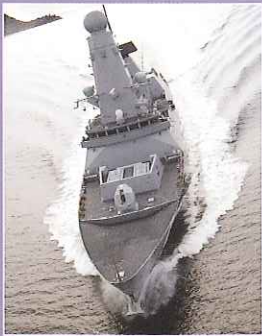


# Signature Management Systems

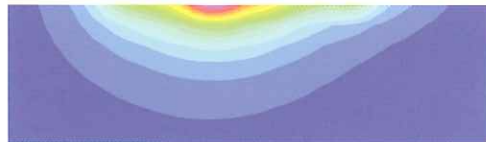


The UK Royal Navy's T45 frigate is protected by Ultra Electronics on-board degaussing system.

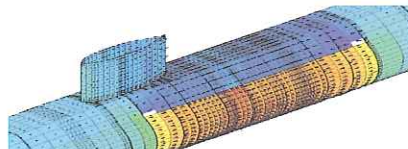


Other vessel classes are being supplied with full signature management systems including cathodic protection and integrated active shaft grounding.

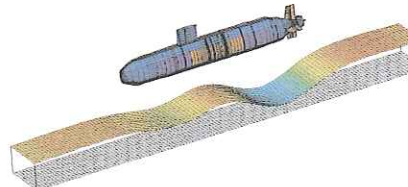
Mines are an ever-present significant threat to naval ships and submarines by detecting their emitted underwater signatures. All ships possess underwater electro-magnetic signatures and On-board Signature Management Systems provide continuous protection by reducing this signature.



Magnetic signature of surface ship



Finite element analysis of magnetic field on the hull of a submarine



Electric signature of submarine

## Design Capability:

- Threat analysis and target signature guarantee
- Finite Element Analysis (FEA) and Boundary Element Analysis (BEA) modelling provides optimised degaussing and corrosion protection systems. Close liaison with shipyard during design and implementation enables the effects of design change to be assessed rapidly
- Degaussing coils and equipment fit can be optimised to provide savings on power, equipment size, weight and total through life cost
- Underwater magnetic and electric signature studies optimise vessel signature solutions





## Signature controller

### Signature controller

This compact controller provides fully automatic or manual operation. The controller can be located on the vessel's bridge, in one of the power cubicles or at any convenient location.



The unit provides fully programmable multi-functional commands for all underwater electromagnetic signature control systems and (optionally) may contain fully interactive signature prediction software.

### Coil driver units and systems

- Multiple channel systems available
- Configurable to meet ship coiling designs
- System shown covers three channels for M, F and A axes
- Rated at 10.5kw per channel
- Controller may be integrated or separate
- Submarine and Surface Ship Systems being supplied
- Use common System Controller

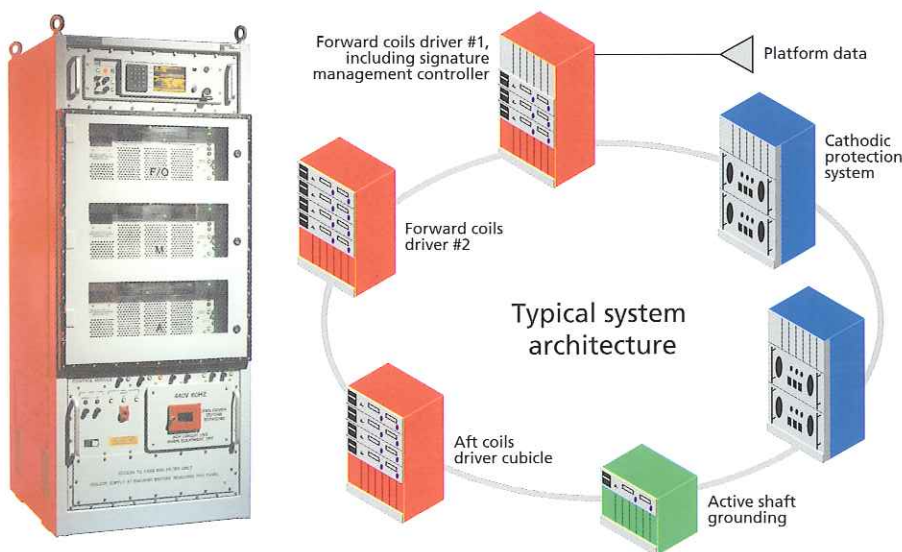
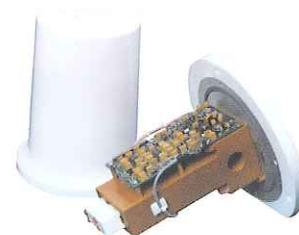
### System control sensors (options)

- Masthead Magnetometer
- Control Gradiometer
- Electric Field Sensors

Note: Not all systems can accommodate these sensors

### Through life support

- Ultra offers a through life support service. Research and Engineering expertise, measurement equipment, trials and evaluation management services provided
- Ultra also provides excellent training facilities, comprehensive spares holdings and an experienced trials team for data analysis and trial management



**Ultra**  
ELECTRONICS

### Ultra Electronics Limited

PMES

Towers Business Park  
Wheelhouse Road, Rugeley  
Staffordshire WS15 1UZ  
England

Tel: +44 (0) 1889 503300

Fax: +44 (0) 1889 572929

e-mail: [enquiries@ultra-pmes.com](mailto:enquiries@ultra-pmes.com)

[www.ultra-pmes.com](http://www.ultra-pmes.com)

[www.ultra-electronics.com](http://www.ultra-electronics.com)

Ultra Electronics reserves the right to vary these specifications without notice.

© Ultra Electronics Limited 2009.

PMES is a wholly owned subsidiary of

Ultra Electronics Holdings plc.

Printed in England

0809 / ACP / 500 / HaT(R)