



NAL RESEARCH A3LA-RG Iridium Modem with GPS User Guide

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NAL RESEARCH A3LA-RG Iridium Modem with GPS



Product Information

Component	Description
Antenna	NAL Research recommends using the SAF7352-IG antenna. Ensure the GPS antenna is not connected or disconnected while the device is powered. Never supply voltage to the active GPS antenna.
DB25 Multi-Interface Connector	<p>The male 25-pin miniature D-sub type connector includes five interfaces:</p> <ul style="list-style-type: none"> • RS232: Allows a connected DTE to utilize the A3LA-R's modem functionality through standard AT and extended sets of AT commands. • DC input power • ON/OFF control line • Analog audio • Digital Peripheral Link (DPL)
Status LEDs	<p>Four status LEDs indicate:</p> <ul style="list-style-type: none"> • P for power indicator • I for Iridium satellite signal strength • G for GPS signal strength • S for status
Audio Interface	The A3LA-RG can be used as a data modem and a satellite phone when used with the DPL audio handset model DPLS0401-X and DB25 data kit model HRC-24-8R. Both models can be purchased separately from NAL Research. The modem's status can be displayed on the handset LCD. The red power button on the DPL handset can be used to power reset the A3LA-RG.

Product Usage Instructions

1. Ensure the device is turned off.
2. Remove the SIM cover located on top of the A3LA-RG Iridium modem.
3. Insert the SIM chip (facing down) into the SIM chip reader bracket, aligning the cut-off on the SIM chip with the SIM reader.
4. Lower and lock the SIM chip reader's bracket.
5. Connect the HRC-24-8R Data Kit to the DB25 multi-interface connector on the device.
6. Connect the DPL Handset phone to the HRC-24-8R Data Kit.
7. Connect the Iridium antenna (gold) connector to the Iridium (gold) connector port and connect the GPS antenna (silver) connector to the GPS (silver) connector port on the device.
8. Ensure both antennas have a full view of the sky and that the cable loss between the modem and antenna is less than 3 dB.

DEVICES DESCRIPTION

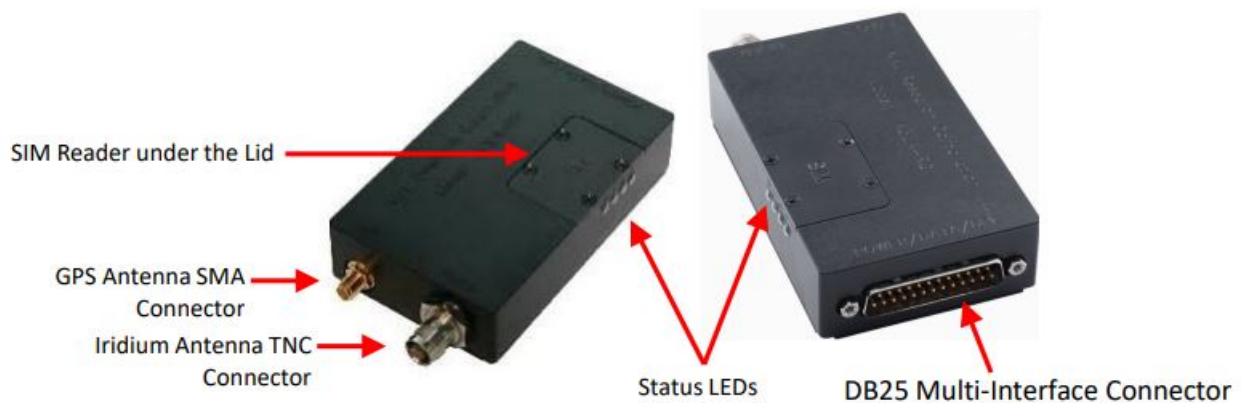
A3LA-RG

The A3LA-RG is an Iridium satellite modem comprising a 9523 L-band transceiver (LBT) and a built-in u-blox MAX-6Q GPS receiver. Services supported include Dial-up data switch, Direct internet connection (or NIPRNET connection), Direct internet connection using Apollo Emulator (only for DoD EMSS Gateway), SMS, SBD, RUDICS, and voice when combined with the DPL audio handset.

