



RH O

Elektronik GmbH

THEIA

The Leader in DF

SAR & Law Enforcement Direction Finder

RT-600 / SAR-DF 517

To locate and decode
COSPAS-SARSAT
signals on 406 MHz



The RT-600 / SAR-DF 517 is an advanced multi-band radio direction finding system for airborne applications; capable of capturing and indicating direction to any source of an emergency signal on VHF, UHF, all 19 406 MHz COSPAS-SARSAT frequencies and all 88 maritime channels. As a result of requests from the airborne law enforcement community, RHOTHETA developed a special law enforcement version of the RT-600 / SAR-DF 517. The law enforcement version supports the LoJack Stolen Vehicle Recovery

Technology, by providing direction to the target and displaying the LoJack reply code. It is also capable of tracking the Electronic Tracking Systems (ETS) beacons. The sophisticated software provides significantly improved tracking capability over conventional tracking equipment. It reduces search time without external support. RHOTHETA's reliable airborne direction finders have been proven in thousands of SAR / LE operations worldwide under practically all climatic conditions.

Features

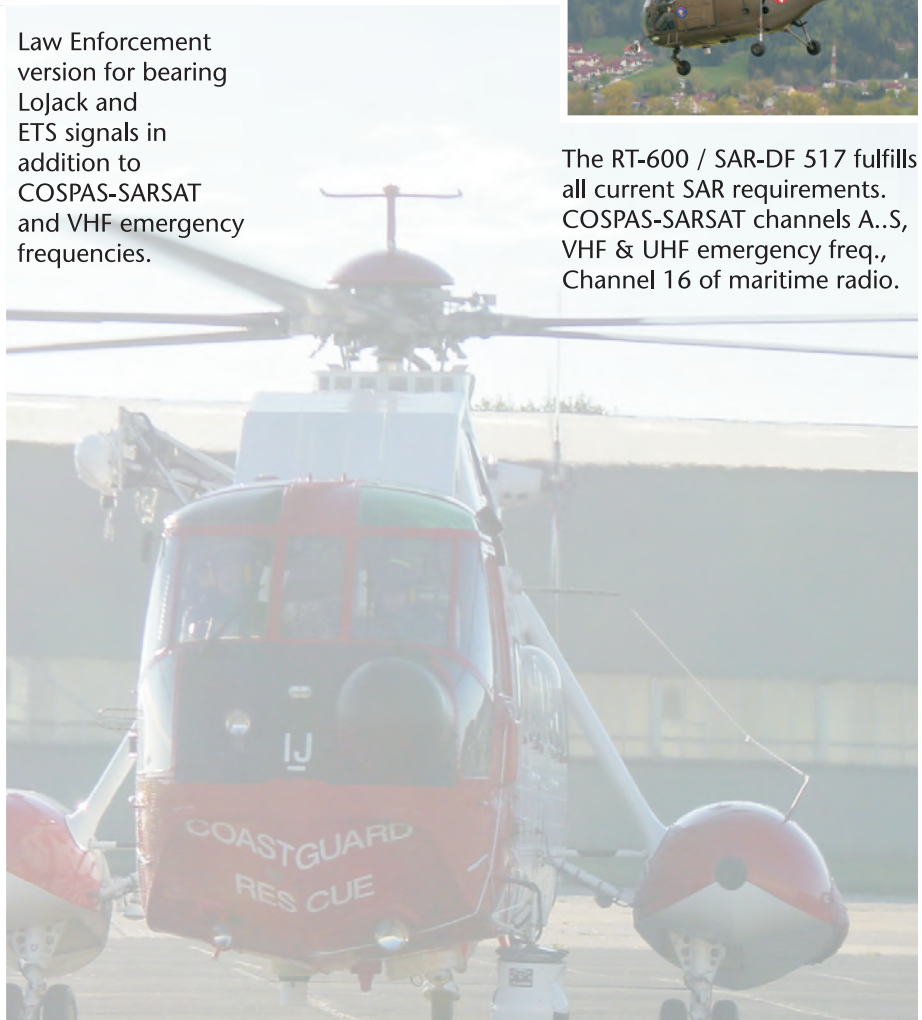
- Modern and advanced widebanded direction finding system for airborne applications
- Easy installation, no RF cable connection required
- Extremely compact and robust antenna system
- Short response time due to high antenna rotation frequency
- Ultra compact display unit fits into a standard aircraft instrument
- NVIS Green B compatible Display Control Unit for NVG cockpit available
- Auto-scan of all COSPAS-SARSAT channels within 400 ms
- Decoding/display of the COSPAS-SARSAT messages
- Fast scan function of complete marine ship band
- LoJack reply code decoding
- Law Enforcement scan mode for auto-detection of active LoJack and ETS transmitters
- Auxiliary automatic squelch mode for easy operation



