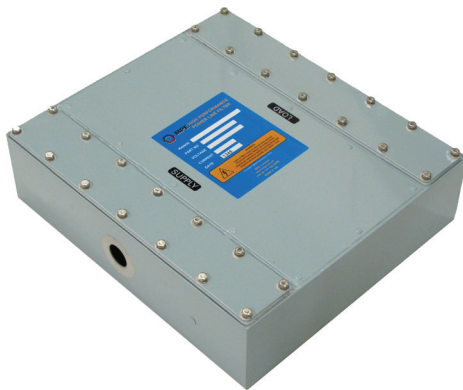




A scene from the BBC drama, set in HMS Vigil's control room



Vanguard Class submarine at sea, as in the new BBC TV drama 'Vigil'



A typical high-performance, ultra-low-leakage power line filter designed and manufactured by MPE

MPE protects submarine in BBC TV drama

BBC TV's flagship drama 'Vigil' caught the imagination of the public and so became essential viewing for many in September. Set aboard one of the Royal Navy's Vanguard Class submarines, the six-part BBC series starring Suranne Jones and Martin Compston was a gripping crime drama, with a thrilling final episode aired on September 26th. Whilst the murder mystery was unusually staged aboard the fictional vessel HMS Vigil, painstaking research had given the series impressively realistic sets, with many features acknowledged as being true to life.

Each episode provided a fascinating insight into life aboard a working submarine at sea. And much of the drama played out inside the Vanguard Class submarine's actual control room, packed with sensitive electronic equipment that required protection by MPE from interference.

The Royal Navy's Vanguard submarines entered active service between 1993 and 1999, the four ships forming the UK's strategic nuclear deterrent force. An onboard reactor drives two GEC steam turbines linked to a single shaft pump jet propulsor. It gives these submarines a maximum submerged speed of over 25 knots (46 km/h or 29 mph) and ensures that none of them need further refuelling for the rest of their service lives.

With increasing quantities of sophisticated electronic equipment being installed in close proximity to one another, the resulting issues of electromagnetic interference assume critical importance. As a world-class solutions provider in this field, MPE has a long history of supplying high-performance custom filters for applications in the Royal Navy's submarine fleet, including both Vanguard and Astute Class vessels.

Indeed, recent years have seen MPE develop numerous unique custom solutions for both surface and subsea marine platforms. They have included ultra-low-leakage power line filter models from 10A through to 230A. The units provide high levels of attenuation from 100kHz right up to 18GHz – and with extremely low line-to-earth leakage properties from 6mA to 8mA.

This characteristic of exceptionally low leakage allows up to five filters to be deployed in parallel, whilst still maintaining a total leakage current below 30mA. The filters also include high values of discharge resistance, to ensure compatibility with shipborne DC leakage detection systems.

Furthermore MPE has also recently provided EMC equipment filters for the French Navy's Q284 Suffren, a Barracuda Class nuclear-powered attack submarine (SSN) and is currently finalising filter protection solutions for the Royal Navy's next generation, Dreadnought Class nuclear submarines now under construction and due to enter service in the 2030's.

For more information on the features, performance and specifications of MPE's ultra-low-leakage power line filters, you are invited to download a six-page brochure from [here](#)

Alternatively, to discuss your own particular project or application, call the expert MPE Technical team on +44 [0]151 632 9100 or email sales@mpe.co.uk