

# AN/SSQ-53G (GPS) DIFAR Sonobuoy

## Passive Directional with ASCII NMEA GPS

The AN/SSQ-53G (GPS) DIFAR US Navy A-size sonobuoy combines a passive directional and calibrated wide-band omni capability into a single multi-functional sonobuoy. **This is the recommended DIFAR Sonobuoy for international customers requiring GPS capability.**

This sonobuoy features both Electronic Function Select (EFS) for use prior to loading and launching and Command Function Select (CFS) to allow the operator to modify the sonobuoy's modes of operation after it has been deployed in the water. These functions allow the operator to select operating mode (sensor selection), buoy life, depth setting, AGC level and RF channel.

The AN/SSQ-53G (GPS) can operate in four acoustic sensor modes selectable via EFS or CFS. A Constant Shallow Omni (CSO) provides acoustic information at a fixed depth of 45 ft (13.7 m) while a Calibrated Omni (CO) co-located with the DIFAR sensor provides acoustic information at a selectable operational depth. The Calibrated Omni sensor can operate with acoustic bandwidths of 20 KHz (CO) or 40 KHz (XCO). The buoy amplifies the underwater acoustics and provides directional data necessary to establish bearing to the energy source.

The AN/SSQ-53G (GPS) has GPS location reporting capabilities following activation to transmit NMEA formatted messages. The sonobuoy transmits the GPS messages RMC, GSV, GGA, and GSA at an update rate of 5 seconds on a subcarrier centered at 33.5 KHz for CSO, CO, and DIFAR modes or centered at 45 KHz for XCO mode.

The AN/SSQ-53G (GPS) DIFAR is air launchable from fixed or rotary-wing aircraft or can be deployed from the deck of a surface vessel. Descent of the sonobuoy is stabilized and slowed by a parachute.

- Acoustic Sensor Selections
  - CSO, CO, XCO, or DIFAR*
- EFS Selectable
  - RF Channel, Life, Depth, Sensor, AGC level*
- CFS Commandable
  - RF Channel, Life, Sensor, AGC Level*



# SPECIFICATIONS

NSN 5845-01-663-0428

## PHYSICAL CHARACTERISTICS

Weight .....9.5 kg (21 lbs)

Sonobuoy Launch Container.....LAU-126/A

## PERFORMANCE DATA

RF Command Receiver..... UHF – single channel

RF Transmitter Power Output.....1 W minimum

RF Transmitter Operating Frequency ..... 97 Channel Selectable  
(136.000 to 173.500 MHz)

Sensors/Audio Frequencies.....CSO (30 to 5000 Hz)  
CO (5 to 20 KHz)  
DIFAR (5 to 2400 Hz)  
XCO (5 to 40 KHz)

Operating Life.....0.5, 1.0, 2.0, 4.0, or 8.0 hours

Operating Depth..... d1: 27 meters (90 ft)  
d2: 61 meters (200 ft)  
d3: 122 meters (400 ft)  
d4: 305 meters (1000 ft)

EFS selections..... RF, Life, Depth, Sensor, and AGC

CFS selections.....RF, Life, Sensor, and AGC

Launch Altitude..... 12 to 9144 meters (40 to 30000 ft)

Launch Speed..... 0 to 370 KIAS

Shelf Life ..... 5 years in sealed container

Variant Configuration	Modifications from AN/SSQ-53G
Q53G XCO No GPS	No GPS available. 40KHz bandwidth CO only.
Q53F GPS	CO/XCO selection added to EFS for default Omni bandwidth if CO is EFS selected for the sensor.