



C-130 Quick Start Guide



Table of Contents

Quick Start Guide	3
Unpacking Instructions	3
Preparation	3
Accessing the Graphical Management Interface	4
Step 1: Connect PC to JBM Gateway	4
Step 2: Setup PC IP Address.....	5
Step 3: Access JBM Webserver.....	8
Step 4: Log into the Graphical Administration Utility (GAU).....	8
Cellular Card Configuration	9
Step 2: Set the Userid, password and APN.....	12
Step 3: Save and Apply the Configuration	12
Verify Cellular Connectivity.....	12
Cellular Connectivity Troubleshooting.....	13
Cellular Reception	13
Verifying IP Connectivity.....	14
Minimal Reception.....	15
Authentication Issues	15
JBM Technical Support	16
SPECIFICATIONS	17
FCC Compliance Statement.....	18
Information To The User	18
Warranty	19
Extended Warranty Program.....	19

Quick Start Guide

Unpacking Instructions

1. Unpack the C130.
2. Verify the following components are enclosed (*Figure A*).

Figure A - Package Contents



(Front)



(Back)

Note: Non-US power supplies require customer-supplied power cord to connect power supply to AC power outlet.

3. If any items are missing, please contact **JBM** at **1-800-489-7781**.

Preparation

1. Verify that you have one of the following, supported cellular cards:

1xRTT/1xEVDO

Audiovox/UTSStarcom: 5740

Kyocera: KPC-650

Novatel: S/V-620, S/V-720

Sierra Wireless: 555, 580, 5220

GPRS/Edge/HSDPA

Sierra Wireless: 750, 775, 860

Sony Ericsson: GC-83

2. Using the instructions that accompanied the card, verify that the card is properly activated and functioning correctly prior to installing the card into the JBM Gateway:
 - Install the software that came with the aircard on a laptop.
 - Install the aircard into the laptop.
 - Follow the carrier provided procedures to properly activate the card, and unlock the card if necessary.
 - Using the browser on the laptop insure that you are able to browse the Internet.
3. Resolve any and all signal/reception related issues with the aircard installed in the laptop before installing the card into the JBM Gateway.
4. Gently, insert the Aircard into the PCMCIA slot. Be sure it is firmly seated.
5. Attach power supply connector to C130 and connect power supply plug to an AC power outlet.
6. Verify the **PWR** (yellow) **LED** is lit to indicate that the unit is receiving power.
7. Establish access to the unit through Gateway Administration Utility.

Accessing the Graphical Management Interface

Step 1: Connect PC to JBM Gateway

METHOD – 1 ETH0: (Straight Ethernet Port)

- Connect a crossover CAT-5 Ethernet cable between the local PC and the JBM unit's ETH0. **Verify the link LED is lit.** (Straight cable from a HUB/Switch).

METHOD 2 - ETH1:(Crossed-over Ethernet Port)

- Connect straight CAT-5 Ethernet cable between the local PC and the JBM unit's ETH1. **Verify the link LED is lit.** (Crossover cable for HUB/Switch).

