating Data Service* on your account. This also creates a DNS entry of the format: 1*MDN*.internet.mycingular.com Where *MDN* is your mobile telephone number. Proxicast recommends that most customers request the MTDS feature when provisioning an account. DNS: 66.102.163.231 66.102.163.232
T-Mobile (US) Support: 800-937-8997	APN: **internet2.voicestream.com** APN: **internet3.voicestream.com** Username: guest Password: guest	Private IP addresses DNS: 216.155.175.105 216.155.175.106 Public IP addresses All inbound ports are blocked, except for VPN. DNS: 66.94.9.120 66.94.25.120
Microcell / Fido (Canada)	APN: **internet.fido.ca** Username: fido Password: fido	DNS: 204.92.15.211

Carrier	APN & Login Info	Notes
Rogers AT&T (Canada)	APN: **INTERNET.COM** APN: **VPN.COM** Username: {blank} Password: {blank}	Private IP addresses Public IP addresses DNS: 207.181.101.4 207.181.101.5
Telstra (Australia)	APN: **telstra.internet** Username: - {blank} Password: - {blank}	DNS: 139.130.4.4 203.50.170.2
Vodaphone (Australia)	APN: **vfinternet.au** Username: guest Password: guest	DNS: 192.189.54.33 210.80.58.3
Jersey Telecom (UK)	APN: **pepper** Username: {blank} Password: {blank}	DNS: 212.9.0.135 212.9.0.136
Orange (UK)	APN: **orangeinternet** Username: {blank} Password: {blank} Use PAP authentication only	DNS: 158.43.192.1 158.143.128.1
O2 (UK)	APN: **mobile.o2.co.uk** Username: web Password: password	DNS: 193.113.200.200 193.113.200.201
T-Mobile (UK)	APN: **general.t-mobile.uk** Username: user Password: pass	
Virgin Mobile (UK)	APN: **goto.virginmobile.uk** Username: user Password: {blank}	
Vodaphone (UK)	APN: **internet** Username: web Password: web	

IV. Using the Internal Web Configurator

NOTE: You can use either the embedded web configurator or the System Management Terminal (SMT) to access and configure the LAN-Cell. This Quick Start Guide shows you how to use the web configurator only. See your User's Guide for more information on all of the LAN-Cell's features and configuration options. Click the web configurator online help for screen-specific assistance.

Step 1: Launch your web browser. Enter http://192.168.1.1 as the web site address.

Step 2: The default password ("1234") is already in the password field (in non-readable format). Click **Login** to proceed to the change password screen.

Step 3: It is highly recommended that you change the default password! Enter a new password, retype it to confirm and click **Apply**; alternatively, click **Ignore** to proceed if you do not want to change the password now.

Step 4: Click **OK** to create a unique security Certificate for the LAN-Cell or click **Ignore** to later import your own Certificate.

Step 5: You should now see the web configurator **Main Menu** screen.

Consult your *User's Guide* for more information on how to configure the LAN-Cell's features. Some common items you may wish to review immediately include:

LAN Use the screens in this area to change the LAN-Cell's IP address and its DHCP server settings.

WAN The screens in this area enable you to configure your Wired and Cellular WAN settings. Refer to any documentation from your service provider regarding their requirements.

Firewall The LAN-Cell's integrated firewall is ENABLED by default and is set to block inbound initiated packets to LAN devices. You may need to change the default firewall rules to suit your specific application. See the *User's Guide* for more information on configuring the firewall.

Cellular Modem By default the LAN-Cell's cellular modem is ENABLED and configured as ALWAYS ON and the unit is ready for use. After you have obtained a SIM card, the cellular modem also must be configured and enabled in the WAN/Cellular Modem Screen. See the *User's Guide* or contact your carrier or Proxicast for carrier/application specific information on these settings.

Once the LAN-Cell is functioning to your satisfaction, we strongly recommend that you backup the device configuration to your PC. See the menu option: Maintenance > Configuration > Backup

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Special Note for Users with Cellular Static IP Addresses

Users of the LAN-Cell Model GPRS-401 on carriers that support static IP assignment to cellular devices should specify "Get IP Address Automatically from Remote Server" as the TCP/IP option on the Cellular Modem configuration screen. Most carriers implement "static IP" by using DHCP servers that simply assign the same IP address to your LAN-Cell each time one is requested; however these "static" addresses have DHCP lease times associated with them and must be periodically renewed.

