

Maptattoo

I have wanted for a long time to write a proper review of this new small-boat navigation device. Maptattoo may be assembled in Chicago (Please! Keep reading!) but it was born on the BC Coast, during the inventor/adventure racer/manufacturer/entrepreneur Erwan Kerebel's rowing/sailing Race to Alaska. He used a phone running Navionics to go from Port Townsend to Ketchikan. He got there in the end, but on the way had a life lesson in the shortcomings of using a phone to navigate. Short battery life with painful and frequent recharging; hard to see in sunlight or in the dark; hard to read from more than elbow length away; and trying to pinch and scroll and select on a touch screen with cold wet hands and flying spray.....

Maptattoo fixes all that. With Maptattoo you can read the names of water bodies and landforms on the screen (Figure 1). Easily. And, compared to similar-priced high end handheld GPS running Garmin software, when you use the search function to find a water body or point name, Maptattoo finds it and can pan there then select a point as a destination for electronic navigation; the Garmin in contrast defaults to commercial locations and often finds the nearest marina or restaurant with a similar name in Oklahoma or the Bahamas, but the cove 5 nautical miles away isn't on the list.

Maptattoo has a 50-hour battery life. I've run mine over several days paddling to a cumulative 45 hours of use and it still showed 10% battery left, so I believe that number. Changing batteries or recharging is not so important when day paddling, but on a longer trip it becomes a chore and a likely ingress of salt water if you have to change batteries in conditions. The Maptattoo is waterproof but doesn't float. I have mine on a lanyard clipped to a perimeter line. Some people mount them in a holder forward of the cockpit. Mine has been washed loose in surf launches twice and its swum a couple of other times when I was ham-fisted or didn't tuck it under a line before hard edging, or was just stupid (but not so stupid as to not fasten it to a lanyard and clip!) Its well-sealed. You can use it with the touchscreen – but when the sleet hits the fan, it has almost all functions available with physical push buttons. You can use your wet frozen fingers to push pan buttons up down right left or press the centre 'tophat' button to pan to your current location. You can use other buttons to zoom in or out or to bring up the options screens. It has BIG display numbers for speed and heading.



Figure 1. Maptattoo on the spray skirt.

Those numbers are over a ½ inch or 15 mm tall (Figure 2). They could be read a whole boat length away. The screen is 6 inches or 15 cm in diagonal, so there is also room for a secondary display under the top. Depending on what you want to show and whether you are actively navigating to a waypoint or along a route, this secondary display can include 4 additional pieces of information, which can be customized. In the example below, a waypoint “Albert Head” (the display is much clearer than this cropped GoPro photo, so the waypoint name more legible than it appears) is 0.48 nautical miles away. It shows a speed-made-good of 4.1 knots (I’m paddling almost exactly to the waypoint so this would be slower if I was having to go at an angle, for instance around an obstruction). The bearing to next waypoint is 125 degrees, and I need to turn 1 degree to the right to the direction right or left to turn and the amount to turn to be on track to the waypoint. One degree is close enough. A bunch of other options such as clock time anticipated on reaching the waypoint can be substituted for any of these numbers, or you can pick from several preselected groups to show.

There is a north arrow and scale at the bottom. Those two overlay the chart so they don't really take up any room (Figure 3). Most of the real estate is for chart display. The charts themselves are in a custom format that is unique to the Maptattoo. Its clear and uncluttered. You can touch the screen to get further information about Nav aids, or tide or current stations, or symbols on the chart you are unfamiliar with. The screen is grey scale and easy to read in any light or at night. Everything is maximized for long battery life, with options that use only a tiny bit more power to show you more bells and whistles.



Figure 2. The basic speed and heading display and custom navigation bar

One set of nautical charts is included with purchase. I naturally chose the Canadian west coast. The US west coast or the US or Canadian east coast and a few other areas are also available and each set only costs another \$40. That is a bargain compared to the competition. Maptattoo automatically displays the most relevant, detailed chart available for your area. As you zoom in, it will show a more detailed large-scale chart if available; and zooming out shows a smaller scale, with less detail. The chart detail also changes depending on zoom, but it works very, very well. The font sizes for labelling can also be changed. So if, you need to read those depth soundings, you might not even need the reading glasses. The chart below (Figure 4) zooms in close to the little slot channel we paddle through at Albert Head. You can see how much easier to read the larger fonts are (but really even the smaller ones are way more legible than on a small GPS screen). I have never missed the colour charts – the grey scale is very legible.

