### Wideband Radio Direction Finder RT-600 (SAR-DF 517)

**SAR & Law Enforcement to locate and decode COSPAS-SARSAT**

- **Modern and advanced wideband direction finding system for airborne applications**
- **Easy installation, no RF cable connection required**
- **Extremely compact and robust antenna system**
- **Short response time due to high antenna rotation frequency**
- **Compact 80 mm display unit fits into a standard aircraft instrument panel**
- **LoJack reply code decoding**
- **Law Enforcement scan mode for autodetection of active LoJack and ETS transmitters**
- **Auxiliary automatic squelch mode for easy operation**

#### RT-600 (SAR-DF 517) All features at a glance

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#### Frequency options

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#### LoJack

- **LoJack**: Reference Code for ETS (Emergency Transmitter System)
- **ETS**: European Emission Transmitter System
- **COSPAS SARSAT**: International satellite search and rescue system

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The product

The RT-400 SAR-DF 517 is an advanced worldwide radio direction finding system for airborne applications, capable of capturing and indicating the position of targets, regardless of their distance from the user. It is also capable of capturing and indicating the LoJack ID for selective filter and identifying the frequency range from 118.000 to 136.992 MHz. LoJack Decoding

COSPAS-SARSAT decoding

LoJack ID for selective filter

COSPAS-SARSAT decoding

Frequency selection

LoJack ID for selective filter

The technical data provides information on the performance characteristics of the RT-400 SAR-DF 517, including reception frequencies, LoJack ID decoding, and other technical specifications. The technical parameters are designed to support the requirements of airborne and maritime emergency services, ensuring reliable tracking and location of distressed persons or vessels in various operational conditions.

Technical data

Method of bearing

Doppler principle (3 kHz fractional frequency, right / left rotation)

Bearing accuracy

±5° RMS

Internal modulation

T1

Bearing Sensitivity

VHF Air/Emergency: ≤ 0.2 µV/m (typical)

VHF Marine Band: ≤ 0.5 µV/m (typical)

UHF Emergency and ETS: ≤ 0.4 µV/m (typical)

COSPAS-SARSAT: ≤ 0.2 µV/m (typical)

LoJack Decoding: (50% Message Error Rate) and bearing: ≤ 5 µV/m (typical)

Frequency stability: Δ±5 ppm (4.5° to ±2.5°

Reception frequencies, SAR version (standard):

VHF Emergency Band: 118.000 to 124.002 MHz (8.33 kHz steps, AM)

VHF Marine Band: 154.000 to 163.002 MHz (5.00 kHz steps, RM)

UHF Emergency Band: 240.000 to 246.002 MHz (25.00 kHz steps, AM)

UHF IM-Band: 406.100 to 410.000 MHz (5.00 kHz steps, AM)

COSPAS-SARSAT: 400.000 to 406.092 MHz

Additional Frequency Options:

F1 VHF Air Band: 118.000 to 124.002 MHz (8.33 kHz steps, AM)

F2 extended VHF Marine Band: 137.000 to 224.995 MHz (5.00 kHz steps, RM)

F3 extended UHF Air Band: 225.000 to 239.975 MHz (25.00 kHz steps, AAM)

F4 additional UHF Band: 414.000 to 470.000 MHz

Reception frequencies, Law Enforcement version:

VHF Emergency Band: 118.000 to 124.002 MHz (8.33 kHz steps, AM)

VHF Marine Band: 154.000 to 163.002 MHz (5.00 kHz steps, RM)

LoJack: 164.000 to 174.995 MHz (12.5 kHz steps)

ETS: 216.000 to 220.000 MHz (16.125 kHz steps, FM)

COSPAS-SARSAT: 400.000 to 406.092 MHz

Additional Frequency Options:

F1 VHF Air Band: 118.000 to 124.002 MHz (8.33 kHz steps, AM)

F2 extended VHF Marine Band: 137.000 to 224.995 MHz (5.00 kHz steps, RM)

LoJack: 164.000 to 174.995 MHz (12.5 kHz steps)

ETS: 216.000 to 220.000 MHz (16.125 kHz steps, FM)

COSPAS-SARSAT: 400.000 to 406.092 MHz

COSPAS-SARSAT (freq.):

COSPAS-SARSAT Changing:

Fast scan mode:

COSPAS-SARSAT decoding:

Reception and decoding of COSPAS-SARSAT data signal (112 or 144 bit, 400 baud, F3E, F3X, A3X, A3E, F3D, G2D, COSPAS-SARSAT: 406.022 to 406.076 MHz)

COSPAS-SARSAT decoding:

100% autonomous detection of any active COSPAS-SARSAT channel A to S within 400 ms

Lojack decoding:

Selective LoJack ID display and selective active filtering

Special scanning modes:

Complete maritime ship band scanning within 3 s

Bearing accuracy:

±3°

Polarization:

Vertical

Polarization error:

≤ 5° at 60° field vector rotation

Cabling cone:

Approx. 30° to the vertical

Response time:

≤ 50 ms (with sufficient reception field strength)

The technical data also includes information on the product's compatibility with various systems, such as LoJack Stolen Vehicle Recovery Technology, RT-600/SAR-DF 517 which supports LoJack ID for selective filter. The RT-400 SAR-DF 517 is designed to support advanced wideband radio direction finding systems, and is capable of capturing and indicating LoJack ID for selective filter. The product is designed to support the requirements of airborne and maritime emergency services, ensuring reliable tracking and location of distressed persons or vessels in various operational conditions.

Mechanical characteristics

Display Control Unit (DCU):

Antenna Unit (AU):

Weight:

Approx. 245 g

Approx. 500 g

Operating temperature:

-25°C to +60°C

-40°C to +60°C

Storage temperature:

-55°C to +80°C

Regulations protection:

IEC 667

Dimensions:

82 mm x 62 mm x 43 mm

Antenna Unit (AU):

Ø 270 mm x 185 mm

LC-graphic display: 128 x 64 pixels, aspect ratio: 1:2, transmissive, extended range of temperatures, dark-blue display on yellow-green background, background light-off.

NMC cutout design:

Possible integration of additional display brightness.

Operating voltage:

Fully compatible with Green & Display Control Unit optional

Current consumption:

27.5 V nominal / 12 to 35 V DC

LCD background light off:

max. 500 mA (2 V DC) / 210 mA (24 V DC)

LCD background light 100%:

max. 750 mA (2 V DC) / 350 mA (24 V DC)

NVC option:

max. 900 mA (2 V DC) / 400 mA (24 V DC)

Audio out:

External speaker approx. 2 W (4 Ω)

Maximum output voltage approx. 15 V at maximum volume

Interface:

Serial interface RS-232 (9600 baud, 8 data bits, 1 stop bit, no parity)

Analog dimming input voltage for legends

NMC input driving line for LCD background light

Options:

- NVG Display

- ARINC 429 (Bulk) Command

- Ramp Tester

- Antenna light weight version for UAV (RT-600 Light)

Examples of different DCU pages

COSPAS-SARSAT scanning

COSPAS-SARSAT decoding

Frequency selection

LoJack ID for selective filter

Frequency memory page

External speaker approx. 2 W (4 Ω)

Maximum output voltage approx. 15 V at maximum volume

Serial interface RS-232 (9600 baud, 8 data bits, 1 stop bit, no parity)