

Essentials of a Marine Boat Alarm System

How To Avoid The Realization That Your Boat Insurance Company Isn't Your Friend.

by Captain Dan Donaldson

Over the last couple of years it has been my awakening to have seen 3 boats sink in our 40 slip condo marina. As a boat owner, if you have ever witnessed a boat sinking at the dock you know it will scare you into action. In all three cases the boat floated fine with little or no indication that momentarily it would find the bottom.

The last sinking was a 43' Wellcraft Portofino parked right behind its owner's condo unit. I walked by the imminently doomed Wellcraft on my way to the swimming pool and it half registered that the boat appeared to be listing ever so slightly to starboard. Without giving it much thought, as I walked by the boat it started gurgling and within 30 seconds it found its place on the muddy bottom with only the bow exposed. I ran to the owner's condo and found the owner sitting in his home office, not more than 50 feet from his boat, at his desk with a full view of his nearly disappeared pride and joy.

The grim story was revealed when the boat was raised the next day. Not unlike the previous two sinkings the Portofino had suffered multiple undetected failures over time. One of the two bilge pumps had a faulty float switch and the other had crimp connected wiring that had corroded to the point that the pump wasn't receiving the necessary voltage to make it run. When one of the 1¼" raw water inlet hoses between the thru-hull fitting and the strainer gave way to invisible deterioration the Portofino started filling with water. Of course the owner had "recently" checked the operation of the bilge pumps and "thought" he had told his mechanic to replace those hoses when he replaced the belts and hoses on the engines.

At the local boatyard the Portofino sat for over 6 months while the owner discovered his insurance company was not his friend, protector, or remedy for his loss. The insurer commenced their investigation of the claim by denying the claim altogether based on "neglect" on the owner's part. The boat was surveyed and found to have damage estimated at well over the market value of the boat. Estimates for repairs and replacements verified that during his years of ownership the value of his boat had declined but the cost of all of the damaged components of the boat had increased. It's like buying a car from GM for \$30,000.00 and then getting a price of \$200,000.00 for all of the parts required to build the same car.

The insurance company placed the depreciated value of the boat and it's contents at \$70,000.00 of which they only wanted to pay \$30,000.00 because of the owner's "neglect". The estimated cost to put the boat in same condition was over \$100,000.00. The owner had purchased the boat as a bank repossession for \$55,000.00 and had invested another \$50,000.00 in the last two years in repairs and improvements. The boat sat for another 6 months while the owner commenced legal action against his insurance company. His lawyer advised him that he couldn't sell the boat during the course of what was estimated to be a "protracted" legal battle. After a year of paying several hundred dollars a month for storage of the rapidly deteriorating Portofino and faced with "years" of legal bills the owner decided to settle with his friendly insurer for \$45,000.00. A whopping loss of over \$70,000.00 including storage, out of pocket expenses, and legal fees! Like Boat U.S. (one of the largest marine insurers in the United States) says, "your insurance policy is your last line of defense".

My research uncovered the fact that vessel sinkings are the single largest recreational boating loss in the United States. According to an article entitled "How to Keep Your Boat From Sinking" (<http://www.yachtsurvey.com/sinking.htm>) by David M. Pascoe, a widely respected marine surveyor, *"Tens of thousands of boats of all types and sizes sink every year, most of them at their dock."* And according to Captain Scott Thompson of Ocean Marine Services in his article "Why Do Boats Sink" (www.oceanmarineservices.com/why_do_boats_sink.htm), *"If you were to consider a hole as small as 2" in diameter, the size of most fathometer transducers, 3' below the waterline the flow rate into the boat would be 136.1 gallons per minute or 7,896 gallons per hour! A boat equipped with three 2,000 gallon per hour bilge pumps would sink! Now if this vessel is equipped with a bilge alarm, it would be able to warn those on board (or ashore) of a problem and give them precious time to find and plug the a hole that may have otherwise gone unnoticed until it was too late."* Key word "**alarm**"!