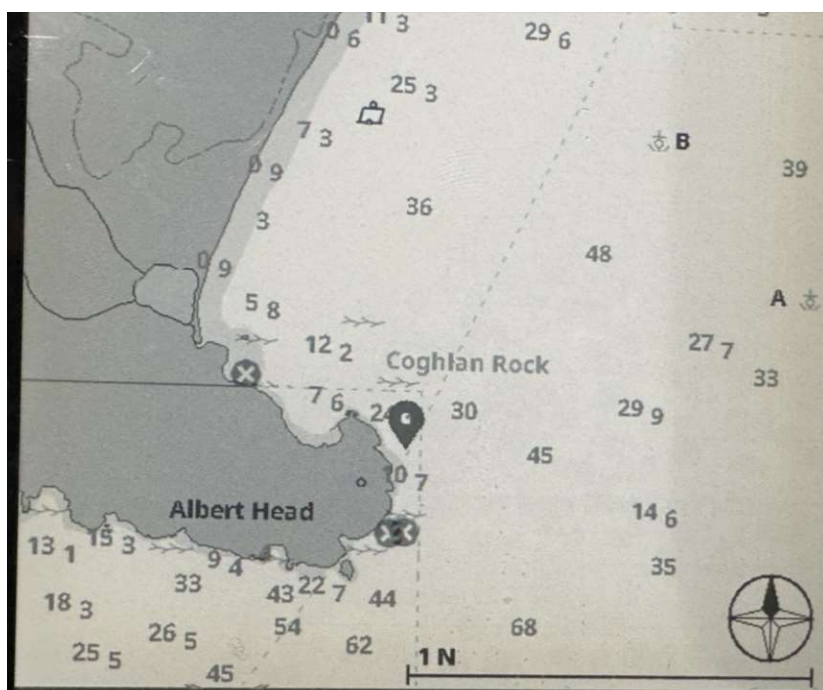


Figure 3. Part of the display showing Albert Head and Royal Roads anchorage in moderate detail with a scale and north arrow at the bottom. The display orientation can be changed to heading up instead of north up.

