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TENDER SPECIFICATION - VHF/ UHF TRANSCEIVER (WIDE BAND)

1. **Name of Equipment** : VHF/ UHF Transceiver (Wide Band).
2. **Purpose** : To establish long range communication among various units both at Sea and Harbour.
3. **Quantity** : 06 (Six) complete sets with all standard accessories
4. **Type** : Marine Type.
5. **Brand** : Park Air / Rohde & Schwarz.
6. **Model** : BM7X / M3SR/ Latest production model/ version/ series.
7. **Country of Origin** : England/ Germany.
8. **Country of Manufacturer** : England/ Germany.
9. **Original Equipment Manufacturer (OEM)** : Name & Full address with e-mail of OEM is to be mentioned.
10. **Supplier** : Name & Full address with e-mail of Supplier is to be mentioned.
11. **Year of Manufacture** : 2024 or later.
12. **Classification/ standard** : The offered items/ equipment under the scope of supply are to fulfil the requirement of latest MIL-STD (Dust, Shock, Vibration, Humidity, Fungus, Altitude), Ingress Protection (IP), MIL-STD and other internationally recognized standards. The applicable classification standard(s) of offered items are to be mentioned and should be well supported by the certificates and OEM brochures.
13. **Date of Introduction of the Offered Model in the Market** : To be mentioned.
14. **Environmental condition**
 - a. Temperature : -30° to +60° C or to be mentioned.
 - b. Humidity : Non-condensing.
 - c. Storage Temperature : To be mentioned
15. **Qualification of Bidders** : Only the genuine manufacturer's or their authorised dealer (principal) can submit quotations through their authorised agents enlisted at DGDP. In all cases, manufacturer's certificate of authorisation has to be submitted with the offer.
16. **Scope of Supply** : The equipment for VHF/ UHF Transceiver (Wide band) set is to be supplied fulfilling the technical specifications and complete in all respect with all required standard accessories (i.e VHF/ UHF



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Transceiver (Wide band), Remote Control Unit-Desk Mount, Microphones & Headsets, Headset/ Boom microphone, Antenna System, Guard Receiver, Heavy duty power strip, Dust Tight Switched Data Loader, VHF/UHF Dipole Antenna, Control Cable, Customer Kit, Rack Mounting Slides, Single Bracket etc) which are required to obtain 100% performance of the sets whether it is mentioned in the tender specification or not. A list of offered standard accessories is to be attached with the quotation.

17. **Technical Specification.** The offered VHF/ UHF Transceiver (Wide Band) set must have following features:

Ser	Name	Description
<u>General Characteristics</u>		
a.	Range coverage	Minimum and Maximum range to be mentioned.
b.	Frequency range	100 MHz to 400 MHz
c.	Wave forms	AM, FM, International maritime
d.	Modulation type	AM, FM
e.	Internet protocol compatibility	IPV4 or to be mentioned
f.	Channel	300 or more
g.	Channel spacing	8.33/12.5/25 KHz AM/FM
h.	Dimensions (W×H×D)	To be mentioned
j.	Weight	To be mentioned
k.	Supply voltage	a. AC 99 to 250V b. DC 22 to 30V
l.	Power consumption	(500 to 650) W
m.	Radio control	Full control from transceiver and control head must be available. The control head should be removable and capable to use in remote operation.
n.	Voice scrambler/ voice encryption & decryption facility	Offered item should have in built/ external voice scrambler/ voice encryption & decryption facility so that user can exchange secure voice communication as and when required. This facility must be optional so that this item able to communicate with both type of set having or not similar feature.
p.	Life Expectancy of the Equipment	To be mentioned.
<u>Transmit Characteristics</u>		
q.	Power output	1-50W (AM) 1-100W (FM)
r.	Duty cycle	Continuous



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s.	Spurious	To be mentioned
t.	Transmit time out	Adjustable up to 10 minutes/network planning software
<u>Receive Characteristics</u>		
u.	Sensitivity	To be mentioned
v.	Noise figure	<14 dB
w.	Selectivity	To be mentioned
x.	Antenna radiation	<-90 dBm or to be mentioned
y.	Squelch	To be mentioned
<u>Others</u>		
z.	Environmental Compatibility	The offered Marine VHF/ UHF Transceiver (Wide Band) has to be complied with Ingress Protection (IP) and MIL-STD-810F standard.
aa.	EMC Compatibility	MIL-STD-461 and EN 301-489/ MIL-STD-461E
ab.	Supporting Documents	All supporting documents in original (ICD, booklets, leaflet, catalogue, brochure, drawing etc) and detailed particulars of the offered item.

