







Modem Network Connection

After the modem has been successfully provisioned and if applicable the SIM card has been accepted, a data connection can be enabled. The SVC LED will indicate when the cellular connection has been established.

- Steady **green** indicates a **3G** connection.
- Steady **amber** indicates a **2G** connection.

Return to the modem Home page to verify PPP Status is UP. The PPP IP Address shows the current IP address assigned to the modem and you are ready to browse the Web.

Basic Package

| Description / Part Number | |
|---|---|
| Vanguard series fixed Cellular Router Includes one (1) of each item below. |  |
| ▪ This Quick Start Guide (PN 004-7300-200) |  |
| ▪ CalAmp Information Card (PN 004-7500-000) |  |
| ▪ 6 ft. (1,8 m) 3-wire Power Cable (PN 150-7500-004) |  |
| ▪ Mounting Plate for base mounting* (PN 817-7010-500) |  |
| ▪ I/O Terminal Socket, 3.5 mm 10 Position (PN 415-1001-210) |  |



* Mounting plate includes four #6-32 × ¼ (3/16-inch tread length) clear-zinc plated stainless steel Philips undercut flat head (82° countersink) screws to fasten the plate to the bottom of the Vanguard chassis.

Accessory Kit


| Description / Part Number | |
|---|---|
| Accessory Kit (PN 250-7200-100) Includes one of each item below. |  |
| ▪ Startup CD with Quick Start Guide (PN 002-7200-100) | |
| ▪ 110-220 VAC 3-wire Power Supply (PN 150-7001-005) |  |
| ▪ 4 in. (10 cm) plastic “Rubber Duck” antenna (PN 401-7500-001) |  |
| ▪ 3W Mag Mount Antenna (PN L2ANT0003) |  |

(continued)

Accessory Kit (continued)

| Description / Part Number | |
|--|---|
| ▪ DB-9 Male to DB-9 Female Serial Cable (PN L2CAB0002) |  |
| ▪ Category 5 100Base 7 ft. (2 m) Red Ethernet Cable (PN L2CAB0006) |  |

DIN Rail Mount

| Description / Part Number | |
|---|---|
| DIN Rail Mount (PN 250-5800-410) |  |
| Includes DIN mount assembly (with retainer spring and screw) four #6-32 × ¼-inch length cap screws and four #6 lock washers for fastening to bottom of Vanguard Chassis to facilitate mounting to a DIN rail. | |

Minimum Requirements

Interface and configuration of this cellular device requires a user PC with an Ethernet interface, Microsoft Windows 98 or newer, and a web browser.

Any changes or modifications not expressly approved by the party responsible for compliance (in the country where used) could void the user’s authority to operate the equipment.

CalAmp reserves the right to update its products, software, or documentation without obligation to notify any individual or entity. Product updates may result in differences between the information provided and the product shipped. For access to the most current product documentation and application notes, visit www.calamp.com.

UL Listed models only



When operating at elevated temperature extremes, the surface may exceed +70 Celsius. For user safety, the Fusion should be installed in a restricted access location.



WARNING — EXPLOSION HAZARD, do not connect while circuit is live unless area is known to be non-hazardous.




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Vanguard

MULTICARRIER CELLULAR BROADBAND ROUTER

Quick Start Guide

CalAmp®



This quick start guide covers programming software installation and basic setup. For advanced configuration please refer to the user manual.

CalAmp®

Quick Start Guide

Vanguard Series (fixed location)

MULTICARRIER 3G CELLULAR BROADBAND ROUTER

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ABOUT CALAMP

CalAmp is a leading provider of wireless communications products that enable anytime/anywhere access to critical information, data and entertainment content. With comprehensive capabilities ranging from product design and development through volume production, CalAmp delivers cost-effective high quality solutions to a broad array of customers and end markets. CalAmp is the leading supplier of Direct Broadcast Satellite (DBS) outdoor customer premise equipment to the U.S. satellite television market. The Company also provides wireless data communication solutions for the telemetry and asset tracking markets, private wireless networks, Interoperable Train Control (ITC) radio transceivers for use in railroad Positive Train Control (PTC) applications, public safety communications and critical infrastructure and process control applications. For additional information, please visit the Company’s website at www.calamp.com.

All specifications are typical and subject to change without notice.



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Device Connections

Step 1 If required, insert the SIM with the gold side up. Push the card completely into the slot until it clicks in place.

