

# Girl Stephanie Specification - Barry Electronics Ltd.

Barry Electronics Ltd was responsible for the complete installation of all the acoustic, navigation and communication equipment on board the new Girl Stephanie. This is the third Girl Stephanie that they have provided a complete wheelhouse solution to for Pdraig, from the first wooden one, built in Maritime Boatyard Cobh in 1982, the next new build, also from Karstensen's shipyard in 2004, to the present new 2018 vessel. Barry Electronics are probably the only company still in existence that was involved in all three new buildings. As with the first two, Barry's provided a turn-key solution from the design and planning stage, right through to extended trials, ensuring the equipment was operating as expected.

Back in 1982, sonar technology was in its infancy - very short range and very noisy and presented on paper or the orange phosphor screen that you stared into through a rubber eye shield. Now, with the FSV-25 and FSV-85 sonars on the new ship, echo detection is possible to 6000M plus and can be viewed in multiple ranges on different screens and presentations, all in HD resolution. The Furuno FSV-25 and FSV-85 are the latest in fishing sonars offering just such performance to the current generation of pelagic trawlers. Contrast the echosounders between 1982 and now. There is no smell of the stylus on the thermal paper (Barry Electronics still have all these parts if anyone needs them!) and the noise of the stylus constantly turning. Now, it's multiple HD displays and marking tiny shoals and species discrimination. No need to roll out the paper to show someone yesterday's mark of fish, just click a mouse and its all there. The ship is equipped with three echo sounders for vertical echo detection. Simrad's ES-80 featuring split beam 38Khz and 120Khz transducers and Furuno's FSV-1900G are very important parts of the ships acoustics. The Simrad's 120Khz can operate in 'CHIRP' mode, sweeping through a range of frequencies for optimal echo detection of fish on the bottom and is proving a big success at detecting small scatters of scad on the bottom. Furuno's FCV-1900G CHIRP echosounder, centred on 50Khz and 200Khz frequencies, is installed with Airmar's new CHIRP transducer technology for optimal echo detection. Furuno's FSS-1BB discrimination echosounder is also installed to help ensure that only the target species actually ends up in the net. Sweeping through a broad range of frequencies, the sounder will calculate and provide graphical information to the skipper on the breakdown of species types in any given shoal.

Net monitoring technology now is provided by Simrad trawl sonars and Marport sensors. Giving a clear echosounder and a profile of the complete net, displaying 6 catch sensors, all in HD. The Marport net sensor system receives net data through 3 hydrophones simultaneously, giving excellent reception of all sensor data from the net and doors. The supplied catch sensors transmit to both the trawl sonar and hull hydrophones ensuring catch sensor data is always available to the Skipper. The ship is equipped with a Marport tunnel sensor giving a proper echosounder type display of the net tunnel. All this information is displayed on Marport's Scala software powered by Apple, giving a very flexible and fast system. There was no tunnel sensor in 1982, or hydrophones on the keel, or even Apple.

Those of you who are old enough, just think back to navigation in 1982 and now. Back then Pdraig would have had the Decca Navigator with the 3 dials and the paper plotter with the rolls of paper. The Furuno GD170 came later and it was ground breaking! Boat

heading was the magnetic compass and the big green Sperry gyro that needed three phase power. Now on the new ship we have metre accuracy position from numerous GPS units, perfect charts and fishing information from Maxsea's Time Zero plotter and the ever popular Sodena TurboWin plotter displayed on as many HD monitors as you like, even in the cabins. The magnetic compass is still there, but not viewed through a periscope, but via a small camera on the compass rose and a monitor in the console. The gyro compass has got smaller and much more reliable with the new Simrad GC-80 and the latest sat compass the SC-70 gives full back up along with heave, pitch and roll, rate of turn and is a certified GPS as well.

We now have AIS, in this case the latest model Furuno FA-170. Now we can watch just about any boat anywhere in the world from the armchair by the fire and an iPad! No word of that in 1982!

With the latest Furuno CI-68 we can monitor tidal current data at five different depths, passing this information to the long range sonars to enable the skipper to have all fishing information right in front of him and giving him the speed and direction of fish movements close to the seabed.

The ship has three radar installations. From the outside, there is not a big difference compared to 1982. But inside, gone are the rubber visors and the huge displays with the moving coils. Now the new top of the range Furuno FAR2818 radar has auto clutter elimination and fast ARPA tracking and AIS, all displayed in HD on multiple monitors and controlled with a trackball. Back up to this radar is provided by the ever popular FAR2117 and M1835 radars.

Radio communication is similar in many ways, the basics have not changed. Sailor radios are still there. The valves are gone and the 2182 receiver is gone and the big transmitter on the wall with the insulator through the deck is gone. Now it's a fully synthesised Furuno FS-1575 MF/HF unit and 3 Sailor VHF radios all with DSC. We now have EPIRBs, AIS SARTs, hand held radios that disappear easily into an oilskin pocket with ear pieces. A Furuno BR-500 watch alarm system gives peace of mind to the Skipper when the ship is making passage to and from the fishing grounds making sure whoever is in the wheelhouse stays moving and awake.

We now have CCTV. Fifteen cameras, viewable in five different locations in the ship, all on HD. The camera system is fully integrated into the ship's network, allowing an additional viewing station or camera to be added easily. Watch the CCTV on your iPad on the sofa when the ship is in harbour.

And now we have Barry Electronics' own design Vsat communication system. In 1982 we had shore calls on the big set to Malin or to the buyers who were camped in some hotel close to the current fishing area - stringing aerials out the window to stay in touch. Now we have Viber, Facebook, Facetime, Marine Traffic, email. Nobody's talking, just texting! We have Sky News etc. provided by Cobham/Seatel ST-80 Sat TV system, piped to all cabins and common areas on the ship. No BEL ROTV tv antenna's anymore.

One thing has not changed. Barry Electronics are still there, working with new and old customers alike.

# Girl Stephanie - equipment list

## Radar

Furuno FAR-2818 X-band radar  
Furuno FAR-2117 X-band radar  
Furuno M1835 radar

## Sonar

Furuno FSV-25 Low Frequency Sonar  
Furuno FSV-85 Med Frequency Sonar

## Echo Sounders

Simrad ES80 38KHz and 120KHz  
Furuno FCV1900 Dual Frequency with Chirp  
Furuno FSS-1BB Mk2 Fish ID Echo Sounder

## Trawl Equipment

Simrad FS70 Trawl Sonar Systems with Sim-Sounder option  
1 x Marport M3 Acoustic Receiver  
3 x Wide Band Hydrophones  
5 x Catch Sensors  
Marport Trawl Explorer for tunnel

## Navigation

MaxSea Time Zero Professional plotting system  
Sodena TurboWin plotting system  
Furuno GP-3500 plotter  
Furuno GP170 and GP-33 GPS navigator  
Furuno SC70 satellite compass  
Simrad GC-80 gyrocompass  
Furuno CI68 Doppler current indicator  
Furuno FA170 AIS

## Communication

Furuno FS-1575 MF/HF DSC radiotelephone  
Sailor 6222 DSC and 2 off Sailor 6210 VHF radiotelephones

## Other

2 x Furuno LH-3000 intercom  
Furuno BR-500 watch alarm system  
Cobham SeaTel ST80 Sat TV  
BEL Vsat system  
BEL CCTV System.