

BRAZILIAN NAVY

DIRECTORATE OF COMMUNICATIONS AND INFORMATION TECHNOLOGY

TECHNICAL SPECIFICATION

DCTIMSPEC-21/011/2025 – Technical specification for the acquisition of one (01) acoustic hailing device.

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1 – PURPOSE

This technical specification establishes requirements regarding the acquisition of the acoustic hailing device for the Patrol Ship “Mangaratiba”. This specification calls for equipment that is or has already been in production. Brazilian Navy (BN) considers that this system is specified according to military standards.

2 – GENERAL DESCRIPTION

2.1. The WINNER BIDDER shall deliver 01 (one) unit of a fully operational acoustic hailing device, as hereby specified. Two levels of requirements are used in this specification. Mandatory requirements (“shall” or “must”) shall be fulfilled. The fulfillment of desirable requirements (“should”) is optional for the BIDDER to implement.

2.2 Overview:

2.2.1 This solution should be implemented at Patrol Ship “Mangaratiba” and should consider all the characteristics of propagation of the electromagnetic wave in the place, as well as the robustness of the equipment in the environments of use.

2.3 Composition:

2.3.1 In order to comply with the solution described above, the acoustic hailing device shall be composed by, at least, but not limited to the following items:

2.3.1.1 Acoustic hailing device.

2.3.1.2 Installation kit.

2.3.1.3 Control module.

2.3.2 The **WINNER BIDDER** shall also **provide all necessary items** to make the acoustic hailing device fully operational, according to international standards and regulations, even if these items are not explicitly defined in this document, including software licenses and spare parts.

3 – APPLICABLE STANDARDS AND DOCUMENTS

The acoustic hailing device and its pieces of equipment delineated in this technical specification shall comply with the standards mentioned below, thus the BIDDER must explicitly inform its compliance in the technical proposal:

3.1 – High Operating Temperature: MIL-STD-810G, Method 501.5, Procedure II, Design type Hot, 60°C;

3.2 – Low Operating Temperature: MIL-STD-810G, Method 502.5, Procedure II, Design type Basic Cold, -20°C;

3.3 – Shipboard Vibration: MIL-STD-167-1, TYPE A

3.4 – Shipboard Shock: MIL-STD-901D, Grade B Type A;

3.5 – Rain: MIL-STD-810G, Method 506.5 Procedure I;

3.6 – Humidity: MIL-STD-810G, Method 507.5 Procedure II;

3.7 – Salt Fog: MIL-STD-810G, Method 509.5;

3.8 – Safety Standard: MIL-STD-1474D;

3.9 – EMC Standard: FCC Part 15 Class A Radiated and Conducted Emissions.

4 – FUNCTIONAL AND TECHNICAL REQUIREMENTS

This section presents the minimum functional and technical requirements for the acoustic hailing device. The requirements presented in this section shall be considered as minimum requirements. According to BN specific evaluation, equipment whose specification could transcend these requirements may be accepted.

4.1. Applications: Military Security, Maritime, Law Enforcement and Border & Port Protection;

4.2. General requirements:

4.2.1. Installation kit;

4.2.2. Control module;

4.2.3. Integrated MP3 Player;

4.2.4. Remote MP3 control module with, at least, 2 GB onboard storage memory;

4.2.5. Built-in high frequency alert tone;

4.2.6. Internal file player with at least 2 GB storage memory;

4.2.7. Built-in thermal management system;

4.2.8. Audio recording and playback function;

4.2.9. Rugged construction; and

4.2.10. Operating Temperature: -20 to 60° C.

4.3. Acoustic specifications:

4.3.1. Communications range: 1500 m or more;

4.3.2. Sound Pressure Level, Peak: 150 dB @ 1m;

4.3.3. Frequency Response: 0.5 to 8 kHz;

4.3.4. Beam Width: +/- 12° @ 1 kHz/-3 dB or better;

4.4. Powered from AC (110 – 220 VAC) or DC (10 – 34 Vdc) mains supply;

5 – GENERAL PROVISIONS

5.1 Warranty:

5.1.1 The WINNER BIDDER must provide at least 12 (twelve) months warranty for products, parts and accessories sold by the BIDDER, under which the BIDDER warrants that all System components (and its constituent items) supplied to the Buyer shall be:

