

# SOUTHERN<sup>®</sup> BOATING

February, 2007 Issue

Electronics Column

## TEXT MESSAGING SECURITY SYSTEM

BY Gordon West

**Y**OU and your boat HAVE MAIL! Every day at noon I get text message reporting all is well on board. The dock master gets an email too from the ship. At any time 24/7 we could get a text message if a high water alarm, intrusion and nearly instant notification of any audible alarm going off in the pilothouse.

This wireless text messaging and email boat security monitoring system was recently developed by Sensormetrics, in Massachusetts, called the BoatNanny™. Funny name, but one very serious product which uses the latest in wireless digital messaging through the GSM (Global System for Mobile communication) digital cellular network. When an alarm condition is detected, the BoatNanny™ instantly responds by sending you a text or EMAIL message, with subsequent alerts to others you may designate to receive the text message alarm alert.

Unlike an expensive and elaborate hard wired ship alarm system that stays with the boat, BoatNanny™ is so portable, you could even use it in your Porsche when you park for the big ballgame. The GSM cell phone is bi-directional, allowing you to call aboard and remotely reset alarm parameters, and even listen in on the kids'

party that should have ended at midnight!

The BoatNanny™ system consists of a nearly portable base station which contains an internal GSM phone board, passive infrared motion sensor, sensitive microphone, temperature sensor, AC/DC voltage sensor and rechargeable nickel-cadmium batteries for backup. We measured about one amp (the average current is about 0.05A. The initial current after power-on is higher, bursting to about 0.12A while the cellular modem is initializing) of 12 volt DC current consumption that would work with your 12/24 volt DC ship's power or an included AC wall wart voltage adaptor.

A battery operated wireless unit would go in the engine room to monitor temperature and bilge water levels. A quality float switch is permanently attached with six feet of five conductor sheathed 22 gauge wire. The temperature and high water alarm module is wireless, sending a confirming data burst at 2.4 gigahertz to let the base unit know all is well down below. If the temperature exceeds 185 degrees F. (upper and lower threshold temperatures are programmable), just like the base temperature monitor, a wireless command alerts the base to send out a text message alert. Same

thing for a high water activation, too.

Because the remote sensor can be placed anywhere below decks for fire and water monitoring, the big feature is no wires to run back to the base unit. We tested and found that we could get nearly 200 feet of wireless range between remote and base.

To activate GSM digital text messaging over the cellular network, we obtained the card directly from a local GSM cellular service provider, such as T-Mobile or Cingular. The card can also be obtained from a web hosting service such as Datablaze T-Mobile.

Datablaze web hosting is a plus because it can also provide internet access to alarm notifications, history log, sensor level settings, and a host of other features when using any web browser, telephone or connected PDA.  
(<http://www.datablaze.com>)

To see a BoatNanny™ demo, bring up this web page with /boatnanny after the “.com” login as “nanny”, password “demo”.

For under \$10 per month, you could get 300 text messages from your boat! There are many other plans that don't require a monthly fee, and you pay for only the number of routine and/or actual alerts you receive.

Your activated GSM cell phone SIM card slides into a socket inside the bottom of the base unit. Four Phillips head screws (unfortunately, no keepers) make installing the card a whopping one minute exercise. You will be impressed by what you see on the inside that makes this whole system work!

Attach the cell phone antenna, find a location in the cabin that allows the internal IR sensor

to see any unwelcome warm body ready to make off with your helm marine electronic equipment, add 12 volts, and power up BoatNanny™ by switching on the main power switch. The remote fire and high water wireless sensor is down in the engine room aft, already on.

To initialize your new unit, wait for a slow flash green light indicates “normal operation mode”, ready for you to text message the alarm alerting numbers. This is easily done by dialing your BoatNanny™ GSM cell phone number, getting an answer, and then entering “1-1” (“11”) plus the area code and phone number of the same GSM cell phone and text messaging unit you are using. These commands can only be sent using text messaging, not the common DTMF phone keypad.

Before we added our second and third numbers to call, we tested the first number to our own cell phone text messenger by lifting the float switch for about five seconds. Twelve seconds later, our phone rings, and we see the text message “water level>FAIL” and the date and time. Success!

We found that we could add an external warning horn or siren off the hidden high water float switch remote unit. Smart idea. Bad guys won't know where it is! We also found the base unit acoustic alarm a little too sensitive for noises going on around the dock, so we text messaged the base unit to turn down the sensitivity. This worked very well.

Once we had the well written instruction manual command codes in front of us, we could easily text message multiple commands for a complete custom programming BoatNanny™.

Finally, when exiting the vessel, there is a two minute (30 seconds + GSM acquisition time so I would just say 1 minute) escape mode before the IR and acoustic monitors arm themselves. We had several smoke alarm units on board, and if these should activate, the acoustic sensor would pick them up, alert us of an alarm mode, and I could actually call in to BoatNanny™ and listen for myself to determine if the acoustic alarm was from an activated smoke alarm, or simply a smoke alarm with a low battery beep, or other sounds in the background.

Alerting numbers for email addresses are easily written over for a text message number

change. If I get lost in programming, I can go to <http://www.theboatnanny.com> for additional internet coaching. Go to that demo site and see for yourself how your boat at the slip or on the hook within GSM cellular coverage, can text message you daily, or stay absolutely silent until an intruder or high water /fire condition takes place. Within seconds (depending on your service provider's network speed) your cell phone will sound off, the dock master gets a notification, and your buddy five slips away gets a call down that something is happening aboard your boat. Funny name, but a serious wireless text messaging alarm system.

Info at <http://www.sensormetrics.com>.