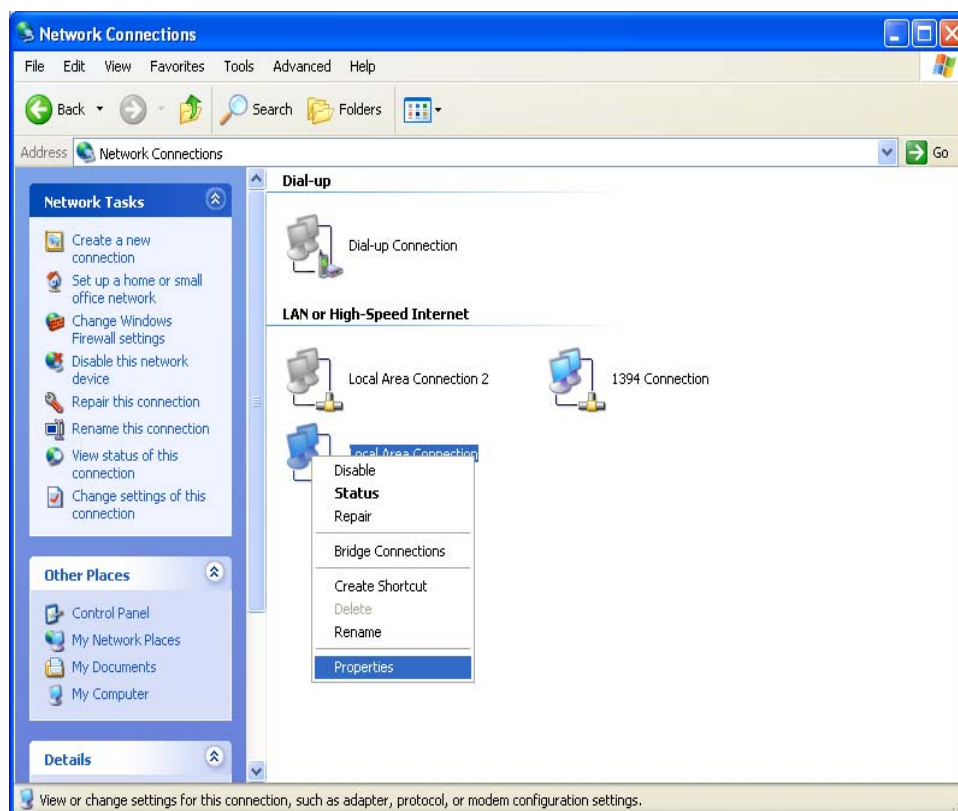
Port	Cable	Device
Straight (ETH0)	Straight	HUB or Switch
Straight (ETH0)	Crossed	PC
Crossed (ETH1)	Straight	PC
Crossed (ETH1)	Crossed	HUB or Switch



Note: This example shows cabling to a PC. The link LED is not lit for ETH1. Without a link LED lit either Method 1 must be used or the cabling must be checked.

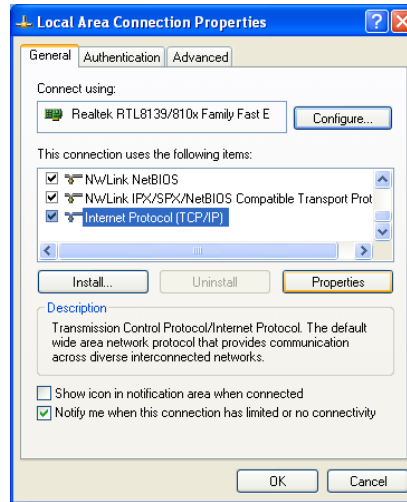
Step 2: Setup PC IP Address

Set the PC's IP Address by going to control panel and selecting network connections, the screen below will appear:

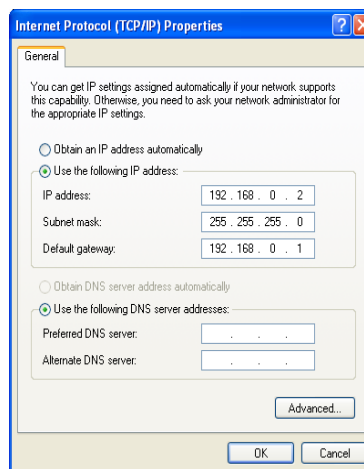


- Right Click **“Local Area Connection”** and select **“Properties”** (as shown to the left).

NOTE: The screens and instructions displayed are based on Windows XP. Your system may be different. If you have any problems contact your system admin.



- Scroll down to the bottom of the following items and *select* **“Internet Protocol (TCP/IP)”** (as shown to the left).

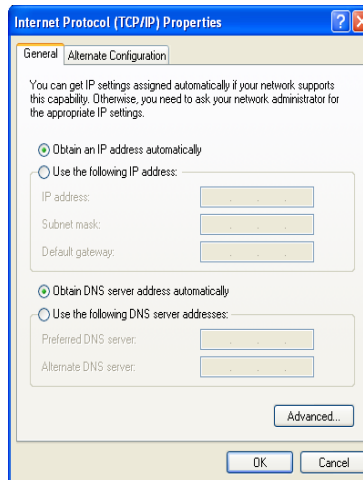


METHOD 1: PC to ETH0

- *Select* **“Use the following IP address”** and *fill in* the blank fields with the information below:

- *IP address:* 192.168.0.2
- *Subnet mask:* 255.255.255.0
- *Default gatewa:y* 192.168.0.1
- *Preferred DNS:* 192.168.0.1

