

AN/SSQ-565

Multistatic Low Frequency Active Source Sonobuoy

Active

The AN/SSQ-565 Sonobuoy has been designed for multistatic sonar applications and offers a high-power, low frequency electro-acoustic source and passive receive capability. Incorporating a CSG compatible UHF AM downlink to control its operation post launch, the AN/SSQ-565 is compatible with aircraft capable of commanding any variant of the AN/SSQ-62 DICASS sonobuoy. Available in an A-size SLC launchable package, the AN/SSQ-565 offers commandable ping types over a 400 Hz bandwidth and the ability to operate at four different depths. Power source is a lithium sulfur dioxide battery pack with safety features to ensure voltage is not applied unless the buoy has been deployed into seawater.

- A-size
- All Digital Design
- DSP driven Class M H-bridge PWM Power Amplifier
- Commandable Operating Depth (Go Deeper)
- Four Selectable Acoustic Ping Frequencies
- 120V LiSO₂ Battery Power Source
- 96 Channel RF Transmitter
- Electronic Function Select (EFS)
- Command Signal Generator (CSG) Compatible
- Passive Receive Capability
- Optional GPS fit (FSK on 33/34 kHz sub-carrier)
- Enhancements in Development:
 - Receiver Hydrophone AGC
 - Transmit Ping Amplitude Equalization in FM Sweep
 - Command Function Select (CFS) Ping Control
 - Complex waveforms (CAS mode)



SPECIFICATIONS

PHYSICAL CHARACTERISTICS

Diameter 4.875 + 0/- .125"
Length 36 + .125/- .187"
Weight (bare buoy) 14.4 kg (31.8 lbs +0/- 0.2)
CofG 14" from bottom end
Ballistic coefficient 18.0 ± 1.5 lbs/ft²
CdA 1.93
Parachute Cross-cruciform, 3.85 ft² area
Sonobuoy Launch Container Compatible LAU-126/A

ENGINEERING DATA

RF Command Receiver Format UHF AM - single channel
 (291.4 MHz) CSG ASA - 76
Address Tone Signals As per DICASS sonar channel/
 UHF modulation frequencies
RF Transmitter Power Output 1 Watt minimum
RF Transmitter Operating Frequency 99 channel EFS selectable
 (except chns 57,58,93) (136.000 to 173.500 MHz VHF)
RF Transmitter Control supports CFS commandable ON/OFF,
 RF channel change
RF Transmitter Frequency Stability ±25 kHz
Frequency Modulation 0 to 105 kHz deviation
Composite DIFAR Compatible Output Signal Consisting of:
Base band Omni 1600 to 2000 Hz
Frequency Reference Pilot 7.5 kHz
Phase Pilot 15 kHz
GPS data (optional) 33-34 kHz sub-carrier, 1200 baud
RF Operating Life Fixed 1 hour (optionally 7 hours)
Operating Depth 4 depths available across two operating modes
 2 depth families based on EFS initial setting
 EFS Selectable shallow with CSG Go Deeper
d1 (30, 60, 120 m), d2 (60, 120, 250 m)
 Intermediate and Deep settings are CSG commandable
Go Deeper Setting Timing based on avg terminal velocity
 of 2.5 ft/s with 4 second delay

ENGINEERING DATA CONT'D

Max. Survival Depth 280 m
Operating Sea State up to SS5 with SS6 survivability
Transducer Array Piezoelectric ceramic, 8 elements flexural disc
Min. Source Level (dB re µPa @ 1 m) 212 SPL @ 1800 Hz
 209 SPL at bandwidth edges
Transmit bandwidth 1600 to 2000 Hz
Transmit vertical beam width .. 10-13° (3dB measured beam width)
Passive Receiver same directivity as transmit array
Ping Types CW, FM Up, FM Down
Complex Waveforms (CAS mode).... Future capability requiring CFS
CW Waveforms Amplitude shaped (Hamming windowed)

CSG CW Ping Command duration (sec)	Actual Pulse Length (sec)	Equivalent Rectangular Pulse (ERP) Length (sec)	Maximum Command Repetition Rate (sec)
Short 0.1	1	.5	7.14
Medium 0.5	2	1	14.28
Long 1.0	4	2	28.57

FM Waveforms 1 sec duration, ± 100 to 400 linear sweep
 (depending on sonar channel), non-windowed, amplitude unshaped

CSG Command Latency

Command Type	Latency -0, +0.15 sec
FM up	0.253
FM down	0.253
CW 0.1	0.358
CW 0.5	0.758
CW 1.0	1.258

Pinging Capacity Up to 200 ping seconds at not greater than
 7% duty cycle

Ping Frequency 6.5 kHz Sonar A - Center 1802 Hz, BW 400 Hz
Mapping to 7.5 kHz Sonar B - Center 1698 Hz, BW 200 Hz
DICASS 8.5 kHz Sonar C - Center 1906 Hz, BW 200 Hz
 9.5 kHz Sonar D - Center 1646 Hz, BW 100 Hz

Battery Package 40 cell LiSO₂ LO43SHX (in sub-surface unit)

Safety Features Battery internal fusing @ 20A
 - Battery thermal cut-out (TCO) @ 93°C
 - Safety interlock - hydrostatic pressure switch,
 electrical turn on at 50± 15 ft depth
 - Pressure Relief valve - 15 psig venting to limit
 internal pressure in lower electronics housing

Scuttle Automatic after 7.25 hours,
 CSG commandable during life

Shelf Life 5 years in sealed container

NATO Stock Number pending



Maritime Systems
 40 Atlantic Street
 Dartmouth, NS
 Canada B2Y 4C5

Tel: 902.466.7491
 Fax: 902.463.6098

email: mktg@ultra-uems.com
www.ultra-uems.com