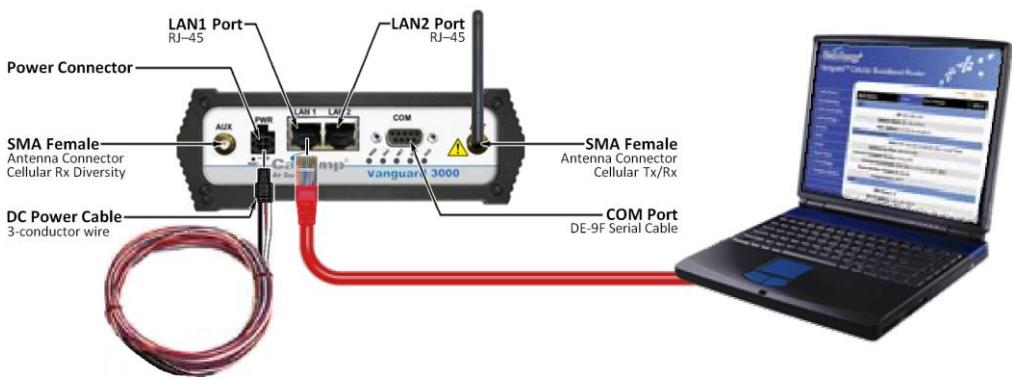
Note: Not required for Verizon or Sprint versions.



Step 2 Connect a cellular antenna (for Tx/Rx) to the SMA connector labeled ANT on the front of the Vanguard modem. Optionally, a second cellular antenna (for Rx diversity) may be connected to the SMA connector labeled AUX.

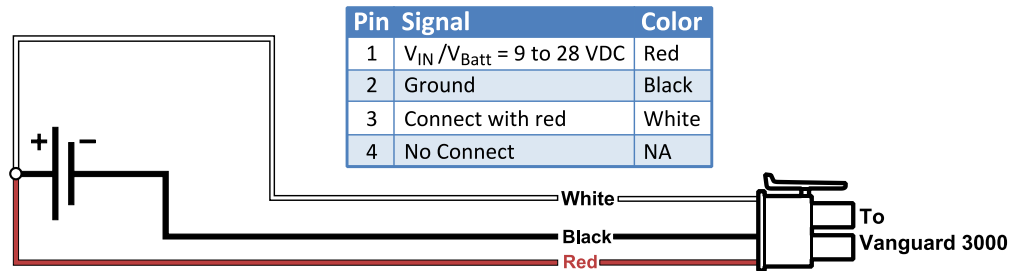
Note: Use of dual-band cellular antennas is preferred.

Step 3 Connect the Ethernet cable to the modem’s Ethernet port and connect the other end into the network port of your PC.



Step 4 Connect the DC power cable (or optional AC power adapter) to an applicable power source and plug the connector into the modem. Use the following diagram and pin-out table when using the 3-wire cable to connect the unit to a DC power supply.

Note: White and red wires must both be connected to positive DC power to power the Vanguard router.



At power up, all LEDs will light red, then amber, then green. When the boot sequence has completed, RSSI will light solid green and SVC will blink green.

Subscriber Activation

In order to use the modem, it must be activated for your specific carrier. The modem supports Over-The-Air (OTA) activation though each carrier requires a different procedure.

Accessing the Modem’s Web Server

Step 1 Enable a network connection with the following LAN settings. In the Internet Protocol (TCP/IP) Properties window, select **Obtain an IP address automatically** and **Obtain DNS server address automatically**. Click **OK** and close.

Step 2 Open a Web browser and enter **192.168.1.50** in the Address bar. When the connection Login window appears, enter the User name: **admin** and the Password: **password** and click **OK**.

Note: On the modem Home page, the PPP status will read DOWN until the cellular connection is enabled. Before activating the unit, you will need to select your carrier(s) and if applicable activate your SIM card.

Carrier Selection

Step 1 From the Home page, select **Cell Connection** from the Main Navigation Panel and select the **Carrier** tab. In the Carrier section, select your carrier(s) from available carriers listed. **Note:** You cannot select the same carrier for primary and secondary.

