



DF-500 DIRECTION FINDER

SAVE TIME, SAVE LIVES

Greater accuracy for shorter searches, faster rescues and more lives saved

When it comes to airborne search-and-rescue (SAR) missions, saving time is often the difference between a rescue and a recovery. That's why government, military and civilian SAR organizations are upgrading their aircraft's direction-finder capabilities with Collins Aerospace's DF-500 direction finder.

Lightweight, compact and rugged, the DF-500 is a software defined radio specifically designed to be compatible with all SAR mission platform requirements. It can receive all current international distress frequencies, including 121.5 MHz, 243 MHz and COSPAS-SARSAT (406 MHz), as well

as ARGOS, AIS and DSC encoded beacon signals. Rescuers will have the ability to pinpoint signals produced by a wide variety of civil and military emergency locator beacons in use around the world.

The DF-500 can provide the bearing to a COSPAS-SARSAT as well as its beacon's latitude and longitude, along with its unique identifier, at ranges up to 116 nautical miles. Once the signal is received, the system provides the operator with a highly accurate bearing to rally the beacon, and beacon GPS coordinates, if available, to be entered into the flight management system and fly directly to the beacon's location.

With the DF-500 on your SAR team, time saved equals lives saved. Shorter searches also keep SAR crews safer and reduce aircraft and vessel operational costs. DF-500 is also available in a civil version, DF-500C, which does not require export licence.



KEY FEATURES

- 30 to 407 MHz frequency range (restricted range for DF-500C, see specifications)
- COSPAS-SARSAT 406, including all extended channels
- AIS Distress, DSC message decoding and homing
- Frequency scanning (100 MHz in less than 4s)
- AIS MMSI tracking (growth potential)
- Flush-mounted, omnidirectional, vertically polarized antenna with permanent 360° scanning
- Compact design
- Multichannel architecture for simultaneous channel monitoring
- Backward compatibility with RPU-430 (fit form, legacy function)





Increase the odds that you'll find them alive

BUILDING ON A POWERFUL TECHNOLOGY LEGACY

The DF-500 replaces the DF-430, which has been in production for more than 10 years. More than 2,000 DF-430 units serve government and military SAR operators in all domains worldwide.

Thanks to its software defined radio technology, the DF-500 provides new features such as multi-channel, real-time monitoring, as well as fast scanning and interoperability with DSC and AIS distress protocols. It is compatible with all SAR/mission platform requirements and is interoperable with all new 406 channels.

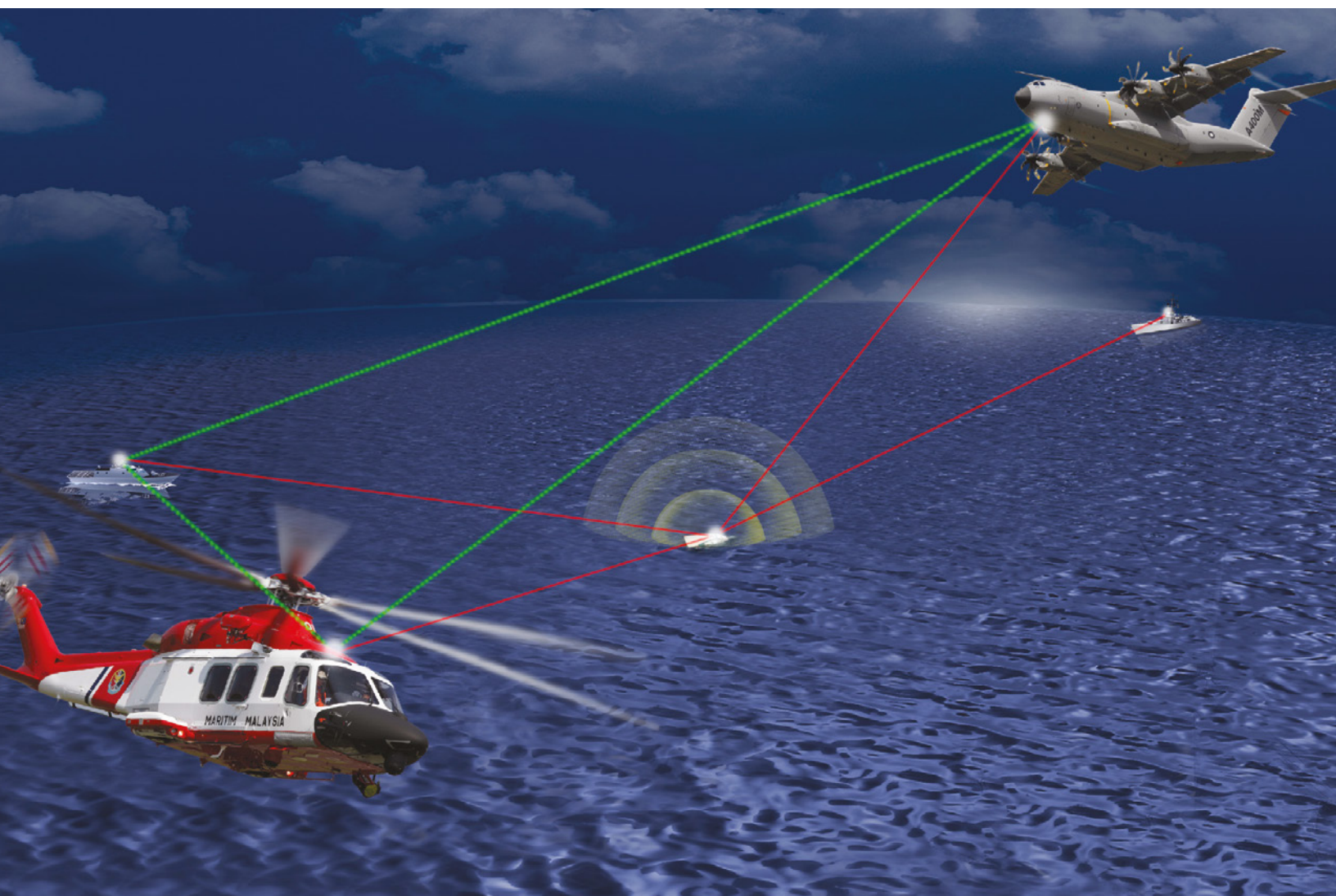
The DF-500 also provides full compatibility with all existing and all future COSPAS frequencies and can be upgraded to new waveforms. Its multichannel architecture enables most distress beacons to be monitored simultaneously. It pinpoints distress signals with unmatched accuracy and reliability.