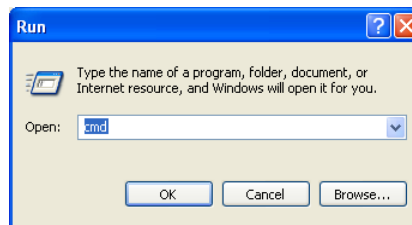
- *Click* **“OK”**
- The previous screen will appear *Click* **“OK”**



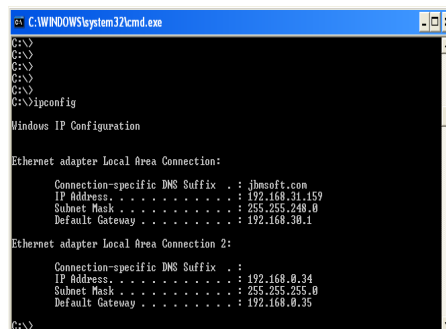
METHOD 2: PC to ETH1

- Select **“Use the following IP address”** and *fill in* the blank fields with the information below:
 - *IP address:* 192.168.1.2
 - *Subnet mask:* 255.255.255.0
 - *Default gatewa:y* 192.168.1.1
 - *Preferred DNS:* 192.168.1.1
- Click **“OK”**
- The previous screen will appear Click **“OK”**

Verify that the IP change was accepted or acquired on the PC.



Select **“Start>Run on your desktop ”** Type **“cmd”** Click **“OK”**



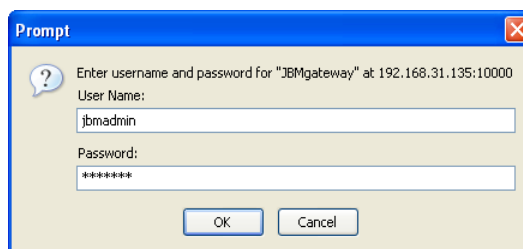
- Type **“ipconfig”** <Enter>

- METHOD 1 should display an IP of 192.168.0.2
- METHOD 2 should display an IP of 192.168.1.2

Step 3: Access JBM Webserver

- Open a web browser and enter the following in the address bar:
 METHOD 1: <http://192.168.0.1:10000/>
 METHOD 2: <http://192.168.1.1:10000/>

Step 4: Log into the Graphical Administration Utility (GAU)



JBMgateway Login Instructions

- User Name enter: **jbmadmin** (*lowercase letters*)
- For Password enter: **six digit serial number** of unit (*lowercase letters*)

Upon successfully logging in you will be rewarded with the following screen:



- At this point, you are connected to the Gateway. You can now configure the unit to meet your needs.

Cellular Card Configuration

Your JBM Gateway is able to detect many cellular cards, but others must still be configured manually. If you are using either one of the older 1xRTT/CDMA cards, or a GPRS/EDGE/HSDPA card that requires the use of a userid, password, and APN, you will need to configure your car manually, as covered in the next section.

If you are using any of these cards you will need to work through this section:

GPRS/Edge/HSDPA

Sierra Wireless: 750, 775, 860

Sony Ericsson: GC-83

If you are using one of the newer 1xRTT/1xEVDO, USB Serial based cards, your JBM gateway has probably automatically detected, configured, and activated your cellular connection for you, so you can skip this section and proceed to the next section to verify your cellular connectivity.

If you are using any of these cards you can skip this section:

1xRTT/1xEVDO

Audiovox/UTSStarcom: 5740

Kyocera: KPC-650

Novatel: S/V-620, S/V-720

Sierra Wireless: 555, 580, 5220

Navigate through the GAU menus to the screen Cellular Configuration Screen shown below:

Step 1: Cellular Carrier Selection

The screenshot displays the 'Configuration' tab of the JBM Electronics web interface. The 'Network' sub-tab is selected, and the 'Cellular Connection Settings' section is expanded. The settings include:

