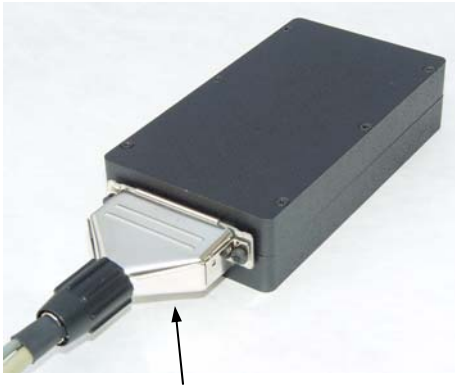
HOW TO USE MODEL 9601-D

TECHNICAL NOTE

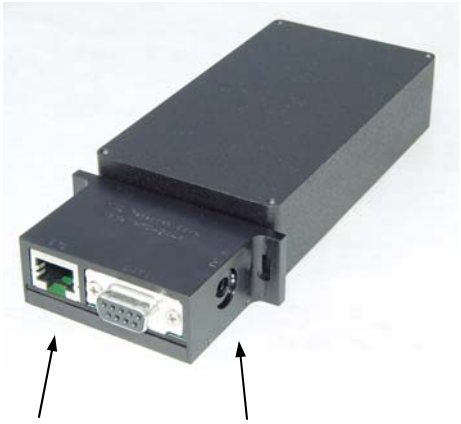
November 15, 2005

MODEL 9601-D-N

1. Connect a data terminal equipment (DTE) such as a computer, a data logger, a microcontroller, etc., to the 9601-D-N's DB25 port using the RS232/data cable model HRC-24-9 (not included and can be purchased separately from NAL Research). The data kit HRC-24-8 can also be used; however, the DPL handset must NOT be connected. The HRC-24-9 cable consists of a full DB9 serial connector and two terminal leads for DC power input. The 9601-D-N supports three-wire serial communication (see document TN2005-610-V1.0) if flow control is not required. The 9601-D-N's baud rate is factory set at 19.2kbits/sec. The 9601-D-N does not need or require a SIM card to operate.



HRC-24-9 Data Cable



DO NOT CONNECT the DPL Handset

HRC-24-8 Data Kit

2. Connect an external antenna to the 9601-D-N. Any of the four types of antennas offered by NAL Research is appropriate. Make sure the antenna has full view of the sky and the cable loss between the modem and antenna is less than 3 dB.

Iridium antenna connector

3. Supply DC power of 5.0VDC (ranging from 4.5VDC to 5.5VDC) to the power leads on the HRC-24-9 or on the HRC-24-8 data kit. The 9601-D-N will NOT power-up unless Pin 1 on the DB25 is held at logic high. The input logic high threshold is 2.0V and logic low threshold is 0.5V. If the toggle ON/OFF function is not needed, Pin 1 on the 9601-D-N can be connected directly to EXT_PWR line (or Pin 4 on the DB25). NAL Research's AC adapter model LA-3098 can be used to power the 9601-D-N (see pictures below).

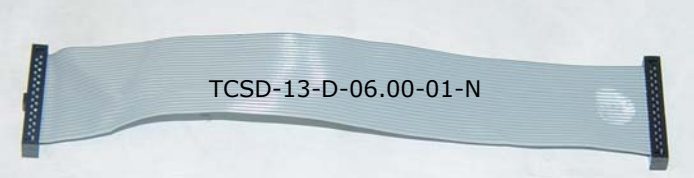
AC adapter model LA-3098

4. Use any terminal emulator software (such as Windows® HyperTerminal) and AT commands to communicate with the 9601-D-N. The 9601-D-N is also shipped with a CD labeled "Manuals/Software for Model 9601-D." There is a terminal emulator software package on the CD called SatTerm. NAL Research recommends the use of SatTerm with the 9601-D-N since it provides a complete reference manual for all AT commands through user selected buttons for quick and easy access.

5. Check the followings if an SBD sessions cannot be established:
    a. Antenna has a full view of the sky
    b. Power source provides adequate current

MODEL 9601-D-I

1. Connect a data terminal equipment (DTE) such as a computer, a data logger, a microcontroller, etc., to the 9601-D-I's 26-pin Samtec connector. Users have to fabricate their own interface cables using the Samtec TCSD series shown in picture below to include both serial data lines and DC power input lines. The 9601-D-I will NOT power-up unless Pin 7 on the 26-pin connector is held at logic high. The input logic high threshold is 2.0V and logic low threshold is 0.5V. If the toggle ON/OFF function is not needed, Pin 7 on the 9601-D-I can be connected directly to EXT_PWR line (or Pin 1). NAL Research's AC adapter model LA-3098 can be used to power the 9601-D-I.



2. Connect an external antenna to the 9601-D-I. Any of the four types of antennas offered by NAL Research is appropriate. Make sure the antenna has full view of the sky and the cable loss between the modem and antenna is less than 3 dB.

Iridium antenna connector

3. Follow steps 4 and 5 in the previous section.

TECHNICAL SUPPORT INFORMATION

For technical support, please contact us at:
Phone: 703-392-1136 x200 or
E-mail: contact@nalresearch.com