Even though I am a maintenance "nut", that third sinking and the results of my research convinced me to seriously look into a marine alarm system that would prevent this phenomenon from occurring to my 39' SeaRay. More research on the Internet found that Boat U.S. had compiled statistics showing that 4 out of every 5 sinkings (80%) occur at the dock. The Wisconsin Department of Natural Resources states that over 11,000 boats are stolen in the United States each year and Cole Hughes, of the Oregon Marine Board's Law Enforcement Program says "The national boat theft recovery rate averages 10 to 15 percent". These dismal facts, the Boat U.S. statement that they consider your boat insurance to be your "last line of defense", plus a break-in and theft aboard another boat in our small marina propelled me into action at a faster clip. The Internet revealed a myriad of companies selling boat alarms but when the foreign companies without real representation in the U.S. were eliminated there only remained about 12 products that justified further investigation. With a good layman's understanding of electronics and the security industry in general I started to examine the offerings of those 12 boat alarm systems.

Quickly I found that most of the "boat alarm systems" available at the low end of the price spectrum (\$99.00 to \$399.00) are nothing more than home alarms and car alarms being marketed as "boat alarms". Nothing more needs to be said regarding the use in a boat of such a system designed for dry land and a non-salt water environment. These systems are marketed to unsuspecting boat owners who are looking for low price without consideration for reliability and durability. Speaking to yacht owners who had mistakenly installed these systems revealed a virtually unanimous chorus of stories of complete system failures that almost always coincided with the end of the products warranty to stories of false alarms that occurred so frequently that no one paid attention to the siren because they knew it would automatically reset in one minute.

The other end of the price extreme (\$1,000.00 to \$12,000.00) was equally interesting because each system required an expensive monthly "monitoring" fee based on "plans" that would allow me to turn on my air-conditioning via satellite and monitor the movement of my vessel anywhere in the world. As the owner of a 39' SeaRay I don't need to do anything more than look out of the cockpit window or at my chartplotter to tell where my boat is. The initial expense and commitment to continuously and escalating monthly fees render these products beneficial only to larger chartered or commercial vessels. I was equally surprised to find that these products were manufactured in the same Chinese suburb as the low end

products which gives pause to the possibility of replacing a much more expensive unit upon failure after the typical one year warranty period.

For the average boater this left only a handful of companies offering marine security systems in the price range of \$400.00 to \$1,000.00. Unfortunately, I eliminated all but two based on a total inability to contact several of the companies. One company's phone was disconnected, two had only answering machines no matter what time of day, or day of week, I attempted to contact them. Only one of four companies responded to the message I left on their answering machine within a week. Figuring that it would be a chore to get any type of support on their products they were not considered as a viable source for my purchase.

The serious comparison began with trying to get an understanding of the intent of a boat alarms and how that related to what I considered to be the average boaters needs. One company in this price range offered a system that consisted of nothing more than a motion detector that was supposed to be mounted in the cockpit. Imagine the false alarms from canvas, birds, or even blowing paper. Many of the mid-range priced systems relied on arming and disarming the system from inside the cabin of a boat and gave a two minute delay for the owner to get on and off the boat after disarming or arming the alarm. Any drunk thief could remove my new Furuno Radar/ChartPlotter/FishFinder and be long gone in less than the two minutes before the alarm went off. Interestingly, most of the companies websites did not even mention high bilge water protection. The more companies I researched the more it became clear that they were selling home and car alarms for boats. I also started to note that many of these companies only accepted money orders and would not accept credit cards. I surmise this to be the result of many customers wanting to return systems that didn't function on a boat. If you pay by credit card you can always have your bank credit the charge for defective merchandise. If you pay by cash or money order, you're stuck!

The search was rapidly narrowing to two remaining companies from an initial field of over 20. At this point I had determined that false alarms are death to the desired effect of an alarm system and that most companies selling "boat alarms" had no clue as to the particular requirements of a marine alarm system. Only one company (Company A) did not recommend any type of impact/vibration/shock sensor or motion sensors based on the high likelihood of false alarms from everything including high winds causing a boat to stretch the mooring lines enough to allow an impact with the dock or piling to a pelican landing on the cockpit floor (or dropping a fish from 50 feet above). The other contender's (Company B) system revolved around an impact sensor (by another name) that had "never" given a false alarm. As proof the owner of Company B offered the name of a local marine electronics company as a reference. Since they were close by I visited them expecting a glowing report on the reliability of Company B's product.

