



# CAMBS

## Command Active Multi-Beam Sonobuoy Type SSQ 963D

- High performance sonobuoy for littoral water operations
- Monostatic localisation, tracking and attack sonobuoy
- Multiple acoustic frequencies for multiple sonobuoy operation
- Can be processed in multistatic mode
- Digitally synthesised shaped acoustic pulses
- Digital telemetry with wide dynamic range
- Increased RF power
- Provision for inclusion of GPS
- Designed for internal carriage and gravity launch
- 2-event safety criteria
- Extended operational life
- 7-year storage life

### Features

The Ultra SQ 963D Command Active Multi-Beam Sonobuoy is the latest version of Ultra's gravity-launched, localisation, tracking and attack sonobuoy. The sonobuoy design has been brought into line with Ultra's 'modular sonobuoy' philosophy within the 'host/payload' concept. Featuring a fully digital design with significantly improved performance and reduced cost, the SSQ 963D is the most powerful monostatic active sonobuoy available to NATO. Its higher power setting offers greater detection ranges and improved localisation accuracy in operational scenarios, while the lower power setting gives a longer life for training purposes or active barrier operations.



Ultra's digital telemetry offers, in the digital mode, significant scope to combat acoustic countermeasures, while the increased RF power improves robustness to RF interference and countermeasures.

The SSQ 963D offers considerable benefits to maritime patrol aircraft, especially those with limited space and available weight. As fewer buoys would be needed per prosecution, SSQ 963D provides the ideal complement to low-frequency active dipping sonars on ASW helicopters.

### Operation

The SSQ 963D can be launched from fixed-wing aircraft or helicopters (or by hand, if desired).

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 antenna for telemetry transmission. The buoy is controlled by commands transmitted from the aircraft over a UHF radio link.

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 963D CAMBS

#### Description

Directional, monostatic, active localisation, tracking and attack sonobuoy

#### Dimensions

'A' size	
Length:	914mm (36 in)
Diameter:	124mm (4.875ins)
Mass:	13.2kg (29lb)

#### Deployment

Altitude:	180 to 10,000 feet, speed 50 to 300 kts
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#### Operating Depth

4 Selectable depths

#### Operating Life

Full Power:	1 Hour Automatic or Command scuttle
Low Power:	4 Hours Automatic or Command scuttle

#### RF Frequency

99 Channels, 136 MHz to 173.5 MHz, 375 kHz spacing

#### VHF Radiated Power

≥ 1 Watt EIRP

#### Compass Accuracy

+/- 5°

#### Carrier Deviation

Limited to ± 75kHz relative to carrier frequency

#### Modulation

'S' (Standard) Mode:	FM with TDMA multiplexed signal
'H' (High) Mode:	Gaussian Minimum Shift Key(GMSK)

#### Temperature Range

Seawater operating:	-2°C to +35°C
Un-packaged non-operating:	-20°C to +55°C
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

#### Storage Life

Packaged:	7 Years
Un-packaged:	90 days



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Printed in England  
0603 / CP / 250 / HaT