

## TECHNICAL SPECIFICATION - HF 100 WATT

SER		DESCRIPTION
1.	Equipment:	HF Transceiver 100 WATT.
2.	Purpose:	For Medium/Long range communication between ships and shore establishments. The offered sets must be a proven one and suitable for use in a tropical marine environments.
3.	Country Of Origin:	Australia/Germany/USA.
4.	Brand:	To be mentioned
5.	Model:	To be mentioned
6.	Year of Manufacture:	2017 or later.
7.	Quantity:	08 (Eight) in no.
8.	Specification:	
	a. Channels:	400 (single or two frequency simplex); 600 with MIL-STD ALE or more.
	b. Scanning:	Voice, Selcall, ALE Scan up to 8 channels p/s, 20 scan p/s, 20 scan tables with up to 100 channels Dwell time 125 ms to 9.9 s or more.
	c. Programming:	Via handset or NSP software connected to the handset via RS232 or USB cable.
	d. Temperature Range:	1. -30°C to +60°C or more. 2. 95% humidity, non-condensing.
	e. Display:	Graphic LCD with 3 levels of backlighting and auto-dim of better.
	f. High Speed Data Communication facility:	Compatible hardwares (HF Data Modem etc) and softwares (UUPlus Email for HF server & UUPlus Email for HF client etc) for high speed (Minimum 19K2) Data Communication must be provided as standard accessories. Supplied hardware's and softwares must be compatible to use with data message terminal running on minimum windows 7 (64 bit) or better.
	g. IP Support:	Offered item should support internet protocol/HF email server system.
	h. Frequency range:	1. TX 1.6 - 30 MHz. 2. RX 250 KHz - 30 MHz. 3. Frequency stability: 0.3 ppm or less
	j. Modes:	Single sideband (J3E), USB, LSB, AM (H3E), CW (J2A), AFSK (J2B), ISB (option), F1B (FSK).
	k. Power Output	100W, user programmable (Low/Medium/High).
	l. Duty cycle:	100% for all modes with Option F (fan).
	m. RF output impedance:	50 Ω
	n. Filter bandwidth:	2.4 KHz standard, 2.7 KHz, 500 Hz (cw) optional.
	p. Transmitter specification:	1. Spurious & harmonic emissions: Better than 65 dB below PEP. 2. Carrier suppression: Better than 60 dB below PEP or better. 3. Sideband suppression: 70 dB below PEP better. 4. Modulation sensitivity: 1 to 10 mV at 1 KHz for full power.

	q	Receiver specification	<ol style="list-style-type: none"> <li>1. Sensitivity: 0.12 <math>\mu</math>V, -125 dBm for 10 dB SINAD or less.</li> <li>2. Selectivity: &gt;70 dB, -1 KHz to +4 KHz or less.</li> <li>3. Image rejection: Better than 70 dB.</li> <li>4. Spurious response: Better than 90 dB</li> </ol>
	r	Operating range:	13.8 V DC (10.8 to 15 V DC), 100 to 240 V AC $\pm$ 10% 50/60 Hz (with 3020/3520 PSU).
	s	Supply current:	Receive: 650 mA; Transmit: 14 A typical (Two-Tone), 8 A (Average Speech).
	t	Protection:	Open circuit/short circuit/over voltage/voltage transients/reverse polarity/high VSWR/over temperature protection of better.
	u	Size:	To be mentioned.
	v	Weight:	RF Unit: Minimum 3Kg, Maximum 4Kg.
	w	Environmental standards:	<ol style="list-style-type: none"> <li>1. MIL-STD-810F.</li> <li>2. Dust: method 510.4.</li> <li>3. Shock: method 514.5.</li> <li>4. Vibration: method 516.5.</li> </ol>
	x	Vocoder:	MELPe (1200/2400 bps) or more.
	y	Frequency hopping:	<ol style="list-style-type: none"> <li>1. Hop Rate: 6/12/25 hops per second (user programmable).</li> <li>2. Security: 128 bit.</li> <li>3. Number of Hop Plans: 32.</li> <li>4. Key Code length: 18 digits.</li> <li>5. PIN length: 10 digits.</li> </ol>
	z	Interface:	RS-232/USB,4800 band or better.
	aa.	Remote operation:	Capable to operate from remote location.
9.		Split AC with remote control system:	Split AC capacity 1800 BTU with remote control system is to be provided.
	a.	Purpose:	To keep temperature below 20 <sup>0</sup> C for effective communication and longer life of the equipment.
	b.	Quantity:	08 (Eight) in number.
	c.	Brand with model:	To be mentioned.
	d.	Country of origine:	USA, Japan, Thailand, Malaysia or EU Countries.
	e.	Functioning:	Cooling.
	f.	Cooling capacity:	To be mentioned.
	g.	Voltage/Frequency/ Power supply:	220V/50Hz
	h.	Air circulation (m <sup>3</sup> /hr):	To be mentioned.
	j.	Refrigerant type:	R-22.
	k.	Warranty:	Minimum 03 (Three) year
	l.	Anti-Bacteria Filter:	Yes
	m.	Panel display type:	LCD
	n.	Remote controller:	LCD
	p.	Auto air swing:	Yes
	q.	Speed setting:	3/3
	r.	Auto restart:	Yes
	s.	Off/On timer:	Yes