The sales person, without prodding, indicated that they had installed only a few of Company B's products and were currently involved with an angry yacht owner over configuration issues and false alarms. Plainly put, they couldn't get the alarm to function correctly. Seems that being an old, reputable local provider of electronics and service had them in a position where they were losing money by installing and representing Company B's product. The sales person showed me the control panel for the alarm system and the components inside. It wasn't hard to see that the components were from a home alarm system housed in a NEMA (sealed) enclosure to make it a "marine alarm system". The siren looked like a child's toy. Looking at their siren made me think that a siren that sounds the same as a car alarm siren

and doesn't differentiate between a high bilge water event and an intrusion event provides much the same protection as the well-ignored car alarm. Everyone just waits for it to reset and does nothing.

This \$745.00 product did not include any high bilge water sensor, nor was there any reference to it on Company B's website (although the dealer did tell me that they could "hook one up"). Further examination of www.CompanyB.com showed that their product line included driveway alarms, home alarms, commercial alarms, alarm and security equipment in general, and paging systems. Very obviously this company was selling general alarm products and trying to sell a few to the marine industry. At least give them credit for the NEMA enclosure that the other companies selling home or car alarms for boats didn't even bother with.

At this juncture I felt that the reason I hadn't seen many boat alarm systems on mid size boats was because no such viable system existed. As is usually the case I had wasted a lot of research time by only to find that I had overlooked a truly viable product for my needs. I had called Company A and only asked questions about impact/vibration/shock sensors because of my decision to look hard at Company B's product. So back to Company A with another phone call. After expressing my dismay at the findings of my search the salesperson suggested that I spend some time at their website. What I found (along with a writer's profit motive) prompted me to write this article.

There is, indeed, a true marine alarm system. It wasn't designed to track over-the-road trucks, or to protect your car, home, or business. Marine Marketing (Company A) is a company that has spent over 20 years bringing innovative MARINE products to the boating population. Their product, VoiceAlarm, is the result of Marine Marketing reaching the same conclusion I did. Prior to the release of their product earlier this year, there was no boat alarm system designed exclusively for marine use. Virtually everything negative that I had encountered with my search for a boat security system was right there in black and white on the VoiceAlarm website (www.voicealarm.com) under a page titled "Did You Know". This product was nearly two years in planning, design, development, and testing with design criteria that included; a true wish list of features, any imaginable optional equipment can be easily connected to existing connections, U.S. manufacture of sub-components, assembly in the U.S., no repair part cost more than \$50.00 (no other "marine alarm provider" offers repair), diagnosis and repair accomplished in 30 minutes, and designed for owner installation. Their slogan "The Only Marine Alarm System That Can't Be Ignored" is an understatement.

At \$499.95 for the basic system VoiceAlarm is a product that you cannot outgrow, nor will it become obsolete. It was designed so that each yacht owner can determine the level of protection he is comfortable with and when that level of need increases the additional equipment is simply "plug and play". With this company the emphasis seems to be on high bilge water protection, which, as it was explained to me, is the easy part of designing a marine alarm system. The intrusion capabilities of VoiceAlarm are unlimited.

The basic system includes, as the name implies, a very loud speaker system that has differential sounds for the type of alarm event coupled with a voice message in the owner's recorded voice stating (for example) the name of the boat, the location of the boat, the exact nature of the alarm, and the action that persons hearing the alarm should take such as calling the owner, neighbor, or dockmaster. The high water alarm sound is called an industrial horn sound and is similar to an industrial fire alarm sound. The intrusion sound is a very high-

pitched siren. Upon activation of the alarm the recorded message and alarm sound are repeated a) until someone takes action, or optionally b) until 30 minutes pass. The sound level is fully adjustable from "off" to the loudest loudspeaker you have ever heard (They even offer an option that will boost the 30 watts of speaker power to an amazing 240 watts and claim the alarm will be heard clearly for one mile). Also included are a key switch, RF (radio frequency) Keyfob Transmitter to arm and disarm the system and control cockpit lighting, a flashing LED to indicate the armed state of the alarm, two protection stickers, cabin door magnetic sensor, and the best installation manual and wiring diagram I have ever seen. The installation manual has an abundance of photos and, for a pleasant change, is written in English, not poorly translated into English. Installation took my wife and I half a Saturday with no surprises or confusing, contradictory instructions.