18. **Coaxial Cable.** 50 mtrs high quality coaxial feeder cable (RG59 + 2 power wires solid copper core) with minimum attenuation (approx 1 watt/ 10 mtr) and control cable to be supplied for each set.

19. **Programming Kits/ Software.** Two sets of programming kit and software are to be provided for programming/ cloning the VHF/ UHF Transceiver (Wide band) set and peripherals units. Within the warranty period the updated version of the programming software is to be provided (if necessary) by the bidder free of cost.

20. **Programming.** Upon receipt of the consignment at Naval Stores Depot Chattogram, the supplier's engineer is to assist BN reps to programme all sets at BN Dockyard with given frequencies. The supplier's engineer is to show BN personnel, the procedure of programming the sets so that BN personnel can reconfigure/ reprogramme the sets any time later if required. Thereafter "Bench Test" is to be conducted at BN Dockyard in presence of supplier's engineer.

21. **Installation, Test/ Trial & Acceptance.**

a. The supplier will install the set with proper earthing in presence of BN personnel at respective BN Units/Ships as soon as possible and carryout necessary test and trials. The Supplier's Engineer will show BN personnel about routine operation and maintenance procedure of the set. During the installation, test and trials, Supplier will provide additional materials required for full functioning of the set if otherwise not mentioned in this contract at free of cost.

b. If any equipment is found defective during installation, test and trial they are to be replaced immediately by new ones free of cost (including freight, insurance and all other cost). BN is to return the defective equipment after receiving the replaced item.

c. Cost for installation is to be quoted and borne by the supplier.



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d. Installation, test and trial must be completed within 30 working days by supplier after issuing allocation by BN.

e. Any damage to on board existing equipment, items, machineries are to be compensated by bidder during installation and make the damage items operational with its full functionality.

f. On satisfactory completion of installation, test and trial, BN will issue Final Acceptance Certificate.

22. **Installation Materials.** Standard installation materials are to be provided for all equipment. List to be provided by the bidder.

23. **Tools/ Test Equipment.** Special tools, test equipment and kits necessary for maintenance/repair are to be quoted, indicating itemised price.

24. **Standard Accessories.** Standard accessories and assemblies will include all items and accessories, which are essential to operate the equipment whether those are mentioned in the specification or not. A list of such items/ accessories/ assemblies with itemized price is to be included in the quotation as follows:

Ser	Part Number/ Model	Description	Brand	Country of Origin	Country of Manufacturer	Qty (EA)	Unit Price	Total Amount	Remarks
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25. **Price of Optional accessories.** Unit prices for optional accessories are to be quoted separately as follows:

Ser	Part Number/ Model	Description	Brand	Country of Origin	Country of Manufacturer	Qty (EA)	Unit Price	Total Amount	Remarks
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26. **Quality Assurance Certificate.** The Quality assurance certificate (QAC) in respect of the associated equipment in regard to its manufacturing and performance is to be provided by the manufacturer at the time of delivery.

27. **Documents.** The following documents are to be submitted with the offer:

- a. Certificate of assurance for minimum 10 years supply of spares with reasonable price.
- b. Itemized prices list of all spare parts that would be required within 05 years for repair/maintenance.
- c. Original brochure/ catalogue of the offered model of VHF/UHF Transceiver (Wide band) set.
- d. Principle/ manufacturer's/ distributor's/ agent/ dealers certificate mentioning that the supplier (enlisted bidder) is being authorised for this quotation/offer and will be liable to fulfil all contractual obligation if the firm is awarded contract.
- e. Interface Control Documents (ICD) and Interface Requirement Specification (IRS) of the VHF/UHF Transceiver (Wide band) including all necessary interface equipment; software etc.
- f. Certificate of Ingress Protection (IP) standard.
- g. Certificate of MIL-STD.