A3LA-RG-MIL

The A3LA-RG-MIL is a variation of the original A3LA-RG. It functions the same as the A3LA-RG, but is also certified to the environmental MIL-STD-810G standards and is IP67 rated.

IMPORTANT: The antenna must have a clear view of the sky during transmission



DB25 Multi-Interface Connector: The multi-interface connector is a male 25-pin miniature D-sub type that includes five interfaces—RS232, DC input power, ON/OFF control line, analog audio, and Digital Peripheral Link (DPL).

- **Antenna:** NAL Research recommends the SAF7352-IG antenna. CAUTION: Do not connect or disconnect the GPS antenna while device is powered. Never feed supply voltage into the active GPS antenna.
- **LEDs:** Four status LEDs: P for power indicator, I for Iridium satellite signal strength, G for GPS signal strength, and S for status.
- **RS232 Data Interface:** This interface allows a connected DTE to utilize the A3LA-R's modem functionality through standard AT and extended sets of AT commands.



- **POWER:** The A3LA-RG accepts either 4.0 V – 5.4 V or 5.0 V – 32.0 V input through pin #4 and pin #16. Note that two pins are provided for the external DC input and two pins are provided for the associated external ground input (pin# 3 and pin#17). The
- A3LA-RG is shipped with hardware set for +5.0 V to +32 V input. It can be changed to +4.0 V to +5.4 V input through an internal jumper.

Change Voltage Input to +4.0 V to +5.4 V

CAUTION: DISCONNECT POWER BEFORE RESETTING THE JUMPER

1. With the device turned off, remove the modem's bottom plate to find the jumper.

2. Set the red jumper onto the middle and left pins.

- **NOTE:** To reset the input voltage range back to 3.6 V to +5.3 V, set the red jumper onto the middle and right pins.



Audio Interface


- With the DPL audio handset model DPLS0401-X and DB25 data kit model HRC-24-8R, the A3LA-RG can be used both as a data modem and a satellite phone. Both models can be purchased separately from NAL Research. The modem's status can be displayed on the handset LCD. The red power button on the DPL handset can be used to power reset the A3LA-RG.



Configure Devices to Operate

1. With the device turned off, remove the SIM cover located on top of the A3LA-RG Iridium modem.
2. Insert the SIM chip (facing down) into the SIM chip reader bracket, and ensure the cut-off on the SIM chip aligns with the SIM reader.
3. Lower and lock the SIM chip reader's bracket.
4. Connect the HRC-24-8R Data Kit to the DB25 multi-interface connector on the device.
5. Connect the DPL Handset phone to the HRC-24-8R Data Kit.
6. Connect the Iridium antenna (gold) connector to the Iridium (gold) connector port and connect the GPS antenna (silver) connector to the GPS (silver) connector port on the device.
7. Verify the antennas have a full view of the sky and that the cable loss between the modem and antenna is less than 3 dB.
8. Supply DC power (can be at any voltage between 4.0V 5.4V or 5.0V 32V) to the power input of the HRC-24-8R data kit.
9. Wait for about 15 seconds for the modem to register with the Iridium satellite network.
10. Verify the LCD screen on the DPL handset is ON with the word "Iridium" written across the LCD screen.
11. Dial desired phone number using Iridium's dialing format. Refer to the Iridium DPL Handset user guide.

Documents / Resources

	<p>NAL RESEARCH A3LA-RG Iridium Modem with GPS [pdf] User Guide A3LA-RG, A3LA-RG-MIL, A3LA-RG Iridium Modem with GPS, Iridium Modem with GPS, A3LA-RG Iridium Modem, Modem, Iridium Modem</p>
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