

RAM® 9000 Models

LTE, HSPA, EVDO & WiFi



Unpacking Instructions

1. Unpack the Red Lion unit and verify the following components are enclosed in the package:
 - Unit and Quick Start Guide.
 - Power Supply, Antennas and accessories sold separately.
2. Contact your cellular provider (carrier) and request a data account. For LTE models (RAM 97xx/99xx), the carrier should provide you with a SIM card (size: 2FF) to insert into the router, along with the APN, username & password for data connectivity.
3. Insert the SIM card:
 - Locate the SIM card & battery panel on the bottom of the RTU. Open panel by removing the single screw.
 - Insert the SIM card as shown on the silkscreen next to the slot.
 - Push the SIM card in until it clicks. Close panel and secure with a single screw.



4. An antenna with an SMA-M connector should be connected to the RTU directly or via a coaxial cable. This antenna should meet the specifications listed below. Also see the Hardware Manual for more information on antennas.

- LTE: 700 MHz
- Nominal 50 ohm impedance
- Voltage Standing Wave Ratio (VSWR) less than 2.5:1

5. Power is supplied to the RTU via the 6-screw plug on the top.



Pin	Name	Description
P1+	Power 1+	This is the primary power source input (+)
P1-	Power 1-	This is the primary power source input (-)
	Chassis Ground	Tie to the panel or chassis ground
P2+	Power 2+	This is the secondary (backup) power source input (+)
P2-	Power 2-	This is the secondary (backup) power source input (-)
	Chassis Ground	Tie to the panel or chassis ground

Device accepts 8-30 VDC power (Power supply, antennas and accessories sold separately).

6. Please allow 1-2 minutes for the unit to recognize the cellular unit connected to the cellular network. When this has occurred the Signal Strength LEDs should lit up (see table on back). If signal strength is not lit or flashes slowly, please refer to the Software Manual at www.redlion.net/sixnet_documentation.
7. Connect to the Ethernet RJ45 port for network connectivity.

Accessing the Web User Interface using AutoNet

1. Connect the RAM-9000 router to an existing network.
 - a. Connect an Ethernet cable between the router and your local corporate LAN or directly to your PC/Laptop.
 - b. Verify the green LED on the Ethernet port is lit.
2. RAM-9000 will obtain its IP address via DHCP if a DHCP server is present, if not the Ethernet interface will set a static IP and enable a DHCP server on the interface. If your PC is

connected directly to the Red Lion router it will obtain a local IP address from the router.

3. Access Web User Interface

Open a web browser and navigate to <http://ram-Last 6 of Ethernet MAC Address>:

Example: <http://ram-6d3f11.local/>

Accessing the Web User Interface (Traditional Method)

1. Connect the PC to the RAM-9000 router.
 - a. Connect an Ethernet cable between the local PC and any available Ethernet port.

2. Setup PC IP Address.

PC to Ethernet Interfaces

Use the following IP address and fill in the blank fields with the information below:

	WAN/ETH0	LAN/ETH1
IP Address	192.168.0.2	192.168.1.2
Subnet Mask	255.255.255.0	255.255.255.0
Default Gateway	192.168.0.1	192.168.1.1
Preferred DNS	192.168.0.1	192.168.1.1

3. Access Web User Interface

Open a web browser and enter the following in the address bar:

- WAN/ETH0: <http://192.168.0.1:10000/>
- LAN/ETH1: <http://192.168.1.1:10000/>
- USB: <http://192.168.111.1:10000/>

Login Instructions

1. For User Name enter:
 - **admin** (lowercase letters)
2. For Password enter:
 - last six digits of the unit serial number.

Note: For security purposes, changing the admin password according to internal policy is recommended.

To change password, go to: **Admin**→**Access Settings**.

If you have any problems getting connected, please refer to the Red Lion Software Manual located at:

www.redlion.net/sixnet_documentation.

Verify Cellular Connectivity

Confirm the following on the GUI (see Figure B) after logging into the unit:

Activation: “Succeeded” or “Unavailable”

Connection: “Enabled”

IP Address: Populated with a network IP address

Signal Strength has GREEN bars populated. If you see any RED bars represented under the Signal Strength graphics, please consult the User Manual. Ethernet (Eth0) should show “Up” and show the network issued IP address.

Note: : If “Unavailable” and connection “Unknown” browse to the **Status→EZ Config Wizard** or **Network Tab → Cellular Connection → Configuration** and input the APN field.

If you were unable to confirm this status on the Main page, please refer to the RAM 9000 Software Manual for troubleshooting steps at www.redlion.net/sixnet_documentation.

For more information to set up Modbus features, please refer to the RAM 9000 Hardware Manual available at www.redlion.net/sixnet_documentation.

If you are able to confirm this status, then your unit is successfully connected to the cellular network.