5.1.1.1 Free from defects in the material in workmanship.

5.1.1.2 Manufactured in strict conformance with the manufacturer's specification for the production of such material.

5.1.1.3 New, not re-manufactured, refurbished, reworked, modified or have been previously delivered by the WINNER BIDDER to any other customer.

5.1.2 This warranty shall be valid through the Brazilian territory.

5.1.3 Technical support, preventive and corrective maintenance and immediate component replacement on site must be provided during the warranty period without any kind of additional cost to Brazilian Navy.

5.1.4 All necessary corrective maintenance must be concluded by WINNER BIDDER, or its Brazilian partner company, within no more than 30 (thirty) consecutive days, computed from the day the issue was informed by Brazilian Navy.

5.1.5 The warranty must start counting from the issuing date of the “Definitive Receiving Report” of the acoustic hailing device, which will be issued after all documentation provided and all pending activities solved.

5.2 Guarantee of Technical Assistance:

5.2.1 The WINNER BIDDER shall provide the Buyer with the following, for a minimum period of 8 (eight) years after the expiration of the warranty:

5.2.1.1 Continued on-site technical assistance to be provided by an authorized dealer in Brazil.

5.2.1.2 The execution of maintenance and repair services for the acoustic hailing device.

5.2.1.3 The supply of spare parts or substitute parts that fulfill the same function.

5.2.2 After the expiration of the warranty period, prices and conditions for technical assistance and spare parts acquisition will be agreed upon by both parties.

5.3 Packing:

5.3.1 The packing methods must provide total protection against damages during transport and storage.

5.3.2 All finished surfaces must be conveniently protected against damages during transport and installation.

5.4 Documentation:

5.4.1 The WINNER BIDDER must supply all systems manual documentation in optical media for each piece of equipment.

5.4.2 Must be functionally organized, in terms of content and readiness reproduction.

5.4.3 The designation and reference systems adopted must clearly identify each system, subsystem and individual items, in such a way to allow fast and accurate identification of items during the operation.

5.4.4 In order to facilitate the cataloging process, the WINNER BIDDER must supply an explicit list containing the part number, NATO stock number if available, manufacturer identification, including CAGE CODE, serial number and technical characteristics of the components, in printed form and spreadsheet file in an OpenDocument Format (".ods" extension).

5.4.5 The WINNER BIDDER shall supply all manuals and technical documentation in English language, and if possible in Portuguese language.

5.4.6 At least, the following manual documentation must be supplied:

5.4.6.1 Technical System manuals.

5.4.6.2. Maintenance manuals

5.4.6.3 Operation manuals.

5.4.7 The supplied manual documentation must be enough to allow system operation, maintenance and upgrade during its overall life cycle.

5.4.8 The BIDDER must provide the pin-outs of all cables and connectors of the equipment in the maintenance manual in addition to the other items.

5.5 Cataloging Data:

5.5.1 The WINNER BIDDER must provide, for all items, at least 30 (thirty) days before the shipment of the goods:

5.5.1.1 Explicit part numbers.

5.5.1.2 Manufacturer identification, including CAGE CODE.

5.5.1.3 Serial number.

5.5.1.4 The NATO Stock Number (NSN), when previously cataloged.

5.5.1.5 All technical data necessary for cataloging the other items according to the NATO Cataloging System.

5.6 Spare Parts:

5.6.1 The BIDDER shall propose a set of spare parts to be stored and used onboard the ships and radio stations and another to be stored at the maintenance Navy Center (base). The spares must be based on MTBF of the most critical system components and on maintenance experience of the acoustic hailing device.