

BECKER SAR

SEARCH AND RESCUE

MR 509

COSPAS – SARSAT 406 MHz PERSONAL LOCATOR BEACON

FEATURES:

- COSPAS - SARSAT
406.025 MHz, 243 MHz and 121.5 MHz Beacon
- Two-way VOICE COMMUNICATION on UHF
- Manual or automatic activation
- Waterproof to 10 meters
- NATO STANAG 7007
- COSPAS – SARSAT Specifications
- Automatic interrupt mode

Applicable documents:

EUROCAE ED-12B/14C
RTCA DO-160C/178B

The MR 509 Personal Locator Beacon is designed for use as a survival radio by aircrews, mariners and personnel engaged in other military missions.

Operation of the MR 509 is initiated manually or automatically. When activated, the unit transmits an intermittent, sweep tone radio distress signal in the UHF/VHF aviation frequency bands and messages on the COSPAS – SARSAT satellite frequency.

Built-in test facilities allow a simple confidence check of the unit and the battery.

Transmission is omnidirectional and continuous at full power for well over 24 hours at – 20° C and it operates for 21.5 hours, at full power at – 40° C to facilitate detection by satellite, aircraft or vessels, or by any other land, sea or airborne installations monitoring these frequencies.

The voice communication mode permits the survivor to communicate with the rescue team in the UHF band. This mode can be manually or remotely activated when the unit is operating in beacon mode.



MR 509 can be tested simply and quickly before every mission or at regular intervals by activating the BITE. A yellow light and an audio signal gives an instant „GO/NO GO“ indication.

The unit is waterproof to a depth of 10 m. The battery has shelf life of 5 years.

There are over 30,000 units of this basic model in service with over 27 countries and there are no known failures at this time.

MR 509 Personal locator beacon

Technical data

General

- Operating frequencies:

VHF	121.500 MHz
UHF 1	243.000 MHz
UHF 2	406.025 MHz

 Other frequencies on request
- Modulation:

Beacon and voice mode	AM (121.5; 243.0 MHz)
Cospas/Sarsat	C/S Specification T.001
- Antenna:

tri-frequency built-in antenna and connector for external antenna

- Operating temperature range:

– 20 °C ... + 55 °C

- Battery:

Lithiumtype (Li-MnO ₂)
Lifetime > 5 years
- Min. operating time:

beacon mode	min. 24 hours at – 20 °C
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- Design specifications:

NATO STANAG 7007
C/S T.001
ED-12B/14C
DO-160C/178B
- Weight with battery:

735 g

- BITE:

self test with acoustic and optical indication for GO/ NO GO
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Transmitter

- Output power:

Beacon mode	VHF 100 mW CW
	UHF 100 mW CW
	C/S 5 W
- | | |
|------------|---------------|
| Voice mode | UHF 100 mW CW |
|------------|---------------|
- Modulation:

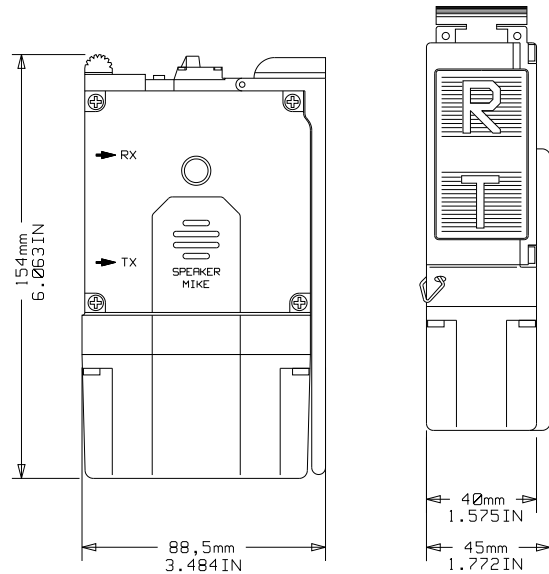
Beacon mode	A2X not less than 60 % audio frequency swept at 2 to 3 sweeps per sec.
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- | | |
|----------|--------------------|
| C/S mode | messages C/S T.001 |
|----------|--------------------|
- | | |
|------------|--------------------|
| Voice mode | A3E more than 70 % |
|------------|--------------------|
- | | |
|--------------------------|------------------------|
| NSN MR 509-01-100: | 5820 - 12 - 343 - 8783 |
| other versions available | |

UHF-Receiver

- Sensitivity:

≤ 3 μV for 6 dB (S+N/N),
30 % modulation
- Audio output:

≥ 100 mW, 90 % modulation
at 1000 Hz



PPE 509-2 Beacon test and program set

- Approval:

German MOD BWB 1921Y-B07/97/01
Cospas/Sarsat MR 509 C/S N° 701
MR 509/1 C/S N° 132
- Accessories:

Benchtester and programmer
Antennas for lifevest/-raft
Antenna test set
Pressure container
Carrying case
Different activation sets on request
- | | |
|----------------|------------------------|
| NSN PPE 509-2: | 6625 - 12 - 357 - 9580 |
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