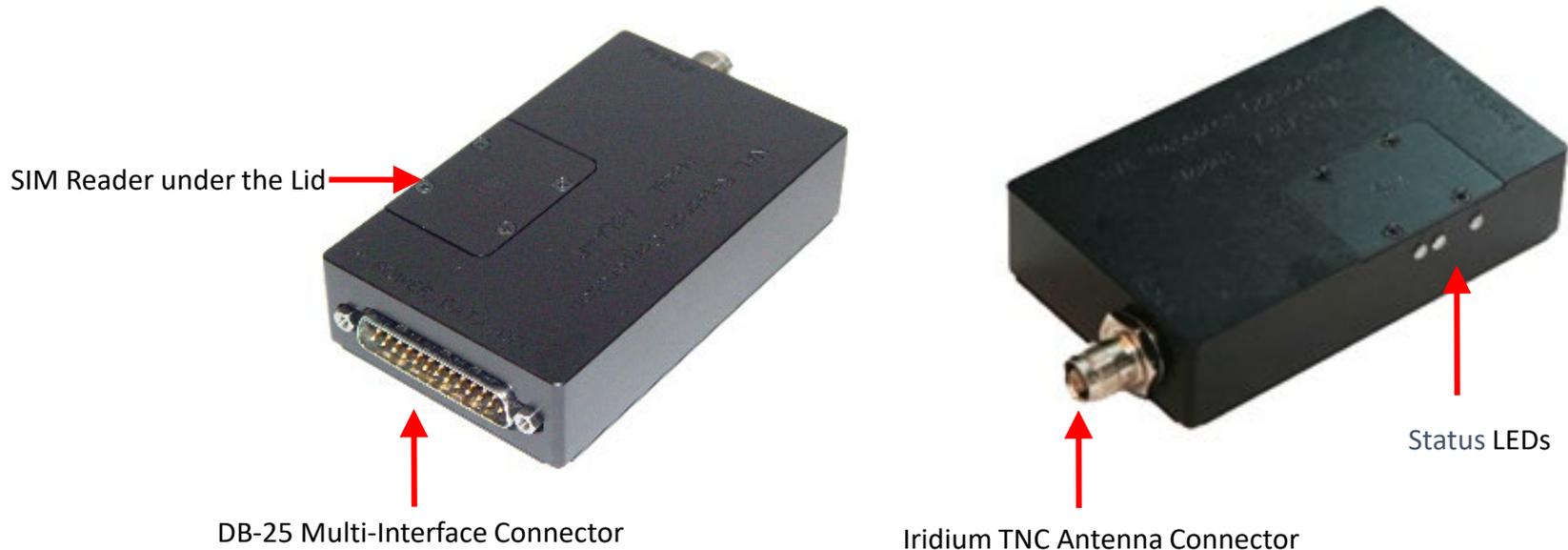## DEVICES DESCRIPTION

❑ **A3LA-RM**

The A3LA-RM is an Iridium satellite modem comprising a 9523 L-band transceiver (LBT) with an extended input voltage range and designed to transmit either AES 256-bit encrypted or unencrypted data via the Iridium satellite network. 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. The A3LA-RM can be controlled by a DTE capable of sending standard AT commands via a serial port.

❑ **A3LA-RM-MIL**

The A3LA-RM-MIL is a variation of the original A3LA-RM. It functions the same as the A3LA-RM 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.

SIM Reader under the Lid

DB-25 Multi-Interface Connector

Iridium TNC Antenna Connector

Status LEDs

DEVICE DESCRIPTION (continued)

- ❑ **DB-25 Multi-Interface Connector**: The multi-interface connector is a male 25-pin miniature D-sub type, that includes five (5) interfaces—RS-232, DC input power, ON/OFF control line, analog audio, and DPL. For details on the pin assignments, refer to the A3LA-RM-MIL user guide (Table 1).

- ❑ **Antenna**: NAL Research recommends the SYN7391-C antenna.

  CAUTION: Do not connect or disconnect the antenna while device is powered..

- ❑ **Status LEDs**: **P)** LED lights up when power is provided, **I)** stays solid when the signal strength is between 3–5, **S)** lights up when the A3LA-RM is in data mode.

- ❑ **Power/Data Cable:** NAL Research recommends the HRC-24-7R cable.

- ❑ **RS-232 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-RM accepts either 4.0 V – 5.5 V or 6.0 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-RM is shipped with hardware set for +6.0 V to +32 V input. It can be changed to +4.0 V to +5.5 V input through an internal jumper. The modem will automatically be ON/OFF when DC power is applied/removed.

- ❑ **Change Voltage Input to +4.0 V to +5.5 V**

- ❑ **CAUTION:** DISCONNECT POWER BEFORE RESETING 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 4.0V to +5.5V, set the red jumper onto the middle and right pins.

Red jumper used to set input voltage range

2

DEVICE DESCRIPTION (continued)

❑ **Audio Interface**

With the DPL audio handset model DPLS0401-X and DB-25 data kit model HRC-24-8R, the A3LA-RM can be used both as a data modem and a satellite phone. The modem's status can be displayed on the handset LCD. The red power button is used to power reset the A3LA-RM.

A3LA-R Modem
DPL Handset
HRC-24-8R Data Kit

CONFIGURE DEVICE TO OPERATE

1. With the device turned off, remove the SIM cover located on top of the modem.

2. Insert the SIM chip (facing down) into the SIM chip reader bracket, ensure SIM chip cut-off aligns with the SIM reader, and then lower and lock the SIM chip reader's bracket.

3. Connect the HRC-24-8R Data Kit to the DB25 multi-interface connector on the device.

4. Connect the DPL Handset phone to the HRC-24-8R Data Kit.

5. Connect the antenna connector to the Iridium connector port on the device.

6. Verify the antenna has full view of the sky and the cable loss between the modem and antenna is <3 dB.

7. Supply DC power to the power input of the HRC-24-8R data kit.

8. Verify Power LED is illuminated.

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.