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28. **Manual.** Following documents in English are to be provided free of cost at the time of delivery:
- Operators Manual.** One set of original operator's manual (covering major system units) to be provided with each VHF/ UHF Transceiver (Wide Band) set.
 - Technical Manual.** One set of original technical manual (covering principle of design and operations, detail circuit diagram, trouble shooting flowchart, parts catalogue) for each supplied VHF/ UHF Transceiver (Wide Band) /accessories is to be provided.
 - Workshop Manual.** Two sets of original workshop level repair manual.
29. **Warranty.**
- Warranty for **two years** or manufacturer standard whichever is higher by the principal/ manufacturer for trouble free operation of VHF/ UHF Transceiver (Wide Band) set and its accessories wef the date of final acceptance by BN. If any component of the supplied item becomes defective during the warranty period, the warranty (for defective component) shall be extended automatically for the period of the subject component remains defective. Moreover, in case of any defective item(s) or component if the whole set defective or non-operational then the whole warranty of the said set shall be extended automatically for the period of subject component remains defective.
 - For warranty repair/ replacement, the supplier will collect the defective item from NSD, Chittagong/ NSSD, Dhaka (as applicable) and re-supply the same to collecting place after warranty repair or for replacement within 90 (ninety) days from the date of defect at no cost to the purchaser.
30. **Extension of Warranty.** During the warranty period, if the item/ equipment remains non operational for any action pending by the supplier, the warranty period will be extended for the non operational period from the date of rectification. The warranty covers all parts and labour (including service engineer's cost) throughout the warranty period.
31. **After Sales Service.** Local agent has to be authorized by manufacturer/ principal/ dealer in the territory of Bangladesh to provide after sale service within warranty period and thereafter as and when required (at least 10 years). Extension of warranty will be considered as warranty period.
32. **Delivery Schedule.** Within 180 days after signing of contract.
33. **Delivery Destination.** The supplier will arrange delivery of all items to the NSD Chattogram. All sea/ air port formalities, customs clearance, transportation etc to be completed/ arranged by supplier. BN may be asked for necessary certificates/ documents.
34. **Consignee.** The Commanding Officer, Naval Stores Depot, Chattogram, New Mooring, Chattogram, Bangladesh/ Officer In-Charge, Naval Stores Sub Depot Dhaka, Namapara, Khilkhhet, Dhaka-1229.
35. **Port of Shipment.** The port of country of origin/ manufacturer/ principal. To be mentioned in the offer.
36. **Source of Supply.** The source of supply is to be from the country of manufacturer or country of origin/ principal (To be mentioned).
37. **Validity of Offer.** Offer should remain valid upto 30 June 2025.



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38. **Terms of Payment.** 80% of total CPT/ CFR value will be paid on completion of shipment of the contracted goods. Remaining 20% payment and 100% installation cost will be made on production of "Acceptance Certificate" rendered by BN following successful test and trial upon delivery of items as per contract.

39. **Price Quotation.** Price of the item is to be quoted in FC without VAT/TAX etc as follows:

- a. FOB Price. b. Air/ Sea Freight.

40. **Compliance Matrix.** Bidder will submit a Compliance Matrix with the offer stating "COMPLIANT" or "NON COMPLIANT" against every Clause and Sub-Clause of this Specification. All "COMPLIANT" statements are to be explained adequately and should be supported by technical brochures/documentation. Insufficient documentation shall be considered as disqualification. (If required, a set of Technical /Operator Manual may be included with the offer).

41. **Certificate and Document of Authentication.** The concerned supplier must provide following original certificate(s)/ document(s) as applicable with the quotation and during delivery of items as regard to the genuinity of source and item(s) in order to establish chain of links from the original source to supply of items:

- a. One certificate by the Original Equipment Manufacturer (OEM) in favour of the supplier/ local agent (in case of OEM as principal).
- b. Two certificates, one by the OEM to authorized agent and other by the authorized agent to supplier/ local agent (in case of authorized agent as principal).
- c. Three certificates, first one by OEM to authorized agent, second one by authorized agent to sub-agent and third one by sub-agent to supplier/ local agent (in case of sub-agent as principal). If the supplier/ local agent is unable to obtain the first certificate (by OEM to authorized agent), then it has to produce relevant document to prove agency-ship of its claimed agent of the recognized manufacturer.
- d. Quality Assurance Certificate (QAC) by the Original Equipment Manufacturer (OEM).

42. **Compliance Statement.** A compliance statement fulfilling all the requirement of the tender is to be submitted for evaluation of the quotations. An incomplete compliance statement may attribute to cancellation of the offer. If any clause of this specification does not commensurate with offered item, the deviation has to be spelt out clearly.