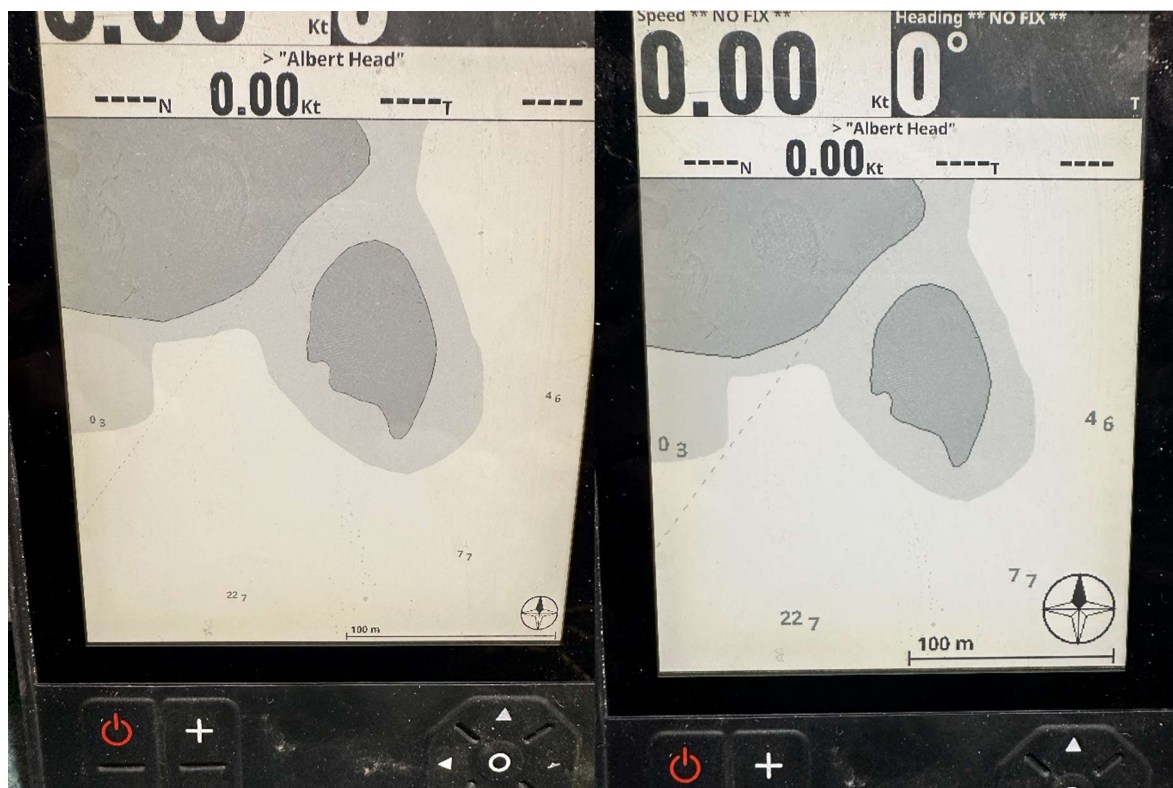


Figure 4. Spot the differences? Zoomed way in at the narrow kayak passage at Albert Head, showing larger font sizes, North arrow and scale bar available for older eyes.

Figure 5 shows one of the ‘bells and whistles’ that I really like. You can see where you will be in 10 and 15 minutes at this scale (or 1 and 2 minutes if zoomed in, or 15 minutes and half an hour zoomed out). It projects this position on a line ahead of you. If you are maintaining good situational awareness I don’t find it necessary to have a waypoint set or a route entered, even on a long crossing, as the chart and projecting line provides the key information you need. A curved track behind you can let you know current is setting you to one side as you point your boat at a destination even if you aren’t using a full navigation mode. If there is a risk of fog or wind or wave conditions, or if you want to paddle a nice straight line to your destination, you should always use waypoint navigation even if you start out in benign seas.

I won’t go through all the settings and options. There are far fewer of these than Garmins have, which I find cluttered with stuff I don’t want and frustrating to find the options I need. The Maptattoo process of setting waypoints is easy once you’ve done it a few times, and they automatically name themselves for the nearest named place (with trailing numbers, so you get “Point Grey”, “Point Grey 1”, “Point Grey 2” etc. if you have several close together).

There are a few weaknesses in the present software version. Routes are a bit more of a hassle, as you need to create the route in another piece of software and a laptop or desktop computer. I created mine in Google Earth, then translated them in Garmin Base Map, both free programs, then imported to Maptattoo. Erwan is working on another upgrade to the software and creating routes within the device itself will likely be available soon. I’m going to try out importing data from BC Marine Trails and see what can be done to make hidden detail visible.

Erwan has been great in giving help and corresponding on some of the improvements I thought could be made. He regularly brings out new versions of the software and provides these free of charge.