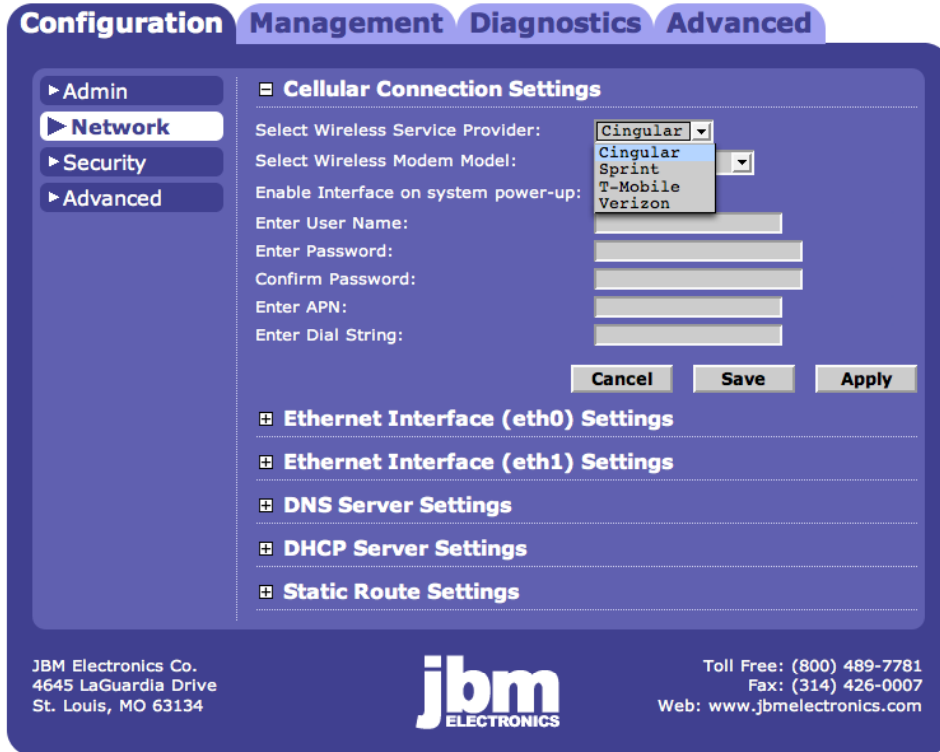
- Select Cellular Service Provider: <Not Configured> (dropdown menu)
- Enable Modem Auto-Detection?: Yes (dropdown menu)
- Select Cellular Modem Model: <Not Configured> (dropdown menu)
- Enable Interface on system power-up: Yes (dropdown menu)
- Enter User Name: (text input field)
- Enter Password: (password input field)
- Confirm Password: (password input field)
- Enter APN: (text input field)
- Enter Dial String: (text input field)
- Maximum RX Idle Time: 150 (text input field)
- Custom AT Commands: (text input field)
- Custom PPP Commands: (text input field)
- Enable Dial Holdoff Behavior?: Yes (dropdown menu)
- Select Dial Holdoff Timeout (in minutes): 15 (dropdown menu)

Buttons for 'Cancel', 'Save', and 'Apply' are located at the bottom of the settings section. Below the Cellular Connection Settings are several other expandable sections: DHCP Server Settings, DNS Settings, Dynamic DNS Settings, Ethernet Interface (eth0) Settings, Ethernet Interface (eth1) Settings, Static Route Settings, and TCP Keepalive Settings.

