



Wideband LOFAR

Wideband Omni-Directional Passive Sonobuoy Type SSQ 906G

- High performance passive surveillance sonobuoy for littoral and deep water operation
- Designed for high noise environments and multistatic operations
- Wideband acoustic frequency range – 10Hz to 20kHz
- Autonomous Function Select – fully synthesised and programmable RF channel, life and depth settings
- Designed for internal carriage and release with 2-event safety criteria
- Digital RF link available as an option
- Global Positioning System (GPS) available as an option
- Coastal Surveillance buoy option with low salinity and shallow hydrophone depth settings for ice-edge or estuarine operations
- AGC option, optimising the buoy for use in noisy waters

The Ultra SSQ 906G LOFAR sonobuoy combines a new, high-performance, omni-directional sensor with the proven in-buoy digital electronics of the Ultra SSQ 955 HIDAR sonobuoy. This combination takes full advantage of digital signal processing to offer a buoy that outputs distortion-free acoustic data across a high dynamic range, and with superb linearity across an extended acoustic spectrum.

The buoy is ideal for use in high ambient noise conditions, eg in coastal environments, heavy rain, or near interfering shipping. The fully digital design also offers fast recovery in transient overload conditions and eliminates composite telemetry distortion when overloaded, making it well suited to acting as a low-frequency active receiver for multi-static operations.



Ultra
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A variant of this sonobuoy, designed primarily for shallow water operations close to the shoreline, offers a solution to the complex demands of coping with difficult acoustic conditions found close to ice-melt, or in the fresh-water run-off environment of river estuaries. This variant will cope with all salinity conditions from fresh water to 3.6% salinity by weight.

Operation

The SSQ 906G offers considerable benefits to maritime patrol aircraft, especially those with limited space and weight available. Its small, lightweight size is ideal for helicopter operations. Being internally carried and launched, all of its selections can be made simply and manually, prior to release, through the AFS selector. The buoy can also be hand-launched or fired from automatic launchers on ships and boats.

After release from the aircraft, a parachute limits the rate of descent to approximately 30 m/s. On water entry, a surface float is deployed, containing a VHF transmitter for acoustic data telemetry. Omni-directional acoustic sensor signals are transmitted to an airborne or ship-based acoustic processor for passive detection of narrowband, broadband and transient submarine acoustic emissions. The buoy will also detect low frequency active emissions and echoes in a multistatic or active adjunct role.

Safety mechanisms are included to prevent actuation or deployment until the parachute has deployed normally and the buoy has entered the water. These safety features protect operators from inadvertent activation, especially in emergency situations.

Specification SSQ 906G LOFAR

Description

Omni-directional passive sonobuoy

Dimensions

'G' size

| | |
|-----------|----------------------|
| Length: | 419.1mm (16.5 in) |
| Diameter: | 123.825mm (4.875ins) |
| Weight: | 5.6kg (12.3lb) |

Deployment

| | |
|--------------------|-------------------------------------|
| Platform speed: | 0 to 375 knots |
| Platform altitude: | 46m to 9200m (150ft to 30,000ft) |

Life (AFS Programmable)

1 to 7 hours in 1 hour increments
(Scuttles at end of life)

Depth (AFS Programmable)

| | | | |
|-----------------------------|------|------|------|
| Settings: | 30m | 140m | 300m |
| Time to full stabilisation: | 100s | 180s | 240s |
| Alternate depth settings: | 15m | 30m | 60m |

RF Channel (AFS Programmable)

Channels 1 to 99
(136 MHz to 173.5 MHz, 375 kHz spacing)

Telemetry Mode

Frequency Modulation
(Coherent GMSK @ 224 kbps available as an option)

VHF Radiated RF Power

| | |
|----------------------------|-----------------------------|
| Effective radiated power: | 1 Watt minimum |
| Nominal Radiation Pattern: | $\lambda/4\lambda$ monopole |

Sonic Frequency Response Shape

High pass, 1 kHz first order (nominal)

Acoustic Frequency Range

10Hz to 20kHz

FM Deviation Acoustic Sensitivity

116 \pm 2dB re 1 mPa produces 25kHz
peak deviation at 100Hz

Temperature Range

| | |
|----------------------------|----------------|
| Seawater operating: | -2°C to +35°C |
| Un-packaged non-operating: | -20°C to +55°C |
| Packaged: | -50°C to +70°C |

Seawater Salinity

1.5% to 3.6% by weight
Option: 0.0% to 3.6% by weight

Storage Life

| | |
|--------------|-------------------------------------|
| Packaged: | 7 Years |
| Un-packaged: | 90 days at 95% relative humidity |



www.sonobuoys.com
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