

Instruction Sheet

How to Connect Your Micromate® Monitoring Unit and Sierra Wireless™ Modem to Work with Vision II

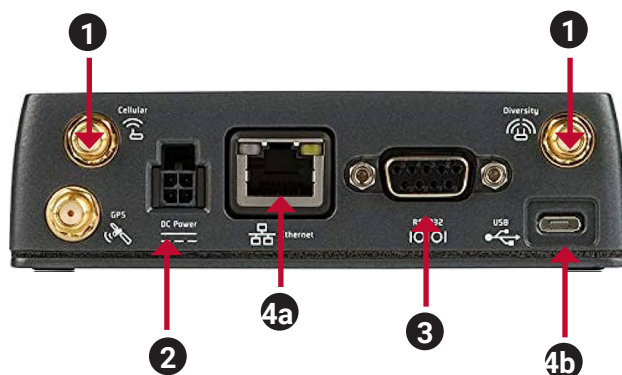
This document describes the hardware connection steps between a **Micromate** monitoring unit and **Sierra Wireless Modem** for Vision II.

Prerequisites:

- A Micromate unit with a serial number greater than UM8000.
- A Sierra Wireless modem model numbers RV50, RV50X, or RV55.



Step 1: Modem Connections



1. Plug in both antennas. One is for Cellular (input) signal (required) and the other is for Diversity (optional).
2. Plug in the DC power connector.
3. Connect the modem to the Micromate monitoring unit using a Serial to USB adapter cable with the RS-232 port (3b).
4. Use either an Ethernet cable (4a) or a Micro USB (4b) for the initial configuration through the ACEmanager.
5. After connecting the modem and it is powered on, wait a few minutes for it to "initialize". You should see a green status light. (If you see yellow or orange, try to position the antennas to get a strong cellular signal.)

Step 2: ACEmanager Configuration

1. Plug in the Ethernet/Micro USB (4) to your PC.
2. For the Ethernet cable, open the ACEmanager Sierra Wireless site: <http://192.168.13.31:9191/>
For the Micro USB cable, open the ACEmanager Sierra Wireless site: <http://192.168.14.31:9191/>
3. Enter your username and password and click "Log in".

The screenshot shows the ACEmanager web interface. At the top, there are logos for SIERRA WIRELESS and AirLink, and the title "ACEmanager". Below the login form, the "DEVICE STATUS" is displayed. The login form has fields for "User Name" (with "user" entered) and "Password" (with "1234" entered), and a "Log In" button. The device status section shows the following information:

DEVICE STATUS	
Network State:	Network Ready
Network Channel:	2325
3G RSSI:	-45dBm
Network Service:	4G
WAN IP Address:	184.151.44.26
3G ECIR:	NA
Cell Info:	CellInfo: TCH: 2325 RSSI: -65 LAC: 11658 CellID: 30457449
LTE Signal Strength (RSRP):	-98
LTE Signal Quality (RSRQ):	-12
LTE Signal Interference (SINR):	5.2

At the bottom, it says "ALEOS Version 4.13.0 | Copyright © 2009-2013 Sierra Wireless, Inc."

4. On the initial "status" page, take note of the Static Active WAN IP address. You can use this for future access without having to plug into a PC. Note: Use <https://184.151.44.26>.

The screenshot shows the "Status" page in the ACEmanager interface. The "General" tab is selected. The "Network State" is "Network Ready". The "Active WAN IPv4 Address" is "184.151.44.26", which is highlighted with a red box. Other information includes "IPv4 Network Interface: Cellular", "Customer Device Name: LT60310215021025", and "Device Uptime: 13 days, 1 hours, 34 minutes".

5. To configure the modem to support secure remote access, first select the Services tab.
6. Set the remote access to "HTTPS Only" and the local access to "Both HTTP and HTTPS".
7. Support both HTTP and HTTPS local access (by using the USB or Ethernet cable connection.)
8. Set the HTTPS Port to 9443.

The screenshot shows the "Services" configuration page in the ACEmanager interface. The "General" tab is selected. The "Remote Access" is set to "HTTPS Only" and the "Local Access" is set to "Both HTTP and HTTPS". The "HTTP Port" is "9191" and the "HTTPS Port" is "9443". The "Session Idle Timeout (minutes)" is "15", the "Maximum Login Attempts" is "3", and the "Unlock Time (seconds)" is "120". The "Custom Certificate" is set to "Disable".