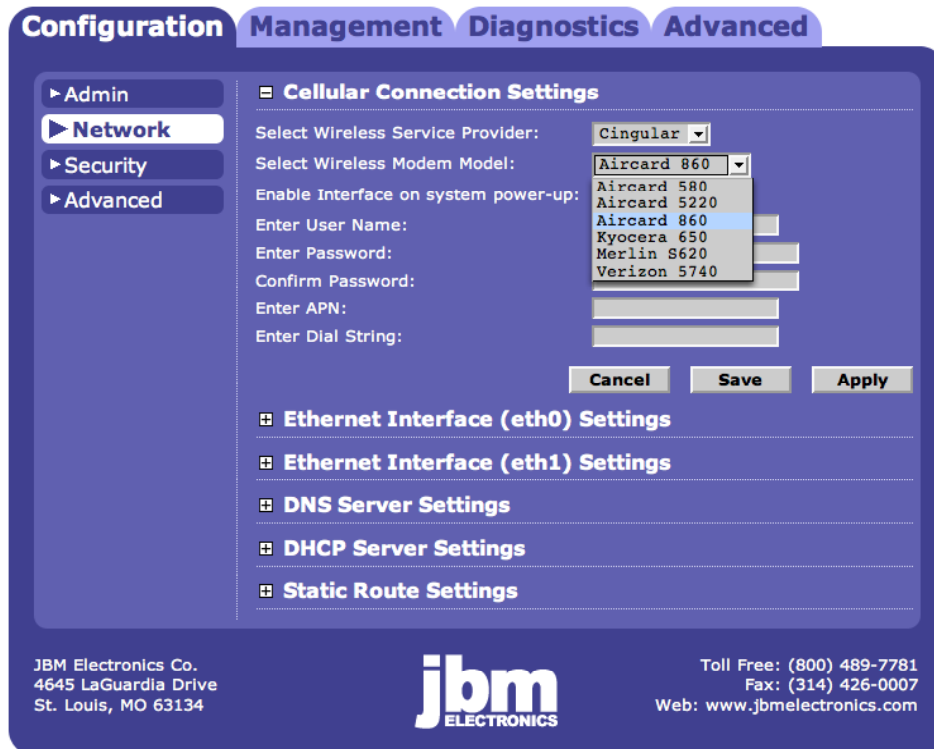
At the bottom of the interface, the JBM Electronics logo is centered. To the left, the address is listed: JBM Electronics Co., 4645 LaGuardia Drive, St. Louis, MO 63134. To the right, contact information is provided: Toll Free: (800) 489-7781, Fax: (314) 426-0007, and Web: www.jbmelectronics.com.

Version 2.02j

- Select the cellular carrier you are using from the drop-down menu.



- Select the Aircard you are using:



Step 2: Set the Userid, password and APN

- If you are using a GPRS, Edge, or HSDPA based card, enter the userid, password, and APN that was provided by your cellular carrier. This information should have been packaged with your card. If you do not have this information please contact your carrier account representative or the carrier' support department before proceeding.

The screenshot displays the 'Configuration Management' interface for JBM Electronics. The 'Network' tab is selected, and the 'Cellular Connection Settings' section is expanded. The settings are as follows:

Select Wireless Service Provider:	Cingular
Select Wireless Modem Model:	Aircard 580
Enable Interface on system power-up:	Yes
Enter User Name:	trailXXX@INTERNET
Enter Password:	*****
Confirm Password:	*****
Enter APN:	internettrial
Enter Dial String:	

Buttons for 'Cancel', 'Save', and 'Apply' are visible at the bottom of the settings section. Below the cellular settings, other network settings like Ethernet Interface, DNS Server, DHCP Server, and Static Route are listed but collapsed.

At the bottom of the interface, contact information for JBM Electronics Co. is provided: 4645 LaGuardia Drive, St. Louis, MO 63134. The toll-free number is (800) 489-7781, the fax is (314) 426-0007, and the website is www.jbmelectronics.com.

Note: The userid, password, and APN are case specific. Be certain that you use the exact information as provided by your carrier.

Step 3: Save and Apply the Configuration

- Click the "Save" button to permanently save the configuration.
- Click the "Apply" button to activate the configuration.

Verify Cellular Connectivity

At this point, if you previously verified that your aircard worked properly in your PC/laptop, and have been accessing the GAU to configure your JBM gateway via its' browser, you should be able to access the Internet.

- Open a browser on the PC/Laptop, and attempt to browse the Internet.

Note: Depending on the provisioning of your card, particularly in corporate applications in which the JBM Gateway is providing cellular backup connectivity to wired circuits, your card may be restricted from Internet access. If this is the case, you may want to instead test to insure that you are able to access your corporate network. If you have any question as to your configuration please check with your network administration.

If you were able to successfully access you're the Internet, or your corporate network, then congratulations, your JBM Gateway is up and running and you have successfully completed the Quick Start. You may skip the troubleshooting section that follows.

If you were unable to access the Internet, or your corporate network, the section that follows will help you to determine the cause of your difficulties.

Cellular Connectivity Troubleshooting

If you are reading this section, you have followed all of our instructions so far and your JBM Gateway is not communicating. This section is intended to give you some additional things to check in order to isolate the cause of your difficulties.

Cellular Reception

Before we get into specifics regarding how to identify and address specific problems that can be encountered, it is important that we spend a moment talking about cellular signal reception, and appropriate expectations.

