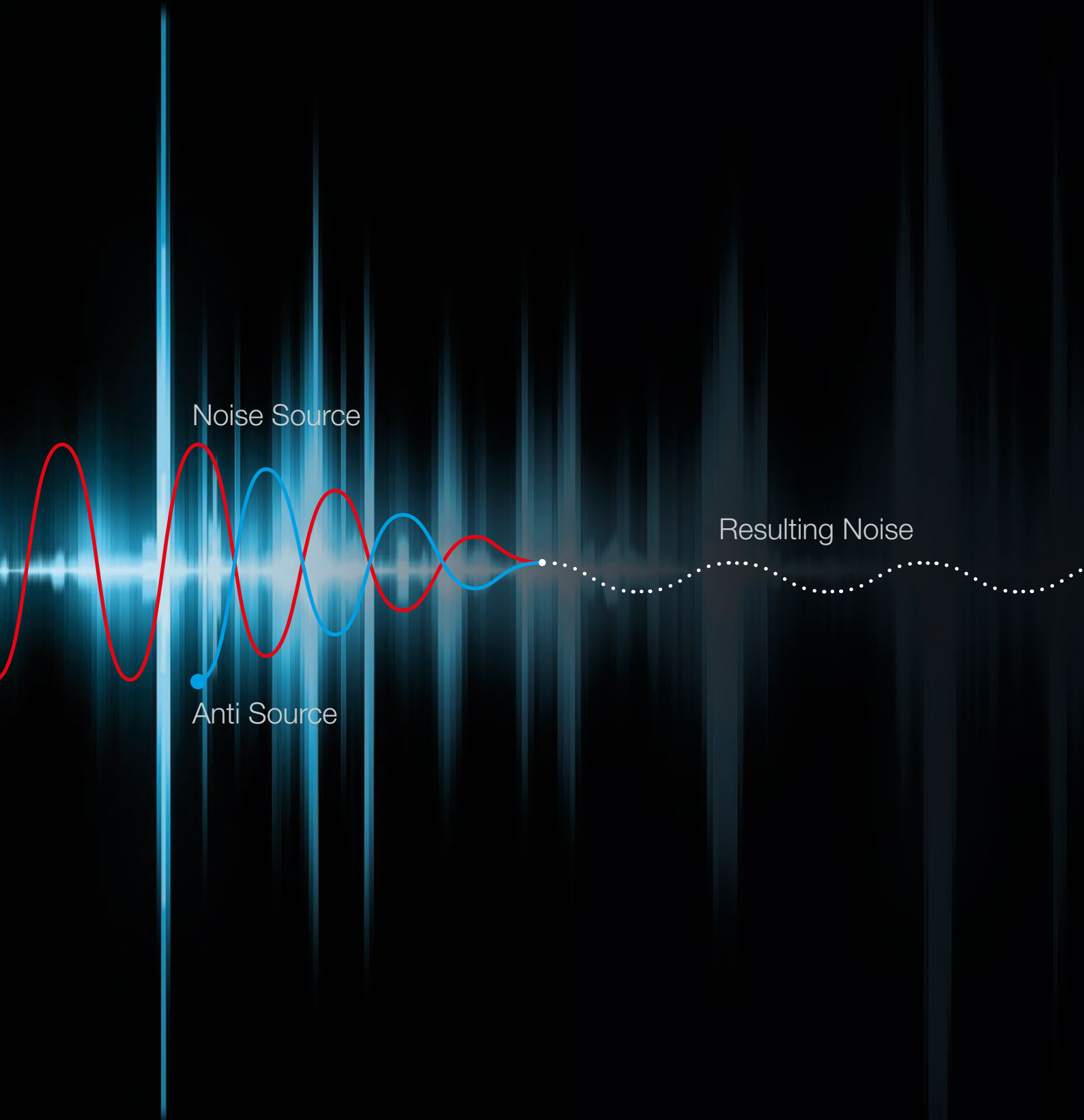


## *Active Noise Control*



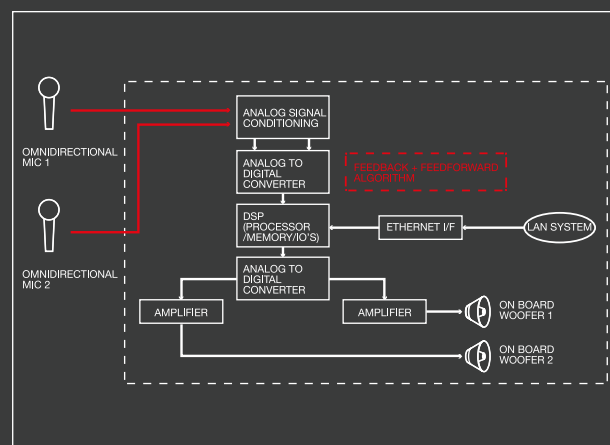
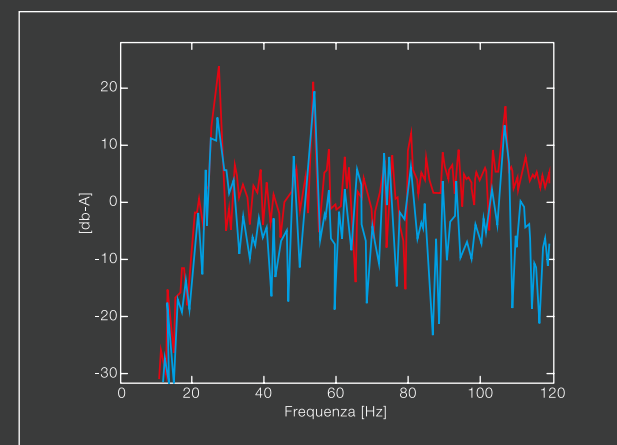
# What is the ANC Active Noise Control?