9. Configure the Serial tab as follows:

The screenshot shows the 'Serial' configuration tab. It includes sections for RS232 Port, RS232 Port Configuration, and Advanced settings. The RS232 Port is set to 'Enable'. The Startup Mode Default is set to 'TCP'. The RS232 Port Configuration section shows 'Configure RS232 Port' set to '230400,8N1', 'Flow Control' set to 'None', and 'DB9 Serial Echo' set to 'Disable'. The Advanced section includes various AT command settings: 'Assert DSR' (In Data Mode), 'Assert DCD' (In Data Mode), 'DTR Mode' (Ignore DTR), 'Quiet Mode' (Enable), 'Enable Startup OK response' (Enable), 'AT AT Verbose Mode' (Verbose), 'Call Progress Result Mode' (Disable), 'Convert 12 digit Number to IP Address' (Use as Name), 'Disable ATZ Reset' (Off), 'Serial Watchdog' (Disable), and 'Serial Watchdog Delay (minutes)' set to '10'.

10. Adjust the Admin tab for login options (to remove any potential noisy log entries).

- (i) Set Applications to Info and Yes.
- (ii) Set Rs232 Serial to Notice and Yes.
- (iii) Verify that all other values are set to Notice and No.

The screenshot shows the 'Logging' configuration tab. It includes a table for logging settings and a 'Logging (Module)' section. The table has columns for 'Sub System', 'Verbosity', and 'Display in Log?'. The 'Applications' row is highlighted with a red background, showing 'Info' for Verbosity and 'Yes' for Display in Log?. The 'RS232 Serial' row is circled in red, showing 'Notice' for Verbosity and 'Yes' for Display in Log?.

Sub System	Verbosity	Display in Log?
Cellular	Notice	No
LAN	Notice	No
VPN	Notice	No
Security	Notice	No
Services	Notice	No
Events Reporting/Location	Notice	No
Applications	Info	Yes
UI	Notice	No
ALMS	Notice	No
Admin	Notice	No
System	Notice	No
Network Services	Notice	No
Software and Firmware Update	Notice	No
Web	Notice	No
Connection Management	Notice	No
Link Management	Notice	No

Sub System	Verbosity	Display in Log?
RS232 Serial	Notice	Yes

Step 3: Micromate Monitoring Unit Firmware Update

1. Download the support files onto your computer and insert a FAT32 formatted USB drive into your computer.
2. On the FAT32 USB drive, create a folder named "Instantel".
3. Within this folder, paste the files "MICROMATE.BIN" and "MICROMATE.LDR" from your computer.
4. Plug in the USB drive into the Micromate monitoring unit.



5. Perform a four-button reset by pressing and holding all four buttons for a few seconds.
6. Press and hold the Power button until the unit produces two (2) beeps.
7. As the Micromate monitoring unit begins to load, the following text will appear "Press Setup to load firmware from USB".
8. Press the Setup button **within 3 seconds**. If you do not respond within three seconds, the unit will engage in its regular initialization sequence. You will need to try again by repeating steps 6 and 7.

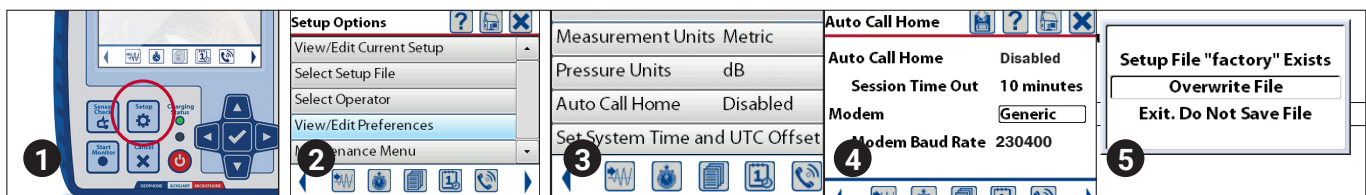


9. After the unit has verified the firmware files on the USB drive, you will see the following text "Update firmware press right arrow". Press the Right Arrow button.
10. Once the firmware is successfully loaded, the unit will display the "Ready to Monitor" screen. The Micromate unit has now been updated with the latest firmware.