Red Lion Technical Support

If you have followed all instructions up to this point, have verified with your carrier that you are not having an authentication problem, verified that you have adequate cellular signal reception, and your unit is still not communicating, then it is time to contact Red Lion Technical Support at support@redlion.net or 1-877-432-9908 and we will be happy to assist in getting your unit operational.

Hardware Status LEDs*

LED	State	Description
P1/P2	ON	Power is applied to the associated input
	OFF	Power is not being applied to the associated input
GPS	ON	Position fix available
	OFF	No position fix available
RESET	ON	Unit is booting. Not ready
	OFF	Unit is functioning normally
WAN	ON	Cellular connection is established
	OFF	Cellular connection is not established
STATUS	ON	Unit is booting up
	OFF	Normal operation
	FLASH STROBE	Unit entering reflashing mode. Do not disturb System error, contact Red Lion Support

*See the RAM 9000 Hardware Manual for more information on LEDs.

Installation and Hazardous Area Warnings

All power, input and output (I/O) wiring must be in accordance with Class I, Division 2 wiring methods and in accordance with the authority having jurisdiction.

Suitable for use in Class I, Division 2, Groups A, B, C and D hazardous locations, or non-hazardous locations only.

WARNING – EXPLOSION HAZARD – SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR CLASS 1, DIVISION 2.

WARNING – EXPLOSION HAZARD – DO NOT DISCONNECT EQUIPMENT UNLESS POWER HAS BEEN SWITCHED OFF OR THE AREA IS KNOWN TO BE NONHAZARDOUS.

WARNING – EXPLOSION HAZARD – BATTERIES MUST ONLY BE CHANGED IN AN AREA KNOWN TO BE NON-HAZARDOUS.

WARNING – EXPOSURE TO SOME CHEMICALS MAY DEGRADE THE SEALING PROPERTIES OF MATERIALS USED IN THE RELAYS.

WARNING – THE RELAY CANNOT BE USED IN IECEx AND ATEX APPLICATIONS.

Note: For ATEX Safe Conditions of Use, please see the RAM 9000 Hardware Manual.

These products are operator interface units to be used within control panels. These devices are intended for use in Class I, Division 2, Hazardous Locations, industrial control applications. The enclosure shall be suitable for the location.

A minimum IP54 rated enclosure is needed for ATEX unless an equivalent degree of protection is supplied by the location.

These products are to be used within control panels in hazardous locations. The enclosure shall be suitable for this location. Hot-swapping is not for use in hazardous locations

Avertissements pour Installation et Endroits Dangereux

Tout courant, câblage entrée et sortie (I / O) doit être conforme aux méthodes de câblage à la Classe I, Division 2 et conformément à l'autorité compétente.

Cet appareil est adapté pour utilisation en Classe I, Division 2, Groupes A, B, C, D endroits dangereux ou endroits non-dangereux.

AVERTISSEMENT – RISQUE D'EXPLOSION – LA SUBSTITUTION DE TOUT COMPOSANT PEUT NUIRE À LA CONFORMITÉ DE CLASSE I, DIVISION 2.

AVERTISSEMENT – RISQUE D'EXPLOSION – NE DÉBRANCHEZ PAS L'ÉQUIPEMENT À MOINS QUE L'ALIMENTATION AIT ÉTÉ COUPÉE OU QUE L'ENVIRONNEMENT EST CONNU POUR ÊTRE NON DANGEREUX.

AVERTISSEMENT – RISQUE D'EXPLOSION - LES BATTERIES DOIVENT ÊTRE REMPLACÉES DANS UNE ZONE CONNUE COMME ÉTANT NON-DANGEREUSE.

AVERTISSEMENT - L'EXPOSITION À CERTAINS PRODUITS CHIMIQUES PEUT DÉGRADER LES PROPRIÉTÉS D'ÉTANCHÉITÉ DES MATÉRIAUX UTILISÉS DANS LES RELAIS ÉTANCHE PÉRIPHÉRIQUE.

AVERTISSEMENT - LE RELAIS NE PEUT PAS ÊTRE UTILISÉ DANS LES APPLICATIONS ATEX ET IECEx

REMARQUE : POUR ATEX LES CONDITIONS D'UTILISATION SÛRE, VEUILLEZ VOIR LE MANUEL DU MATÉRIEL 9000 RAM

Ces produits sont des unités d'interface opérateur qui doivent être utilisés à l'intérieur des panneaux de commande. Ces appareils sont destinés à une utilisation en Classe I, Division 2, zones dangereuses, applications de contrôle industriel. L'enclos doit être adapté à l'environnement lieu.

Un boîtier IP54 minimum est nécessaire pour ATEX à moins qu'un degré équivalent de protection est fourni par l'emplacement.

Lorsque dans des endroits dangereux, ces produits doivent être utilisés dans des panneaux de contrôle. Pas de remplacement à chaud des modules dans les zones dangereuses