The philosophy behind VoiceAlarm stems from Marine Marketing's heavy involvement in the marine industry in Latin America where one does not find the proliferation of docks and marinas we have in the U.S. In Latin America most yachts are kept at mooring buoys in protected harbors a short distance to the landside facilities of major yacht clubs. Since anyone that can swim could easily steal \$10,000.00 worth of electronics and a valuable yacht could sink without anyone knowing, VoiceAlarm is designed to eliminate those possibilities by broadcasting an alarm in a manner that can be easily heard and acted upon by shore based personnel. Use of VoiceAlarm in the U.S. by design will result in your neighbor calling you at work, or neighbors at the marina contacting the dockmaster in the event of an alarm. In the U.S. there are thousand of boats kept at mooring buoys that will benefit in the same manner as our southern neighbors. In the case of my neighbor who lost his Portofino, VoiceAlarm would have taken him out of his chair long before his boat met the bottom and provided ample time to take corrective measures.

Being on a "less than \$1,000.00 budget" it was an easy decision to include Marine Marketing's Cellular AutoDialer option to complete my purchase. This \$499.95 option was designed and is provided only by Marine Marketing. It is incredible! Simply plug it into the basic VoiceAlarm System, program up to 8 phone numbers that you wish to provide alarm event notification, record your voice messages, get a free cellular telephone from your local cellular service provider with a \$19.95 per month plan, and you have a fool proof method of notification for any alarm event including high bilge water, intrusion, loss of shore power, low ship's battery state, etc. Although Marine Marketing doesn't recommend it, this option is so reliable (and because my boat is docked right behind my home) I have turned the volume of the audible speaker system off and rely sole on the Cellular AutoDialer to notify me of an alarm event. I programmed my home number to be dialed first, my cellular second, my wife's cellular number, and then my next-door neighbor's phone number. If there is an alarm event I can stop the sequence of phone calls by entering a code in the telephone the Cellular AutoDialer reached me at. If I am unreachable I am assured that the sequence of dialed numbers will continue until a responsible person is reached and action is taken to correct the problem.

Since my purchase and installation of VoiceAlarm three of my neighbors have installed this product on their boats. So far it hasn't saved anyone from a burglary or sinking, but it hasn't given any false alarms either. The neighbor whose boat was broken into recently installed much of the VoiceAlarm optional equipment, which has me anxious to "keep up with the Jones'". Some of the remarkable "plug and play" options are; a completely self-contained hidden GPS Locator System, Extended Range RF Antenna which allows you to arm or disarm, or control lighting from up to 1,600 feet from the boat, Low Ship's Battery Sensor,

Shore Power Loss Sensor, InfraRed Camera(s) hooked to the ship's VCR recorder that automatically turn on the camera(s) and VCR recorder during an intrusion alarm, Photoelectric Beam Sensor, Pressure Sensitive Mats, an optional feature that allows you to control the alarm and any equipment on your vessel (such as turning on the air-conditioning) from any phone in the world, a 1.2Ghz Radio Transmitter that can provide transmission of alarm notification and video from on board cameras up to 3 miles, and much more. Each piece of optional equipment is reported to have gone through extensive testing, or was designed specifically to meet the high standards required by Marine Marketing for use in the harsh marine environment.

Not only have I found a product that fulfills my current, and will fulfill my future, needs, but also my neighbors and I have a lot of earned faith and respect for the folks at Marine Marketing. Their phone is always answered and so is every one of our questions. Marine Marketing's website says that their employees are proud enough of the product and their work that they sign every box, prior to shipping, with the signature of the employee responsible for the assembly, testing, and packaging of the product at their Florida facility. Sure enough, the boxes arrive with a signature!