Law Enforcement version for bearing LoJack and ETS signals in addition to COSPAS-SARSAT and VHF emergency frequencies.



The RT-600 / SAR-DF 517 fulfills all current SAR requirements. COSPAS-SARSAT channels A..S, VHF & UHF emergency freq., Channel 16 of maritime radio.



Technical data

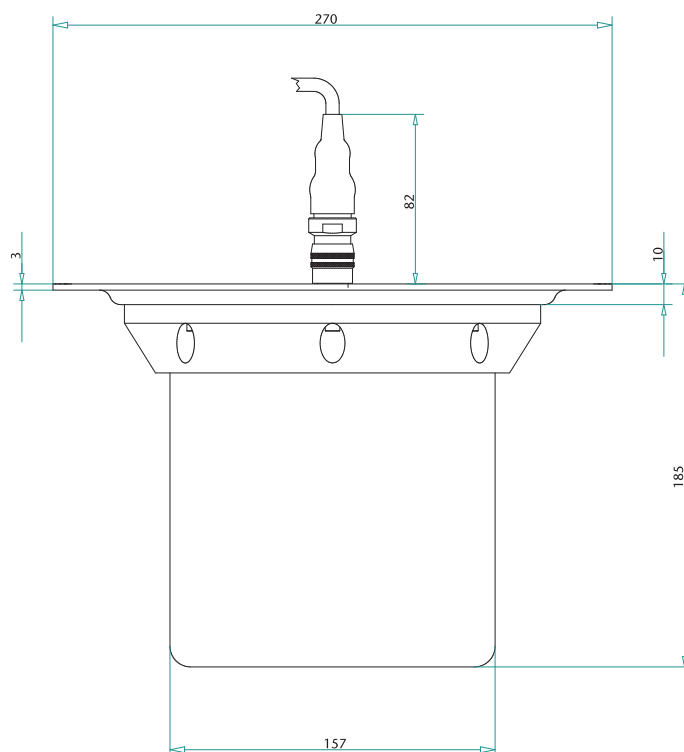
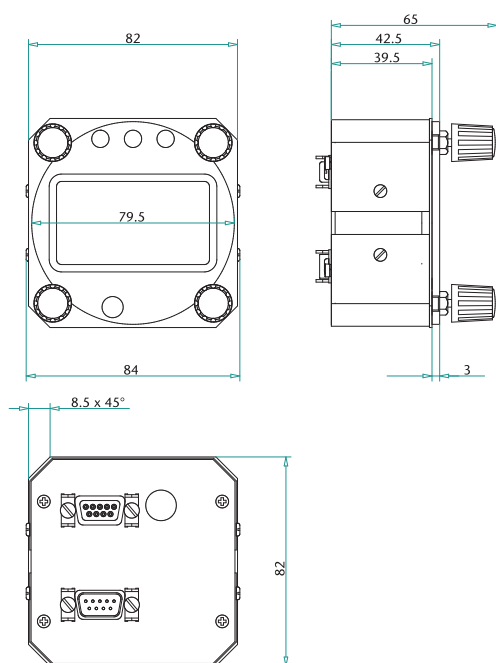
Method of bearing:	Doppler principle (3 kHz rotational frequency, right / left rotation)	
Bearing accuracy ¹ :	±5°	
Internal resolution:	1°	
Sensitivity:	RF voltage at receiver input (50 Ω): VHF < 100 nV, Maritime Band < 100 nV, UHF < 100 nV, COSPAS-SARSAT < 150 nV Lojack < 100 nV, ETS < 200 nV	
Frequency stability:	±2.0 ppm ($\Delta f/f = \pm 2 \times 10^{-6}$) (in temperature range -30 °C to +80 °C)	
Reception channels:	15/18 (five of them are free adjustable)	
Reception frequencies, frequency ranges:	<u>Standard Version</u> 118.000 to 123.000 MHz (8.33 kHz) 156.000 to 162.025 MHz (5.00 kHz) 240.000 to 246.000 MHz (8.33 kHz) 400.000 to 410.000 MHz	<u>Law Enforcement Version</u> 118.000 to 123.000 MHz (8.33 kHz) 164.000 to 174.000 MHz (12.5 kHz) 216.000 to 220.000 MHz (12.5/10.0 kHz) 400.000 to 410.000 MHz
COSPAS-SARSAT freq.:	Channels A to S (406.022 to 406.076 MHz)	
COSPAS-SARSAT fast scan mode:	Full automatic detection of any active COSPAS-SARSAT channel A to S within 400 ms	
COSPAS-SARSAT decoding:	Reception and decoding of COSPAS-SARSAT data signal (112 or 144 bit, 400 baud, biphasic L encoded, phase modulation, with Bose-Chaudhuri-Hocquenghem error-correcting code, specified according to COSPAS-SARSAT C/S T.001 October 1999)	
Lojack decoding:	Selectable Lojack ID display and selective active filtering	
Special scanning modes:	Standard version:	complete maritime ship band scanning within 3 s
	LE version:	automatic scanning for Lojack and ETS signals
Bearable modulation:	A3E, F3E, A3X (ELT modulation), F1D, G2D, COSPAS-SARSAT Bearing largely independent of modulation	
Polarization:	Vertical	
Polarization error:	≤ 5° at 60° field vector rotation	
Garbling cone:	Approx. 30° to the vertical	
Response time ² :	≤ 20 ms (with sufficient reception field strength)	
LC-graphic display:	128 x 64 pixels, supertwist / transfective, extended range of temperature, dark-blue display on yellow-green background, background light. Freely adjustable (exponential) dimming of brightness	
NVG cockpit design:	Fully compatible NVIS Green B display Control Unit optional	
Operating voltage:	12 V to 35 V DC	
Current consumption:	LCD-background light Off:	max. 350 mA (12 V DC) / 200 mA (24 V DC)
	LCD-background light 100%:	max. 600 mA (12 V DC) / 300 mA (24 V DC)
Audio out:	External speaker approx. 2 W (4 Ω) Maximum output voltage approx. 8 V pp at maximum volume	
Interface:	Serial interface RS-232 (9600 baud, 8 data bits, 1 stop bit, no parity) Analog dimming input voltage for legends Night/NVG input dimming line for LCD-background light	

