Application Note
Naval Applications

Application:
On board Naval Applications

Kemo Products:
VBF40
VBF44
CardMaster21.255G
2807 Mk3 - 1/3 Octave Calibrator
DR1200
DR1600

Application:

Kemo filters, known for their high-quality analog and electronic filtering and signal conditioning, are used in various naval applications to enhance data quality and system performance. These applications include:

Signal Conditioning for Underwater Acoustics:
Naval applications often involve underwater acoustic sensors (hydrophones) and sonars. Kemo filters can be used to condition the signals received from these sensors, removing noise and interference to improve the clarity and accuracy of the data, whilst providing high level amplification up to x1000 (60dB).
This is crucial for tasks such as submarine detection, sonar mapping, and underwater communication.

Vibration Analysis and Monitoring:
Ships and submarines experience vibrations from various sources, including engines, propellers, and the marine environment. Kemo filters can be used to isolate and analyse specific vibration frequencies, aiding in condition monitoring and preventative maintenance.
This helps identify potential issues before they escalate into major problems, ensuring the reliability and safety of critical equipment. Filering can allow much tighter analysis of alarm levels due to the removal of noise.

Data Acquisition Systems:
Kemo's filter modules and signal conditioning systems are often integrated into data acquisition systems on naval vessels. These systems collect and process data from various sensors and instruments, providing real-time information about the ship's performance, environmental conditions, and other critical parameters.

Electromagnetic Interference (EMI) and Radio Frequency Interference (RFI) Mitigation:
Naval vessels operate in a complex electromagnetic environment. Kemo filters can help mitigate EMI and RFI, ensuring the proper functioning of sensitive electronic equipment and preventing interference with critical systems.

Research and Development:
Kemo filters are also used in research and development activities related to naval technology, such as testing new sonar systems, developing advanced propulsion technologies, or studying the effects of the marine environment on ship structures.

In summary, Kemo filters play a vital role in naval applications by enhancing signal quality, enabling accurate data acquisition, and ensuring the reliable operation of various systems in challenging marine environments.

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