

Hydrophone



8011 Hydrophone, P48

Professional recording under extreme conditions

The DPA 8011 Hydrophone is the only high-quality, 48 V Phantom-powered, underwater omnidirectional microphone in the world which has been specially designed to handle high SPLs and high static ambient pressure in water and other fluids. It is the optimum choice for professional sound recordings under water, in extreme humidity, in gas-filled rooms, or under other extreme conditions.

With a full bandwidth of 100 Hz - 20 kHz, the 8011 Hydrophone uses a piezoelectric crystal sensing element, which is enclosed in a capsule so that it can withstand high pressure encountered at depths of up to 50 m without being damaged or suffering changes in its performance characteristics. The sensing element gives the 8011 a dynamic range of more than 100 dB, so that even large fluctuations in the SPL emitted from a sound source, or in the distance from the sound source to the hydrophone, will cause no distortion in the recorded audio signal.

Underwater applications

Adding live underwater sound to water sport broadcasts greatly enhances the viewer's experience and outside broadcasting teams will go to great lengths to make on-the-spot live recordings of water sports events. This often involves wrapping conventional microphones in plastic or rubber, risking the loss of both a one-off recording and an expensive microphone. The results are often disappointing, time consuming or expensive. The rugged, waterproof and easy-to-use 8011 is always ready for the toughest underwater applications. The 8011 is also ideal for clean, professional sound recordings when scuba diving with an underwater video camera.

Recording sound effects at sea

Collecting sounds for the audio post-production of a film or video can be rather tricky if the underwater location is the ocean. Even at great distances, the background-noise and reverberation from ships and other sound-sources can disturb recordings. A swimming pool or a lake is often used instead, but if there is no alternative to making authentic recordings at sea, for example recording sound from deep-sea marine animals, then the 8011 is the simple, cost-effective solution.

The 8011 uses a built-in precision preamplifier, which remains unaffected by temperature changes. The preamplifier is powered via a standard P48 system and is equipped with a standard 3-pin XLR-connector. It is supplied with a 10 m (33 ft) high-quality cable. The integrated cable has a robust and abrasion-resistant jacket, which allows the 8011 Hydrophone to be used in permanent installations immersed in water or ice over long periods of time without damaging the product or changing its specifications.



'To capture a call from a Baleen Whale passing in the distance is a pretty special moment'
Ashton Ward, sound recordist
Great Barrier Reef, Australia

Specifications



8011

Directional characteristics:

Omnidirectional

Cartridge type:

Piezoelectric sensing element

Principle of operation:

Pressure

Power supply:

48 V Phantom

Frequency range:

100 Hz - 20 kHz ± 3 dB

Sensitivity, nominal ± 2 dB

0.7 mV/Pa; -63 dB re. 1 V/Pa

Equivalent noise level A-weighted:

Typ. $< 8 \mu V$

Max SPL:

162 dB SPL peak

Output impedance:

$< 300 \text{ Ohm}$

Operating temperature range:

-10° to $+50^\circ \text{ C}$ ($+14^\circ$ to 122° F)

Connector:

3-pin XLR-M (Standard P48)

Dimensions:

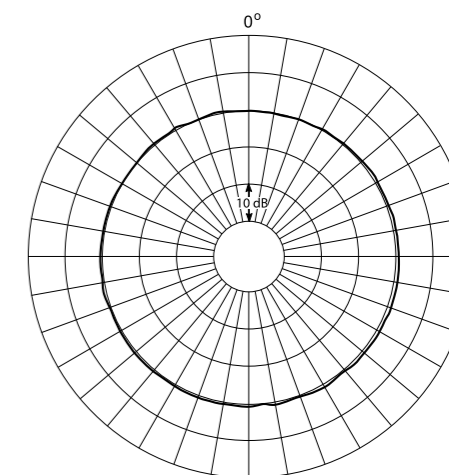
Microphone length: 150 mm (5.7 in)

Capsule diameter: 32 mm (1.2 in)

Weight: 500 g (1.1 lbs) (incl. cable)

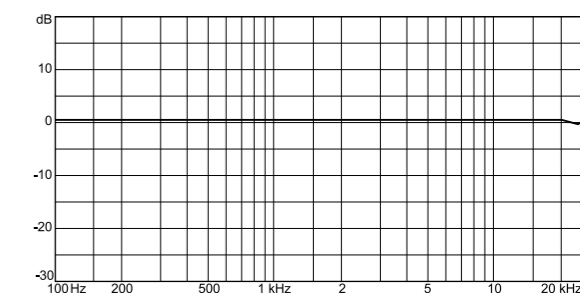
Cable length: 10 m (33 ft)

Polar Pattern



Directional characteristics of Hydrophone 8011 at 10 kHz.

Frequency Response



Typical frequency response of Hydrophone 8011.