All of the major cellular carriers expend significant sums insuring that we have excellent signal coverage within their coverage areas. However, they have no control over the environments in which we attempt to place or use our cellular devices.

The principles behind cellular data reception are similar to cellular phone reception. Therefore, our environment has the potential to significantly impact our ability to receive a good quality cellular signal.

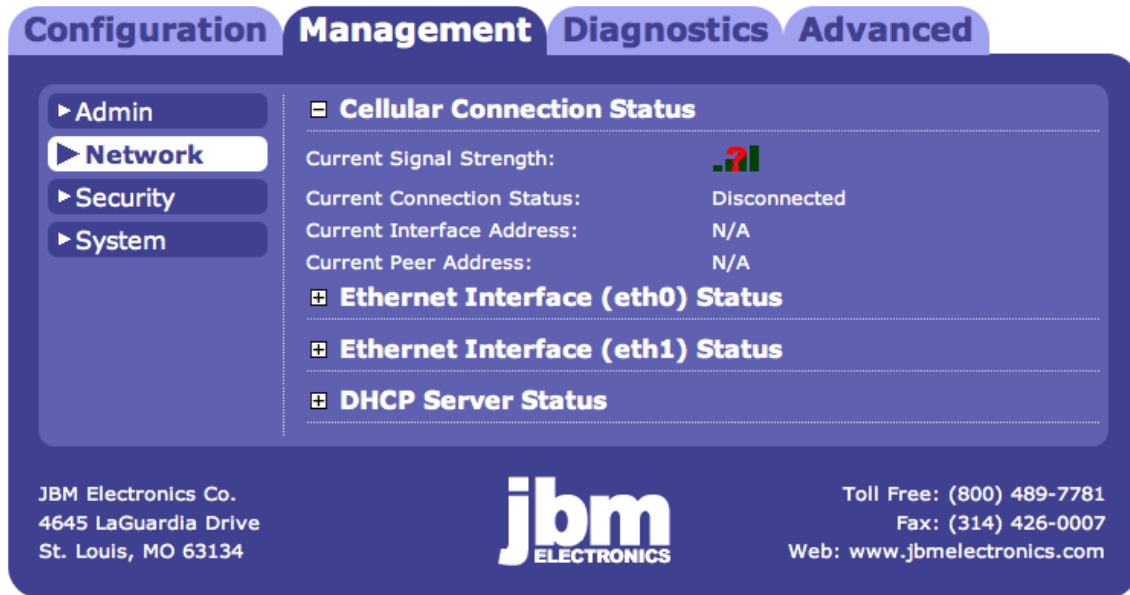
You should be aware that it is possible to stand in the parking lot of a building and have perfect reception, but walk just 10 feet inside a concrete and steel building and have absolutely no reception at all.

The important thing to understand here is that in many, many instances it is not the cellular network that causes us reception problems, but the environment in which we place our cellular devices.


For this reason, JBM Electronics **strongly** recommends the use of external antennas when implementing cellular data. It can make the difference between an implementation that works and one that doesn't.

Verifying IP Connectivity

First, let's check to make sure that your card is connecting to the cellular network and obtaining an IP address. Navigate to the GAU screen shown below:



The screenshot displays the 'Management' tab of the configuration interface. On the left, a sidebar contains menu items: Admin, Network (selected), Security, and System. The main content area shows the 'Cellular Connection Status' section with the following information:

- Current Signal Strength: 
- Current Connection Status: Disconnected
- Current Interface Address: N/A
- Current Peer Address: N/A

Below this section are expandable options for 'Ethernet Interface (eth0) Status', 'Ethernet Interface (eth1) Status', and 'DHCP Server Status'. At the bottom of the screen, contact information for JBM Electronics Co. is provided, including the address (4645 LaGuardia Drive, St. Louis, MO 63134), phone number (Toll Free: (800) 489-7781), fax number (Fax: (314) 426-0007), and website (Web: www.jbmelectronics.com).

If your screen looks similar to the one shown above, you are having signal reception difficulties. As you will notice, the card is neither connected to the cellular network, nor has it been able to obtain an IP address from the network.