Complete firmware installation instructions and the latest firmware release notes can be found on our [website](#).

Step 4: Communication Setup on the Micromate Unit

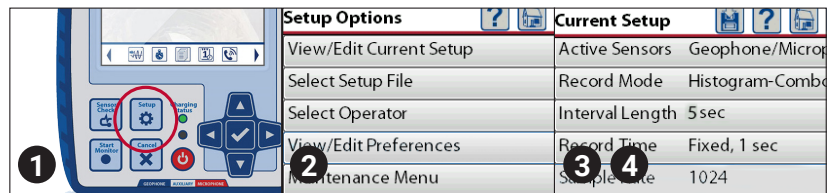
1. Press the Setup Button
2. Tap "View/Edit Preferences"
3. Tap "Auto Call Home"
4. Setup the following options
 - (i) Auto Call Home = Disabled
 - (ii) Modem = Generic
 - (iii) Modem Baud Rate = 230400
5. Click the "X" and then save and overwrite existing file when prompted.



Step 5: Monitoring Setup on the Micromate Unit

1. Press the Setup Button
2. Tap "View/Edit Current Setup"
3. Tap "Record Mode" to be "Histogram-Combo" mode for the first start.
4. Set interval length to 5 seconds.

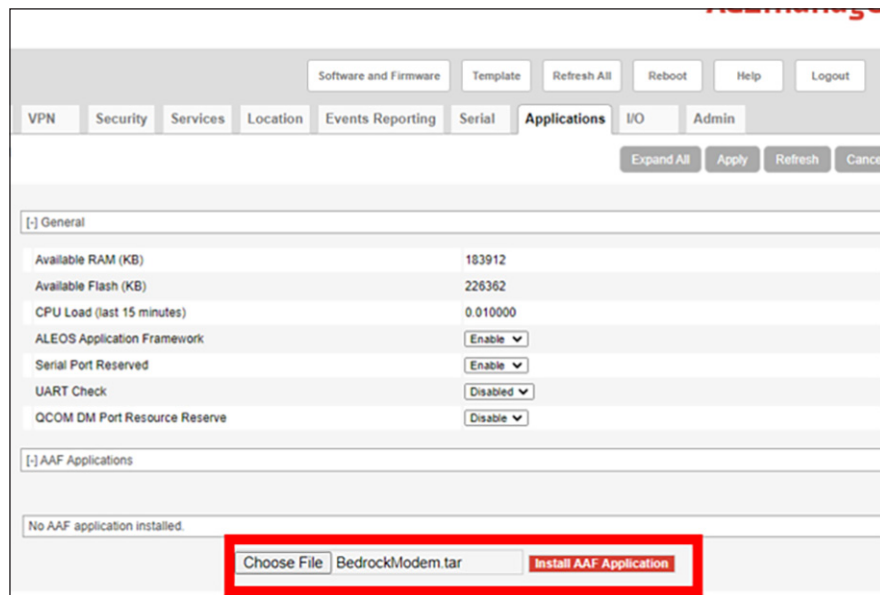
Note: Settings may be changed in Setup Options at a later date for specific needs.



Step 6: Modem Application Setup

IMPORTANT: This step may only be completed after the firmware update on the Micromate monitoring unit.

1. Open the ACEmanager API, either using the USB address or the public IP address noted in the previous step.
2. Click on the Applications tab.
3. If there is an existing "BedrockModem" application (or ANY application), click on Stop and Uninstall. There should be no other applications running.
4. Click on "Choose File" and navigate to the folder where you saved the .tar file provided to you by Instantel. Select the file "BedrockModem.tar".
5. Click on "Install AAF Application". The status should display "Started".



Application Name	Autostart	Version	Status	Actions
BedrockModem	true	1.0	started	Stop Uninstall

Step 7: Modem Application Logging

1. Verify that the application is running correctly by clicking on the Admin tab. On the left side panel, under the "Log" section, click "View Log". You may need to refresh the log or simply wait for log to update. (This process can take a moment as the modem must upload the data and start the application. Times vary depending on your modem signal strength, usually less than 1 minute.)
2. Look for our application start up banner "Micromate Connect running". The log should eventually state "Remote Service Connections Established" or similar.

