

# Activating and Configuring a Cellular Modem

This guide will help you activate and configure the cellular modem in a 3100 or 3200-iSIC data logger.

## Overview

This guide is designed for users who did not receive a factory-activated cellular data logger. Typically cellular modem activation, configuration, and testing are done prior to shipment.

The 3100 and 3200-iSIC data loggers use Raven XT cellular modems, which require activation following cellular account setup. Additionally, after being activated the cellular modems must be configured to work with iSIC data loggers.

## What's Needed

- Data account information from cellular service provider
- 12 VDC battery
- Cellular antenna
- RF cable
- A77 Null modem programming cable
- PC with an open COM Port
- SIM card (for AT&T accounts only)

## Physical Setup

1. Make sure the antenna is connected to the data logger via the RF cable and positioned in a location to maximize signal strength.

**Note:** 3200-iSIC Radio-to-Cellular data loggers have two ports with RF connectors. The cellular antenna must be attached to the **cellular** RF port on these data loggers.

2. Connect the A77 programming cable from the modem cable inside the iSIC to the PC.

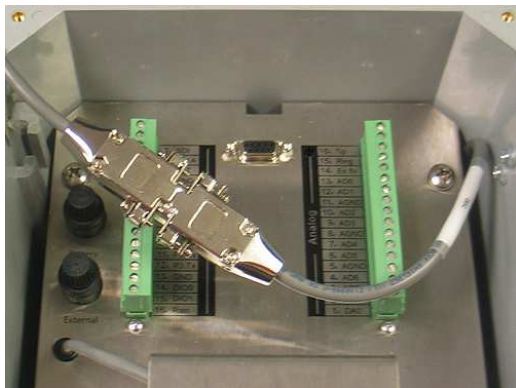


Figure 1: A77 programming cable connected to the iSIC cellular modem cable

3. Power the modem by connecting the battery leads inside of the iSIC.

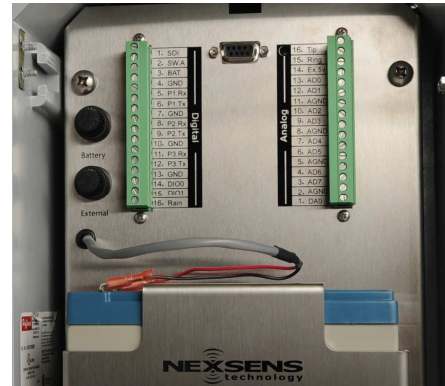


Figure 2: Battery connected inside of iSIC enclosure

## Modem Activation

Go to <http://www.sierrawireless.com> and click **support+downloads**. Click the **Downloads** icon. Choose the appropriate carrier and then select the **Raven XT** product from the list. Click **Next**. Download the Quick Start Guide under Documentation and follow the instructions to activate the modem.

*AT&T modems require SIM card installation.* Disconnect the battery leads in the iSIC before removing the mounting plate screws with a #3 Phillips screwdriver. Be careful not to perturb the data logger's wiring connections when gaining access to the modem.

*Verizon modems can be automatically activated.* These modems activate themselves supplying power to them during the **Physical Setup**. NexSens recommends waiting 2 hours after powering the modem before configuring it. This ensures a complete activation before moving on.

## Modem Configuration

1. Go to <http://www.nexsens.com/support/downloads.htm> and select the software setup package for the appropriate service provider. Fill in the software download form and click **Download Software**.
2. Install and open Ace Manager Software.
3. Cycle power to the iSIC data logger to reset the network activity in the cellular modem.

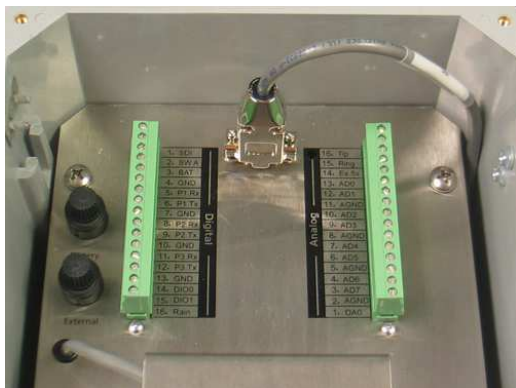
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4. Make sure the A77 programming cable is connected to the modem cable in the iSIC. Click **Connect** in Ace Manager. Select **PPP** as the connection type and the COM port the modem is connected to. **Do not change the password** and click **OK**.
5. After connecting to the modem click **Load** and navigate to the appropriate .xml template (downloaded with the software package). Click **Write** and *Write Successful* will be displayed.
6. Click on the **Status** group and check the **RSSI (dbm)** value. The optimal range is between -60 and -95 dbm. If the received signal strength indication is less than -95, check the connections to the antenna and/or try moving the data logger to a different location.
7. After verifying signal strength click **Disconnect** and close Ace Manager.

## Test Communication in Ace Manager

1. Disconnect the A77 programming cable from the cellular modem cable inside of the iSIC and connect the cellular modem cable to the serial DB-9 port between the iSIC data logger terminal strips.



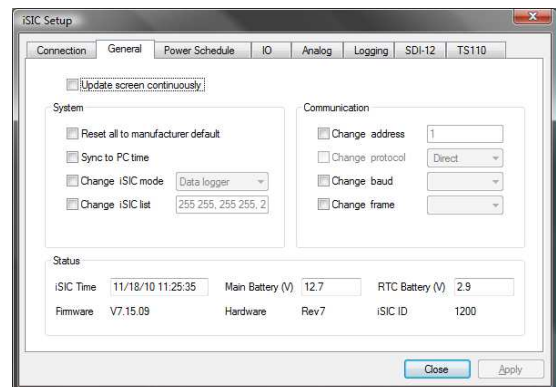
**Figure 3:** A77 programming cable connected to the iSIC serial DB-9 port

2. Open Ace Manager Software.
3. Cycle power to the iSIC data logger to reset the network activity in the cellular modem.

4. Click **Connect** in Ace Manager and select **UDP** as the connection type. Enter the IP address of the modem (provided with cellular account information). **Do not change the password** and click **OK**.
5. Click the **Status** group and verify that the **Network IP** displayed is the same IP address associated with the cellular data account.
6. After verifying IP address, click **Disconnect** and close Ace Manager.

## Test Communication in iChart

1. Open iChart without a current project.
2. Supply power to the iSIC by connecting the battery leads.
3. From the menu bar select **Advanced | iSIC | iSIC**.
4. Select the appropriate iSIC Address and set the Connection type to **SDL500C (Cellular)**. Enter the IP address of the modem and click **Connect**. Make sure the IP Port is set to 500.
5. Switch to the **General** tab.
6. If there are values displayed in the **Status** group box then the modem is now activated and configured for use with the iSIC data logger.



**Figure 4:** General tab shown in the *iSIC Setup* dialog box with values displayed in the **Status** group box

7. From the menu bar select **File | New Project** to get started with setting up a new project in iChart Software.