Upgrading to the DF-500 requires only the swap of the remote processor, since it is fully retro-compatible with the DF-430 in form, fit and legacy function. Highly flexible, the DF-500 easily installs as a standalone system or integrates with existing platforms.

Reliable and efficient performance on your platform

KEY BENEFITS

- Easy installation and system integration, no calibration required. Limited flight acceptance duration.
- Civilian SAR
- Multimission government, and military SAR (not applicable to civil version DF-500C)
- No export licence for civil version DF-500C
- High reliability:
 - MTBF as per MIL-HDBK-217 calculated at over 7,000 hours for ARW and over 13,500 hours for AIC (at 35° C)
- Matches almost all types of aircraft bus architecture:
 - Full ARINC 429 configurability
 - Full MIL-STD-1553B configurability (not applicable to civil version DF-500C)
- Highly cost effective
- Designed to meet tomorrow's SAR needs:
 - Software upgradable to meet all future waveforms within the existing operating band
 - Ready to host new 406 MHz downlink protocol for the Galileo SAR system



SPECIFICATIONS

General radio specifications

Frequency range	30 - 407 MHz (restricted range for DF-500C, see specifications below)
All VHF and UHF frequency bands, including the distress frequencies:	30 - 87.975 MHz, 25 kHz steps (not applicable to civil version DF-500C)
	108 - 118 MHz, 25 kHz steps (excepted VOR modulation)
	118 - 136 MHz 25, kHz steps or 8.33 kHz steps
	136 - 173.975 MHz, 25 kHz steps (compatible with 99 channel sonobuoys)
	225 - 399.975 MHz, 25 kHz steps (not applicable to civil version DF-500C)
	121.5 MHz, 243 MHz distress frequencies
	ARGOS and COSPAS-SARSAT frequencies
	AIS, DSC and maritime channels (16 and 70)

Precision figures

Bearing intrinsic accuracy	<3° over 360° for the whole frequency range 30 - 407 MHz
Bearing intrinsic accuracy	<±5° at the sensitivity limit
Bearing acquisition time	<300 msec

Physical/environmental characteristics

Weight	ANT-430 – 3.47 kg (7.65 lbs)
	BC-500 – 0.8 kg (1.76 lbs)
	RPU-500 – 3.4 kg (7.50 lbs)
	MT-125 – 0.93 kg (2.05 lbs)
Size/dimensions (W x L x H)	ANT-430 – 290.5 x 314.3 x 105.4 mm (11.44 x 12.38 x 4.15 in)
	BC-500 – 62 x 140 x 90 mm (2.44 x 5.51 x 3.54 in)
	RPU-500 – 57.2 x 370.7 x 193.5 mm (2.25 x 14.59 x 7.62 in)
	MT-125 – 80 x 120 x 347 mm (3.15 x 4.72 x 13.66 in)
Operational temperature	ANT-430 -50°C to +55°C
	BC-500 -20°C to +70°C
	RPU-500 -40°C to +70°C

Specifications subject to change without notice.

Collins Aerospace

800.321.222 | +1.319.295.5100

fax: +1.319.378.1172

learnmore@collins.com

collinsaerospace.com