If you choose not to use DHCP assignment of your carrier's IP address, then you must manually configure the static IP address, remote carrier IP address/subnet and you also manually specify the carriers' DNS servers on the System/General screen.

V. Troubleshooting

PROBLEM	CORRECTIVE ACTION
None of the LEDs turn on	Make sure that you have the correct power adapter connected to the LAN-Cell and have plugged it into an appropriate power source. Check all cable connections. If the LEDs still do not turn on, you may have a hardware problem. In this case, you should contact your vendor.
Cannot access the LAN-Cell from the LAN	Check the cable connection between your computer (or hub) and the LAN-Cell. Check that the corresponding LAN port LED is ON (indicates Link Status). Try to ping the LAN-Cell's LAN IP address from a LAN PC.
Cannot ping any computer on the LAN	If the LAN LEDs are off, check the cable connections. Verify that the IP address and subnet of the LAN-Cell is in the same range as the computers on the LAN.
Cannot get a WAN IP address from the ISP	The WAN IP is provided after the ISP verifies the MAC address, host name or User ID. Find out the verification method used by your ISP and configure the corresponding fields. Try using PAP-only authentication with no PPP compression. For Cellular Modem WAN connections, this problem is usually related to either a misconfigured SIM, lack of data features on the GSM account, or is the result of an incorrect APN/username/password entered in the Cellular Modem screen. Check the username/password/APN settings and contact your carrier to confirm the correct setup of your account.
Cannot access the Internet via the WAN port	Check the LAN-Cell's connection to the wired WAN (cable/DSL modem). Check whether your Ethernet WAN connection requires a crossover or straight cable. Check your settings in the WAN screens, especially the routing priority.
Cell REG LED does not come on solid	Check that the proper antenna is securely attached to the LAN-Cell and that the SIM card is fully inserted and locked into place. The LAN-Cell's modem is configured to automatically register with the SIM card's carrier if the carrier signal is present. Once registered, the REG LED will remain on solid. *continued . . .*

PROBLEM	CORRECTIVE ACTION
Cell REG LED does not come on solid	Connect a terminal to the CFG Port and put the switch in the **CFG** position. Enter AT+CSQ and press return. The modem will respond with a signal strength indicator between 0 and 31 (higher indicates a stronger signal; 99 indicates no signal detected). Move the LAN-Cell to a location when the carrier's signal can be detected.
Cell Online LED goes ON then OFF	This problem is usually due to an incorrect username/password/APN entered in the Cellular Modem screen. It may also be caused if other Cellular Modem parameters do not match those required by the carrier. Contact your cellular service provider or Proxicast for more information on carrier specific settings.
Cannot make a cellular data connection even when cellular signal is present	Check the position of the CFG slide switch. It must be in the RUN (right) position in order to make a cellular data connection. Confirm that the LAN-Cell's SIM has been activated by your carrier and that your account includes GPRS data services. Check that the antenna is tightly secured to the antenna port. Use the AT+CSQ command via the CFG port to determine the signal strength. In general, CSQ must be 5+ in order to make a reliable connection.
After pressing RESET, cannot make a cellular connection	The RESET button returns the LAN-Cell to a configuration common to all models, not necessarily to the "as-shipped" configuration for your carrier. You must reconfigure the necessary connection parameters. Contact Support for assistance.
SIM is not recognized	**The GSM SIM card is only read when the LAN-Cell is initially powered on.** If you change SIM cards, you must power cycle the LAN-Cell for the SIM to be recognized.

Also see our online Knowledge Base at http://support.proxicast.com for more troubleshooting tips, documentation and configuration examples.

312 Sunnyfield Drive, Suite 200
Glenshaw, PA 15116-1936

1-877-77PROXI (1-877-777-7694)
1-412-213-2477 (outside USA)
www.proxicast.com
support@proxicast.com