You can further verify this condition by examining the LED signal meter on the left side of the front panel of the device as shown in the picture below:



If the top and bottom LEDs are flashing the device is not receiving sufficient signal from the cellular towers in order to be able to connect to the network. Typically, 2-3 LEDs of reception are a minimum requirement for a sustainable connection.

Minimal Reception

On occasion, you can find yourself in a situation where you have just enough signal to be able to communicate with the cellular tower, and obtain an IP address, but not enough reception to be able to sustain a viable connection.

If your cellular card is using dynamically assigned IP addresses, you can determine if you are in a situation like this by watching the “Current Interface Address” and “Current Peer Address” fields in the screen below:

The screenshot shows a web interface for JBM Electronics. The top navigation bar has four tabs: Configuration, Management, Diagnostics, and Advanced. The left sidebar has a menu with 'Admin', 'Network' (selected), 'Security', and 'System'. The main content area is titled 'Cellular Connection Status' and displays the following information:

Current Signal Strength:	
Current Connection Status:	Disconnected
Current Interface Address:	N/A
Current Peer Address:	N/A

Below this, there are three expandable sections: 'Ethernet Interface (eth0) Status', 'Ethernet Interface (eth1) Status', and 'DHCP Server Status'. At the bottom of the page, there is contact information for JBM Electronics Co., including the address (4645 LaGuardia Drive, St. Louis, MO 63134), phone number (Toll Free: (800) 489-7781), fax number (Fax: (314) 426-0007), and website (Web: www.jbmelectronics.com).

If you refresh this screen every few minutes and notice that the “Current Interface Address” is changing frequently, it is very possible that your device is connecting to the network and obtaining an IP address, and then the connection to the cellular network is being dropped. When the connection is re-established the device is then issued a different IP address.

In this situation an external antenna can boost the signal enough to provide a sustainable cellular connection.

Authentication Issues

If you are using a GPRS/EDGE/HSDPA card, and have at least three LEDs of signal on the front panel signal meter, your radio connection to the network may be just fine. The problem may lie in logging onto the cellular network.

Return to the screen shown below:

The screenshot displays a web-based configuration interface for a device. At the top, there are four tabs: "Configuration", "Management", "Diagnostics", and "Advanced". The "Configuration" tab is active. On the left side, there is a vertical menu with four items: "Admin", "Network", "Security", and "Advanced". The "Network" item is selected and highlighted. The main content area is titled "Cellular Connection Settings" and contains the following fields and options:

- Select Wireless Service Provider: Cingular (dropdown menu)
- Select Wireless Modem Model: Aircard 580 (dropdown menu)
- Enable Interface on system power-up: Yes (dropdown menu)
- Enter User Name: trailXXX@INTERNET
- Enter Password: *****
- Confirm Password: *****
- Enter APN: internettrial
- Enter Dial String: (empty text box)

Below these fields are three buttons: "Cancel", "Save", and "Apply". Underneath the Cellular Connection Settings section, there are several expandable sections for other network settings:

- Ethernet Interface (eth0) Settings
- Ethernet Interface (eth1) Settings
- DNS Server Settings
- DHCP Server Settings
- Static Route Settings

At the bottom of the interface, there is contact information for JBM Electronics Co., including their address (4645 LaGuardia Drive, St. Louis, MO 63134), toll-free number (800) 489-7781, fax number (314) 426-0007, and website (www.jbmelectronics.com). The JBM Electronics logo is also present.

Re-verify your userid, password, and APN information. Be sure to pay close attention, as all three of these items are case specific and must be entered **exactly** in order to properly log into the cellular network.

Don't forget to click "Save" and "Apply" if you make any changes.

JBM Technical Support

If you have followed all of the instructions up to this point, have satisfied yourself that you are not having an authentication problem, are convinced that you have sufficient reception, and your gateway is still not communicating, then it is time to contact JBM Technical Support at 800-489-7781 and we will be happy to assist you in getting your gateway up, running, and operational.