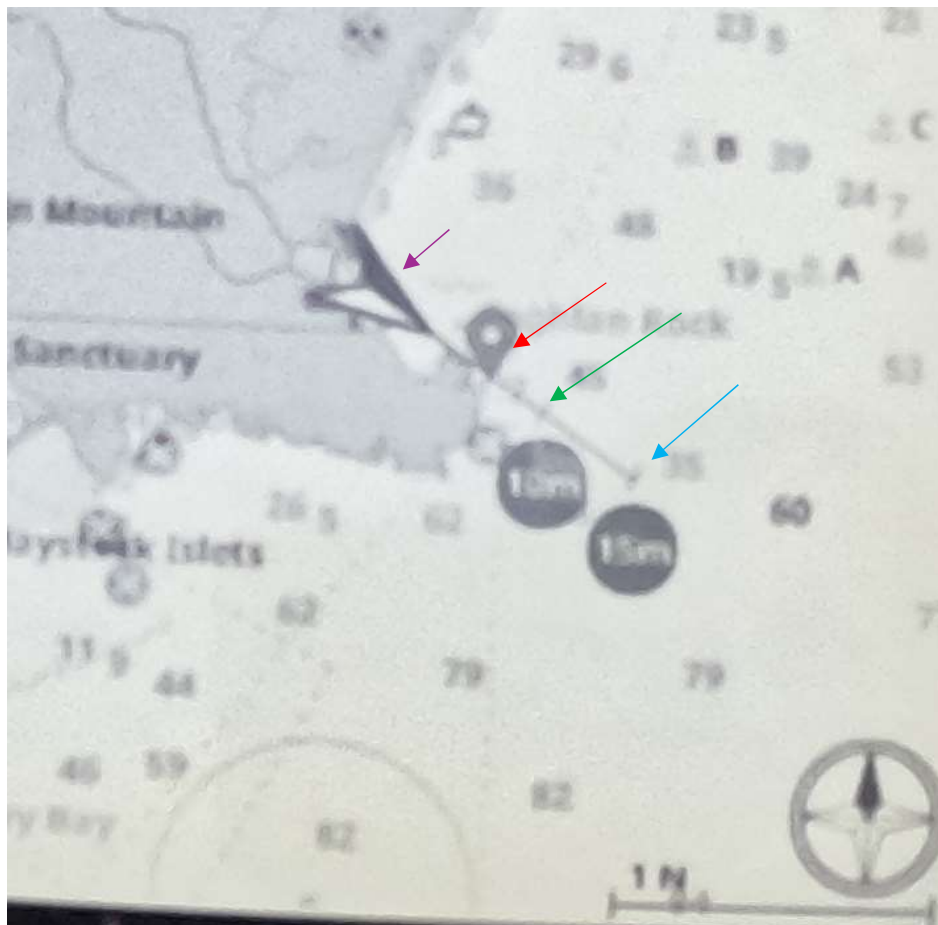


Figure 5. the 'project ahead' function. The 'me' arrow (see big 'paper airplane' at end of purple arrow) is pointing straight at the waypoint (red arrow) I've set; and it also shows a predicted location for paddling at the current speed for 10 minutes (line cross at green arrow) and 15 minutes (blue arrow), out past the waypoint.

I grew up hiking in mountains with my dad who had been both a pilot and a navigator in World War 2 and got to learn some basic navigation from him (he could use a sextant and watch at 20,000 feet at night going 200 knots in a Lancaster to figure out where he was – that boggles my mind). I used printed maps, compass, clinometer, and chain to navigate in the bush for over 50 years of doing field work as a professional archaeologist. And I made hundreds of maps during that time. I remember when I first got to use a GPS that was the size of a shoebox and had 'selective availability' that meant I was perhaps a few hundred metres of where it said – but that was miraculous. Now 35 years later I use my phone connected to a GNSS receiver with something called RTK correction to use satellites to find where I am to a few millimeters (yes millimeters) accuracy. And I'm still astonished at that. I've come across many flaws in systems so I am hard to impress. But the Maptattoo is by far the best small boat coastal navigational device I've used. Last summer it was a joy to paddle an area I'd never been to before and easily know island names and

easily pick a route through a myriad of small islands and channels to get an interesting route that I knew wouldn't dead-end. And on local paddles, I still find I'm now identifying islands that I didn't know the name of previously, even with paper charts on deck.

There are a few quibbles. I find Maptattoo jumps around when under trees or under a cliff or in a narrow mountainous channel or fjord. This interference at worst drops a fix all together; and perhaps just as annoying, it will then give spurious 'paddled distance today' and speed values, and the chart display can dance around in those situations. That's rare. It also might be fixed by a software upgrade. Right now, Maptattoo only uses GPS satellites to get a fix, but it has the technical ability already built-in to use Glonass (Russia), BeiDou (China), and Galileo (Europe) satellites, which would give a much more accurate and robust fix. For now, those capabilities just aren't used. I've also had it freeze I think from water drops on the screen, so I turn the touch screen off unless I need it. Once it gave me the wrong distances to destinations when we were figuring out the paddle for the next day. I don't know what that was about, but it happened only the one time. I turned the instrument off and back on again and the distances all corrected themselves. So, check with another device or a paper chart especially if the MapTattoo numbers seem off. If one distance checks out they all will be correct. And for any problem, turning it off and then back on again fixes it.

Maptattoo cost about \$1,000 Canadian dollars. That's a lot but includes all the charts for the BC Coast. Kayakers and touring SUPs and dinghy cruisers are a niche market. But the Maptattoo works out to be the same or not much more than a higher end Garmin and functions much better. I hope many SISKa members will buy one and support a courageous and innovative little company!