

SURsms

SUR to Cellular Connection

Operation Manual



SONOTRONICS

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INTRODUCTION

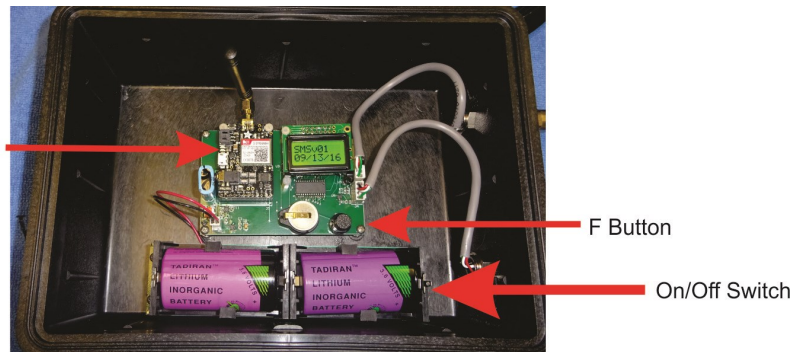
SURsms is a device that intermittently polls Sonotronics SUR submersible receivers for recent ultrasonic transmitter detections, and when found, sends an SMS text message with detail information about the detected transmitters, resulting in near real-time updates. The SURsms is housed in a small weatherproof Pelican box (type 1150) and operates for months on D cell lithium batteries, communicating via the GSM cellular telephone network via an embedded modem utilizing a standard SIM card. The SURsms will operate continuously for about 6 months on a set of 2 lithium D cell batteries (TL-5903 or equivalent) sending up to 7 messages per day.

SETUP

The SURsms ships with a SIM card installed and activated, by default, on the T-Mobile cellular network. Also included with the SURsms is a prepaid VISA card that was used to start the data service with the SIM provider (typically Ting). This amount should allow at least 2 months of normal service, and the end user may choose to either re-load the enclosed VISA card to allow for additional service time, or to contact the SIM provider and arrange automatic payments using a different credit card.

If so instructed, the SURsms will be pre-loaded with the cell phone number of the intended text message recipient, as well as a backup number at the factory. Prior to field deployment, it is recommended to test the connections to the SURsms in a comfortable lab setting. Open the SURsms in order to view the onboard LCD and cellular modem status LEDs.

Next connect the SUR to the SURsms with the long cord that will be used during deployments, and be sure that the SUR is powered on. Next switch on the SURsms power, and after a few seconds observe the sign-on message on the LCD. At this



point, press the “F Button”, and after several seconds an SMS text message which includes the serial number and number of detections stored in the SUR should appear on the designated phone. This “Health Message” will be repeated either once or twice daily after power up to advise that both SURsms and SUR are in good operating condition while in the field. If the SUR is disconnected, this message will indicate an error occurred in communicating to the SUR. If no messages are received from the SURsms after 2 days, a visit to the field location will be necessary to assess the condition of the SURsms and SUR setup (be sure to take along an extra set of batteries in this case).

CONFIGURATION

In general, the SURsms is ready for deployment without additional configuration. Changes to this default behavior are possible by using the Windows based program *SURsmsTool*, or by using a terminal emulator such as TeraTerm and using the appropriate commands listed below (note these are case sensitive):

Command	Response	Comments
<esc><cr>	[Time of Day]	useful serial communication test
<esc>P	<none>	Set Primary Phone number (10 digits)
<esc>S	<none>	Set Secondary Phone number (10 digits)
<esc>R <i>n</i>	<none>	Enable Secondary Phone (<i>n</i> =1/0: Enable/Disable)
<esc>D <i>n</i>	<none>	Detection polls per hour (<i>n</i> =0-5)
<esc>H <i>n</i>	<none>	Health Report Frequency (<i>n</i> =0/1: Once/ Twice daily)
<esc>W?	[Content Display]	Display EEPROM contents
<esc>p	[note LCD update]	Device reset
<esc>q	<none>	Quit configuration
<esc>w?	[hex dump of eeprom values]	
<esc>w>aadd	[none]	Set eeprom address [dd] to [aa] (hexadecimal values) ***
<esc>w<dd	<cr><lf>aa:dd	Displays contents of eeprom address [aa] (hexadecimal values)
<esc>thhmmssmddy	hh:mm:ss mm/dd/yy<cr><lf>	Set Time of Day

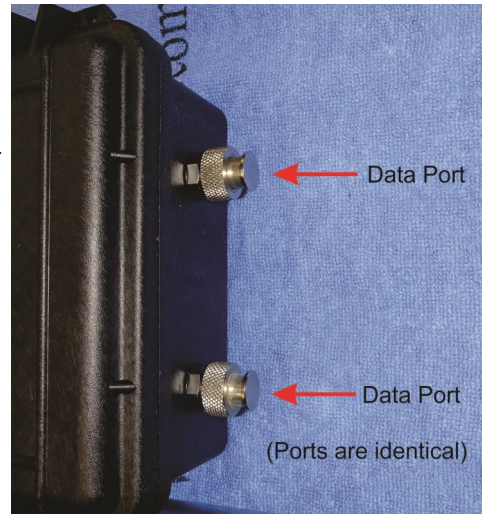
Connection to the SURsms is made using the same configuration/download cable used with the SUR. Data format for the serial connection is: 38400 baud, 8 bit, no parity, 1 stop bit. Note it is necessary to disconnect the SUR from the SURsms box prior to using the configuration utility.

OPERATION

Once configured, and tested in the lab, the SURsms is ready for field use. The SUR should be deployed per the instructions in the SUR manual, with the included waterproof cable connected and the SURsms located within reach of the SUR data cable. If desired, connection, configuration and download of the SUR may be accomplished while physically connected to the SURsms box: *power off the SURsms box*, and connect the separate **Data Translation Cable (DTC)** to the unused port on the side, then connect the SUR data cable and proceed to use SURsoft or other software to communicate with the submerged SUR. Disconnect the DTC and replace the protective cap over the data port, and power on the SURsms, and again press the "F Button". A Health Report text should be received within a few seconds.

CONNECTIONS:

The 2 Data ports located on the side of the SURsms are identical, and either may be used to connect to the submerged SUR or for configuration. Note that while attempting to communicate with a submerged SUR, it is necessary to first connect the DTC (Data translation Cable) and to leave the SURsms powered off while connected to the SUR. When connected to the SURsms for configuration purposes, the SUR should remain disconnected until finished.



NOTES:

Some specific information: This modem uses a SIM card #8901260962164211507F from Ting, and has an assigned telephone number (914)-726-0863. An account for this SIM card is setup using the following:

Email: mrossbtl@aol.com

Pass: manateesarecute

To make changes to this account, including changing from the pre-paid VISA card for ongoing usage payments, use the above information and connect to ting.com

The primary cell phone number assigned at the time of shipment was
(407) 739-9260

With the secondary number enabled and set to (520)241-7354

Health reports issued daily, and SUR polled every 10 minutes for new detections.

Time of Day set to GMT (no change for daylight saving time)



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