HARDWARE STATUS LEDS		
Power:	Yellow – Power Connection Status (PWR)	
	<i>ON</i>	Power is being received by the C130
	<i>OFF</i>	Power is not being received by the C130
Ethernet Ports:	Green – LAN Connection Status (LINK)	
	<i>ON</i>	C130 is connected to LAN
	<i>OFF</i>	C130 is not connected to the LAN, or the C130 is in the process of being reset
	RED – Data Transmit Activity Status (T)	
	<i>ON-OFF-ON (Flickering)</i>	C130 is transmitting packets
	Green – Data Receive Activity Status (R)	
	<i>ON-OFF-ON (Flickering)</i>	C130 is receiving packets
RS232 Ports: (Async)	Green – Data Receive Activity Status (RD)	
	<i>ON-OFF-ON (Flickering)</i>	C130 is receiving packets
	Red – Data Transmit Activity Status (TD)	
	<i>ON-OFF-ON (Flickering)</i>	C130 is transmitting packets
Card Bus:	Yellow – Activity (ACT)	
	<i>ON</i>	Card negotiation with Bus in C130

<i>SPECIFICATIONS</i>		
Console Port:	Baud Rate:	110-115,200 bps
	Interface:	One Female DB-9, RS-232C DCE
Ethernet Ports:	Mbps:	10/100BaseT
	Interface:	Two Female RJ-45 connectors
RS232 Ports: (Async)	Interface:	Type II Connector, 3.3V or 5V, 16 bit PC Cards or 32 bit Card Bus
		Linux 2.6 Kernel
RS232C Port: (Sync)	Console Port:	CLI Access through async connection
	IP Protocol	SNMP, HTTP/S, Telnet, SSH
Card Bus:		12V DC (External) 120 VAC 60Hz or 120-240 VAC 50/60Hz
Operating System: Management:	Size:	7" W x 2.5" H x 8" L
	Weight:	2 pounds
		486DX-100
Power:		32 MB RAM, 16MB Flash
Physical:		1 Year Parts and Labor

Software Licensing Terms and Conditions

Software supplied with each JBM Electronics' product remains the exclusive property of JBM Electronics. JBM grants with each unit a perpetual license to use this software with the express limitation that the software may not be copied or used in any other product for any purpose. It may not be reverse engineered, or used for any other purpose other than in and with the computer hardware sold by JBM Electronics.

FCC Compliance Statement

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC rules.

These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

This equipment generates, uses and can radiate radio frequency energy; and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference to radio communications, in which case the user will be required to correct the interference at their own expense.

Warning: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Information To The User

If this equipment causes interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

In order to meet FCC emissions limits, this equipment must be used only with cables that comply with IEEE 802.3

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions.

The user may find the following booklet prepared by the Federal Communications Commission helpful: "How to Identify and Resolve Radio-TV Interference Problems".

This booklet is available from:

U.S. Government Printing Office
Washington, DC 20402
Stock No. 004-000-00345-4

Page -18-

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Warranty

JBM Electronics provides a limited hardware warranty for the Gateway, which consists of the following:

- This warranty is effective for one year from the delivery date of the Gateway to the purchaser.
- The purchaser is responsible for returning the defective unit to our factory, freight prepaid.
- If the Gateway is under warranty, we will repair it at our cost and return it, freight prepaid, via UPS ground service.
- If the Gateway is not covered by the warranty, we will notify you of the repair charges. We will not repair the Gateway without your permission.
- Repairs are guaranteed for 90 days or the remainder of the warranty, whichever is longer.

Buyer's remedies for breach of warranty shall be limited to repair or replacement subject to adjustment as stated herein, or full or partial adjustment to purchase price.

The JBM Electronics Gateways are provided with the following warranty:

1. Hardware maintenance and repair is available on a return to factory basis.
2. Configuration assistance is included for the first 60 days after the initial contact to JBM Technical support. After this initial period, configuration assistance will continue to be available on a chargeable basis.
3. Software support does not provide for custom code. Custom changes are available as a chargeable option.
4. The warranty only covers items with a serial number. Cables and adapters are not covered.

Extended Warranty Program

JBM offers an extended warranty for the Gateway. This program extends the original warranty on a yearly basis. In addition to extending the original warranty, the emergency replacement program is included for the cost of freight only.

The extension must be purchased before the original warranty expires. Please contact JBM Electronics for further information

Except for the express warranty set forth herein, JBM Electronics Co. grants no warranties, either express or implied, of merchantability and fitness. The stated express warranty is in lieu of all liabilities or obligations of JBM Electronics Co. for damages including but not limited to consequential damages occurring out of or in connection with the delivery, use or performance of JBM products.

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