



E-WASTE

In late 2018 we were getting ready to splash after an extended yard period when we ran into yet another problem. One minute after bootup the LCD screen on our chartplotter went black. We were still running the same Raymarine set up that was onboard when we bought *Kate* in 2008, but had recently invested in new chart cards to cover the Philippines and SE Asia, where we would be sailing for the next few years. Although we ran device-based navigation programs as a backup we prefer a dedicated chartplotter onboard as our primary data source. Was it time to repair or replace?

Steve began to research our options and quickly discovered that not only was our chartplotter model discontinued, the manufacturer no longer offered repair services. Excited by the prospect of a new-fangled piece of equipment – vivid colours

and a touchscreen! – we were disappointed to find that the latest models were not compatible with either our radar or our chart cards. Besides the hefty price tag of the upgrade, the cost now more tripled than we factored in replacing other components. It didn't make any sense to be replacing the whole unit when it appeared only to be a problem with the LCD screen.

We decided to take a gamble and purchased a used chartplotter online, the same make and model as our malfunctioning unit. The seller could not verify if the chartplotter functioned correctly as a standalone as it had been used as a repeater display on the flybridge of a power boat, but the screen was crisp and bright. When it arrived we indeed had troubles with it communicating with our GPS but with nothing to lose, and steady hands, Steve was able to take out the delicate LCD screen and install it into our original unit. After all the drama and delays of the boatyard we were finally ready to sail.

It might seem that our choice to buy second hand parts to fix our chartplotter was

dictated by the cost constraints of upgrading our entire system. Of course, that was certainly a factor, but what tipped the scales for us was the waste that would be produced by replacing other, perfectly function components like the radar. This “e-waste”, as it is called, is a bigger problem than I realized.

WHAT IS E-WASTE?

E-waste, or electronic waste, is created when we discard any electric or electronic device. Although this category covers things like TVs, household appliances, and outdated office and medical equipment, it is largely made up of our discarded everyday digital tech: computers, laptops, tablets, and phones. And although this is the fastest growing waste sector on the planet, few people are aware of the far reaching, and sometimes deadly, effects that it is having.

It is estimated that approximately 50 million tonnes of e-waste is generated globally each year. As developments in technology accelerate, items become more affordable and replacement cycles get shorter, that figure is projected to reach 120 million tonnes per year by 2050. Startlingly, only about twenty percent of e-waste is properly recycled.

Outdated devices not only account for a large volume of waste, they also contribute to serious health problems and environmental pollution. Modern electronics are made up of small components, many of which are comprised of precious metals. While trying to recover those precious metals, or when items are thrown into landfills, harmful substances like mercury, lead, arsenic, and cadmium are released.

As with other waste sectors, much of the e-waste that is recycled is sent overseas to poor countries like Ghana. There the health and safety of the workers are largely ignored, despite exposure to heavy metals often being

fatal. Add to that the high levels of toxic waste that are allowed to leech into the landscape and the downstream affects that has on the surrounding communities and upgrading your smartphone, laptop or chartplotter becomes a little more frightening than just the initial sticker shock.

E-waste also includes the waste produced in the storing and distribution digital data. With more information being stored “in the cloud” and on demand streaming platforms like Netflix and YouTube eclipsing traditional entertainment mediums, larger servers and data centers are being built. These facilities must be temperature controlled and powered around the clock. Factor in the energy used by the consumer to keep their digital devices powered up and the power required to keep the mobile grid functioning and you are looking at a sector that is projected to use twenty percent of the all electricity produced globally by 2030.

BELOW: Swapping the LCD screens in our chartplotter.



WHAT CAN I DO?

We can all agree that giving up our phone and other digital mod cons is not an option for most people. Even the hardcore, minimalist sailors still need to stay in touch. However, I still believe that we each have a responsibility to understand the impacts of our decisions and to take actions, even if they are small, to minimize our impact on the planet. Here are a few easy, everyday ways to help reduce e-waste.

TURN OFF/UNPLUG WHEN NOT IN USE: Perhaps the simplest action you can take just is to turn off digital devices when not in use. Instead of letting your device idle in “Sleep” mode for hours or days at a time, turn it off completely and save battery power. Turn off your mobile data when not actively online and unplug any chargers and cords that are not being used. Like turning off the light when you leave the room make switching off digital devices when not in use a habit too.

IS IT A NEED OR A WANT? There seems to be no end to gadgets or gizmos that the advertisers are telling us we can't live without. Whether it is the next generation of an item you already have or a new toy to add to your collection, stop for a moment and ask yourself; Do I really NEED it, or do I just WANT? If it is item that you don't really need, can you do without it? Maybe asking this question will prevent impulse purchases. Hopefully it will make you consider the larger impact you have as a consumer.

TAKE CARE OF WHAT YOU HAVE: Salt air and damp environments are hard on electronics. Leave devices safely stowed while underway to prevent accidental drops or splashes, invest in a waterproof box or a drybag so that you don't have to worry about accidentally swamping your gear in the dinghy, and remember to rinse and dry any underwater equipment after use. Making an

effort to protect your devices will mean you will have to replace them less often.

REPAIR, REPURPOSE, REUSE and RECYCLE: Like our old chartplotter, many electronic devices can be repaired or refurbished by the right people. Instead of buying something new check resources like eBay, Gumtree, Craigslist, and other online classified listing for pre-owned equipment. Many small devices like phones can be repurposed into dedicated MP3 players or an offline device for the kids. And when you have finally exhausted the use of your electronic device make sure that it is recycled properly, by a reputable and authorized electronic goods recycling depot.

SAVE AND STREAM CONSCIOUSLY: I love a good podcast and occasionally fall down the rabbit hole of mindless YouTube videos just like everyone else. However, I try to be conscious of how much I stream and what I save online. If you use cloud storage for things like photos, avoid automatic backup from handheld devices. Afterall do

BELOW: After a decade we've got some old devices to deal with.



you need to save 50 pictures of dolphins that you took on burst mode? When using streaming platforms like YouTube turn off the AUTOPLAY option to avoid mindless binge watching. Buy and download music once rather than stream the same album every time you want to listen to it.

DAILY DIGITAL DETOX: Committing to a daily digital detox will not only help reduce stress and regain mental focus but it can also reduce your digital dependency and your potential e-waste. Start by turning your phone off at night and wait one hour after your wake in the morning before turning it back on. Turn off push notifications, especially for social media, so that you are not constantly being reminded to pick up your device. Set daily usage limits for yourself when using social media platforms like Facebook and Instagram. If you are like me and work on your device, consider turning off your internet connection if not needed. Make social time in the cockpit or ashore device-free time.

I wouldn't have the opportunity to open this conversation about e-waste if not for my laptop, digital camera, smartphone with internet connection, and *SisterShip*, a digital

magazine. Don't worry, the irony hasn't been lost on me. But I think that is important to remain curious, ask tough questions and be honest about how my habits, my decisions and my choices impact the world around me. And I hope you think so too.



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