Miniaturised sonobuoys are a key enabler to allow the conduct of ASW from unmanned fixed-wing and rotary-wing platforms, and significantly reduce the size and weight burden on manned platforms, extending time on station.

Ultra Electronics has developed miniaturised versions of the highly successful SSQ 955 HIDAR and SSQ 926 ALFEA buoys to deliver an increased capability in a smaller package. The new Mini-HIDAR and G-ALFEA buoys deliver a multi-static sensor field with a 2dB increase in multi-static active performance compared to the existing buoys, enabling a typical 35% increase in area search performance for the same probability of detection.

The Mini-HIDAR receiver buoy has been enhanced with an extended wideband frequency coverage, in-buoy Active Intercept detection and Underwater Locator Beacon detection for even greater utilisation. The G-ALFEA supports multiple selectable waveforms allowing for multi-static operation against fast and slow moving targets in both deep and littoral waters.

The miniature sonobuoys are fully compliant with STANAG 4718 whilst also offering a legacy interface mode to allow operation from current sonobuoy processing systems, and are compatible with existing gravity launchers as well as the Sonobuoy Mission Pod.

**MINIATURE SONOBUOYS**

**A NEW GENERATION OF SONOBUOYS FOR MANNED AND UNMANNED PLATFORMS**

**Features**
- Greater area search performance than existing sonobuoys
- >40% weight and 35% volume reduction per MSA field
- G-Size Source
- F-size Receiver
- Compatible with existing gravity launchers and new Sonobuoy Mission Pod
- Two-event safety criteria
- Customisable and selectable depths
- Manual (AFS) and Remote (RFS) Programming
- Command Downlink
- GPS fitted as standard
- Legacy and STANAG 4718 Telemetry modes
Miniature Sonobuoy Variants

G-ALFEA Active Source
This new lightweight high power, low frequency electro-acoustic source buoy is intended for use with HIDAR or Mini-HIDAR multi-static receivers for MSA search, localisation and tracking.

It’s features include:
- High source level
- 1.6-2kHz bandwidth, allowing multiple pings from different sources concurrently
- 3 depths (similar to ALFEA), changeable via downlink command
- Extensive ping library, including all ALFEA waveforms
- Autonomous ping capability
- Full backward compatibility with ALFEA command set
- ALFEA, CFS and STANAG 4718 Downlink Commands
- ALFEA and STANAG 4718 telemetry modes
- Manual (AFS) and Remote (RFS) programming for UAS operation
- GPS
- 1-8 hours life setting; changeable via downlink command
- 7.8 kg / G-Size form factor

Mini-HIDAR (F-size) Acoustic Receiver
This new lightweight receive buoy provides both passive and high dynamic range MSA receive functions. It is designed for use with G-ALFEA or ALFEA source sonobuoys.

It’s features include:
- High performance passive directional sensor for narrowband, broadband and transient detection
- Directional vertical line array for MSA receive function to provide higher gain
- A wideband omnidirectional sensor for acoustic intercept, classification and marine mammal detection.
- 3 depths (similar to HIDAR)
- HIDAR and STANAG 4718 telemetry modes
- Full backward compatibility with HIDAR
- Selectable frequency bands mode (STANAG 4718)
- Wideband modes: 10kHz to 20 kHz / 20 kHz to 40 kHz (STANAG 4718)
- Active Intercept Alerts (20 Hz to 40 kHz)
- Underwater Locator Beacon (ULB) Alerts
- STANAG 4718 Downlink Commands
- Manual (AFS) and Remote (RFS) programming for UAS operation
- GPS
- 1-16 hours and ‘extended’ life settings; changeable via downlink command
- 10 hours guaranteed life, 16 hours with power management
- 3.5 kg / F-Size form factor

Temperature Range
Sea water operating: -2°C to +35°C
Un-packaged non-operating: -40°C to +55°C, to allow external carriage / deployment to 15 kft
Packaged: -50°C to +70°C

Sea State
Operate: Sea State 5
Survive: Sea State 7

Seawater Salinity
1.5% to 3.6% by weight, with low salinity option

Storage Life
Packaged: 7 Years
Un-packaged: 90 Days

Deployment
Platform speed: 50 kts to 375 kts
Platform altitude: 55 m to 9,144 m (180 ft to 30,000 ft)

RF Channel
Selectable via AFS/RFS/Downlink: 1 to 99 (136 MHz to 173.5 MHz, 375 kHz spacing) 3 sub-channels in STANAG 4718 telemetry modes

VHF Radiated RF Power
1 Watt nominal, adjustable via Downlink

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