Note: If using GSM and your carrier is not listed, select “Generic GSM.”

| Cell Connection | Carrier | GSM Settings | CDMA Settings | System Monitor | Dynamic DNS | HELP |
|---|---------|--------------|---------------|----------------|-------------|------|
| Carrier | | | | | | |
| Active Carrier <input checked="" type="radio"/> Primary <input type="radio"/> Secondary <input type="radio"/> Automatic | | | | | | |
| Primary Carrier AT&T, GSM (NA) | | | | | | |
| Secondary Carrier Verizon, CDMA (NA) | | | | | | |
| Auto Connect <input type="radio"/> Enable <input checked="" type="radio"/> Disable | | | | | | |
| If Auto Connect is enabled and the modem fails to connect, the unit will attempt to reconnect 2 times and then one attempt per the following schedule: 1 minute, 2 minutes, 8 minutes and then every 15 minutes until successful. | | | | | | |
| Primary Carrier | | | | | | |
| Carrier APN ISP.CINGULAR | | | | | | |
| User | | | | | | |
| Password | | | | | | |
| Authentication Protocols <input checked="" type="radio"/> Auto <input type="radio"/> Use only: <input type="checkbox"/> PAP <input type="checkbox"/> CHAP | | | | | | |
| Secondary Carrier | | | | | | |
| User | | | | | | |
| Password | | | | | | |
| Authentication Protocols <input checked="" type="radio"/> Auto <input type="radio"/> Use only: <input type="checkbox"/> PAP <input type="checkbox"/> CHAP | | | | | | |
| ... | | | | | | |
| Cancel Save | | | | | | |

If you have more than one carrier, select whether cell connection will be on the Primary or Secondary carrier, or if automatic switching will be enabled.

Step 2 Click **Save** to save your carrier selection(s). This will also refresh the page. Available selections and requested information in sections below in the page change, specific to your selection of carrier(s).

Step 3 For each carrier selected (primary, and if applicable secondary), select the applicable tab from the top of the Cell Connection page to navigate to settings for the carrier.

- **GSM Subscribers**, including AT&T (NA) and Generic GSM, select **GSM Settings**.
- **Sprint Subscribers** (NA) select **CDMA Settings**.
- **Verizon Subscribers** (NA) select **CDMA Settings**.

See instructions that follow that are specific to your carrier.

CDMA Settings (Provisioning)

| Cell Connection | Carrier | GSM Settings | CDMA Settings | System Monitor | Dynamic DNS | HELP |
|------------------------------------|---------|--------------|---------------|----------------|-------------|------|
| Band Selection | | | | | | |
| Band All bands | | | | | | |
| Cancel Save | | | | | | |
| Current Status | | | | | | |
| MEID A1000004BCD034 | | | | | | |
| Roaming Not Roaming | | | | | | |
| Signal Strength (dBm) -79 (strong) | | | | | | |
| ... | | | | | | |
| Refresh Status | | | | | | |

Sprint Subscribers

Sprint is capable of automatic OMA-DM provisioning. Auto-activation is enabled by default. After power-up, wait 3-4 minutes to verify Unit Status » Status has updated to show MDN/MTN and MSID/MSI numbers. If these numbers do not appear, your device did not provision properly. Refer to the User Manual for manual activation procedures.

| | |
|---|--|
| Enable/Disable OMA-DM Activation | |
| Auto Activation <input checked="" type="radio"/> Enable <input type="radio"/> Disable | |
| SAVE | |
| Manual initiation of OMA-DM Provisioning | |
| Activation Status Activated | |
| OMA-DM Sprint | |
| Cancel | |

Verizon Subscribers

- Make sure you have **strong** or **medium** signal strength (dBm) and **not** roaming.
- Click the **OTASP** button to start the provisioning process.
- Confirm or enter OTASP command ***22899**.

| | |
|-----------------------------|--|
| Carrier-assisted Activation | |
| Command (OTASP Only) *22899 | |
| OTASP Verizon | |

GSM Settings (SIM Card Acceptance)

In GSM Settings, SIM STATUS should read SIM ACCEPTED.

| Cell Connection | Carrier | GSM Settings | CDMA Settings | System Monitor | Dynamic DNS | HELP |
|---|---------|--------------|---------------|----------------|-------------|------|
| Band Selection | | | | | | |
| Band All bands | | | | | | |
| Cancel Save | | | | | | |
| Current Status | | | | | | |
| SIM STATUS: SIM ACCEPTED | | | | | | |
| PIN STATUS: PIN DISABLED | | | | | | |
| Change PIN Status | | | | | | |
| Action: PIN is disabled. To change it, it must be enabled first. | | | | | | |
| Disable PIN (Enter Current PIN) <input checked="" type="radio"/> Yes <input type="radio"/> No | | | | | | |
| PIN Entry (Enter as directed above) | | | | | | |
| Current PIN | | | | | | |
| Cancel Save | | | | | | |

Verify Unit Status » Status has updated to show MDN/MTN and MSID/MSI numbers. If these numbers do not appear, your device did not provision properly. Refer to the User Manual for manual activation procedures.