¹ With undisturbed wave field and sufficient field strength. Measured by changing the angle of incidence with the antenna rotating on a revolving table in order to eliminate environment influences on the result.

² Very weak signals can increase response time considerably!

Mechanical characteristics

	Display Control Unit (DCU)	Antenna Unit (AU)
Weight:	Approx. 250 g	Approx. 2000 g
Operating temperature:	-20 °C to +60 °C	-40 °C to +60 °C
Storage temperature:	-30 °C to +80 °C	-55 °C to +80 °C
Ingress protection:		IP 67
Dimensions:	82 mm x 82 mm x 43 mm	Ø 270 mm x 185 mm



Examples of different DCU pages



Standard bearing display



COSPAS-SARSAT scanning



COSPAS-SARSAT decoding



Frequency selection



Lojack ID for selective filter



Frequency memory page

All product specifications subject to change without notice.

Lojack is a registered trademark of Lojack Corporation.

RHOTHETA Elektronik GmbH

Dr.-Ingeborg-Haeckel-Str. 2
82418 Murnau
Germany

Tel.: +49 8841 4879 - 0
Fax: +49 8841 4879 - 15

E-Mail: email@rhotheta.de
Internet: www.rhotheta.com

Coordinates (WGS 84):
N 47.6842° / E 11.1982°

RHOTHETA USA

375 South Carbon Ave. A8
Suite 135
Price, UT 84501. USA

Tel.: +1 435 578-1270
Fax: +1 435 487-1491

E-Mail: info@rhothetaUSA.com
Internet: www.rhothetaUSA.com