1/2\_Videoworks "ANC" system, by Videoworks

It is a method for reducing unwanted noise by the addition of a second sound specifically designed to cancel the first.

Sound is a pressure wave, which consists of a compression phase and a rarefaction phase. A noise-cancellation speaker emits a sound wave with the same amplitude but with inverted phase (also known as antiphase) to the original sound. The waves combine to form a new wave, in a process called interference, and effectively cancel each other out - an effect, which is called phase cancellation.

Applications can be "1-dimensional" or "3-dimensional", depending on the type of zone to be protected. Periodic sounds, even the complex ones, are easier to cancel than random sounds due to the repetition in the wave form.



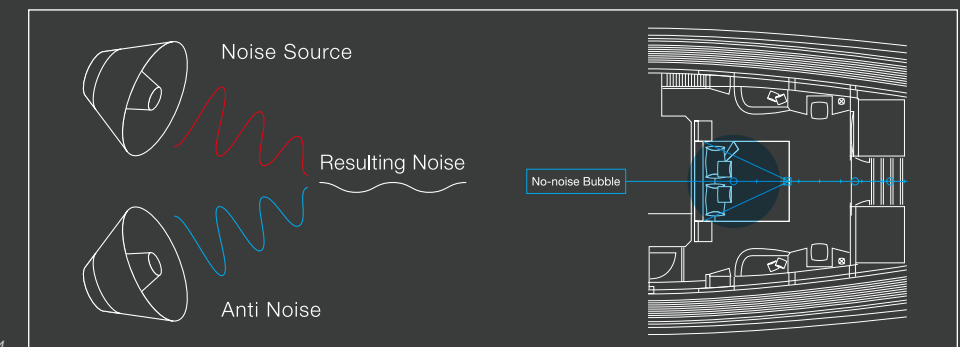
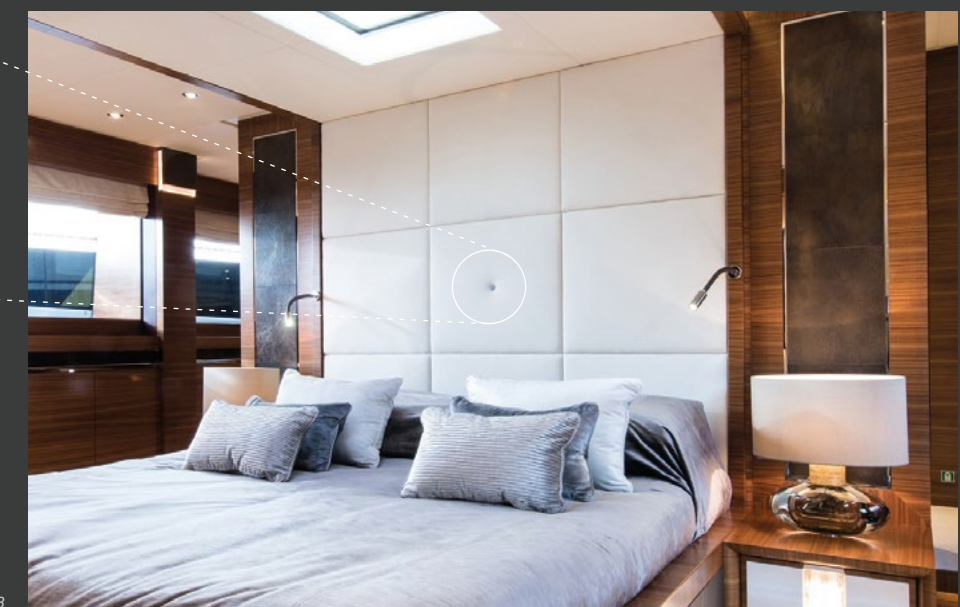
In this no-noise bubble the environmental noise can be up to 8-10dBA lower than in surroundings cabin zones. Videoworks ANC system working into the band of 20-200 Hz, is capable to deal with the mechanical noise and the lower part of HVAC noise; higher frequencies noise must be dealt via acoustical insulation.

The principle is simple: microphones, put close to the bed area, acquire the noise in real time and after a very fast DSP processing woofer speakers generate a feedback noise, which cancels the original one. To have an excellent behavior against air conditioning noise, a further microphone can be added together with a feed-forward DSP algorithm. The final system is built with a unique box for electronics and speakers, for easy and not-invasive installations in yachts (in ceiling or behind the bed) either in new project or in refitting.

# Videoworks ANC Active Noise Control created ad hoc for Yachting

3\_Videoworks "ANC" system on board of MY Silver Wind, 44 mt - ISA 140 by Videoworks  
4\_Videoworks "ANC" system, by Videoworks

Born from Videoworks in cooperation with the University of Ancona "Politecnica delle Marche", after more than 20 months of study and tests, **ANC «Active Noise Control»** is a new internationally patented system that allows to actively mitigate the noise inside the yacht cabin (for example during night navigation), focusing on the bed pillows area. The ANC system creates a virtual no-noise bubble of up to 2 meters radius focusing on the bed pillows area.



1

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# References



VIDEOWORKS

AALSMEER · ANCONA · CAGNES SUR MER · FORT LAUDERDALE · MILAN · VIAREGGIO  
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