10.	Scope of Supply:	The Equipment for each HF Transceiver (100 Watt) set are to be supplied fulfilling the technical specifications and complete in all respect with all required standard accessories and attachment (i.e RF Unit, Junction Box, Handset, Cable CIB I/F, Voice Encryptor, Spkr, Headphones, Morse Key, Desk Console, Tcwr Supply, Cable kit, Earth Wire, Tuner, Lightning Arrestor, RG213 Connector, Whip Antenna etc) which are required to obtain 100% performance of the sets wheather it mentioned in the Specification or not. High quality co-axial feeder cable and control cable (35 mtrs each) with minimum attenuation (approx 1 watt/10 mtr) is to be supplied with each set. A list of offered standard accessories is to be attached with the offer.
11.	Installation.	To be installed by the supplier at their own cost in differant locations directed by the BCG HQ. Supplier is to provide adequate length of cable and other accessories for smooth installation and operation.
12.	Price of Accessories:	Unit prices for following items and other available accessories are to be quoted separately which should include with the total price. a. HF Data Modem. b. ATU c. Power supply unit 100W. d. Power Amplifier 100W. e. Morse Key. f. Appn Proc PCB. g. Audio I/F PCB h. RF/IF PCB j. Filter & Control PCB. k. PA Assy. l. RF Units.
13.	Cable.	High quality compitable feeder cable and control cable (35 mtr each) with minimum attenuation (approx. 1 watt/10 meter) is to be supplied with each set.
14.	Programming kits/software.	One set of programming kit and software is to be provided for programming/cloning the HF transceiver (100W) sets and peripherals units.
15.	Installation Materials.	Standard installation materials whether mentioned above or not are to be provided. Supplier is to ensure that all necessary materials are provided for smooth installation

16.	Manual.	<p>Following documents in English are to be provided free of cost at the time of delivery:</p> <ul style="list-style-type: none"> <li>a. Operators Manual: One set of operator's manual( covering major system units) to be provided with each HF transceiver(100 watt) set.</li> <li>b. Technical Manual : One set of technical manuals (covering principle of design and operations,detail circuit diagram,trouble shooting flowchart, parts catalogue) for each supplied HF Transceiver(100 watt)/accessories to be provided.</li> <li>c. 01 set of workshop level repair manual.</li> </ul>
17.	Spares support.	Supplier is to guarantee supply of spares for at least 5 years at a reasonable price (Not beyond the normal inflation rate).
18.	Training	06 in no Coast Guard personnel are to be trained for 01 week at supplier's cost on operation and maintenance at the installation site. Details to be mentioned with the offer.
19.	Tools/Test Equipment.	Special Tools Test Equipment/kits necessary for maintenance/repair to be icluded in the offer.
20.	Optional Items.	Accessories required to enhance capabilities of the equipment may be quoted separately.
21.	Documents	<p>The following documents are to be submitted with the offer:</p> <ul style="list-style-type: none"> <li>a. Certificate of assurance for minimum 10 years supply of spare parts with reasonable price.</li> <li>b. Item wise price list of all spare parts that would be required within 5 years for repair/maintenance.</li> <li>c. Brochure/catalogue of the offered model of HF transceiver 100 watt set (100W)</li> </ul>

22.	Programming.	<p>Upon receipt of the consignment of CGHQ, the supplier is to programme the HF transceiver 100W set given frequencies in presence of BCG reps. The supplier is to show BCG reps the procedure of programming so that BCG can reconfigure/re-programme the sets if requires.</p> <p>a. Installation, test, trial and acceptance. The suppliers will install the set with proper earthing in presence of BCG personnel at respective BCG units as soon as possible and carry out necessary test/trials. The suppliers will shoe BCG personnel about routine operation and maintenance procedure of the set during the installation, test and trial, supplier will provide additional materials required for full functioning of the set if otherwise is this contract at free of cost.</p> <p>b. If any equipment found defective during installation, test and rial, there to be replaced immediately by new ones. BCG is to return defective equipment after receiving the replaced item.</p> <p>c. On satisfactory completion of test/trials and installation BCG will issue final acceptance certificate.</p>
23.	Warranty.	Supplier will provide 03 years warranty certificate by the principle/manufacturer for trouble free operation of HF transceiver (100W) set and it accessories wef the date of final acceptance by BCG.
24.	Extension of warranty.	During the warranty period, if the item/equipment remains non-operational of any action pending by the supplier, the warranty period will be extended for the same period. The warranty covers or parts and labour (including service engineers cost) through out the warranty period .
25.	After-Sale-Service.	After-Sale-Service is to be provided by the local agent within warranty period and there after as and when required (at least 10 years).
26.	Brochure/Catalogue.	Original Brochure/Catalogue is to be provided with the offer.
27.	Demo.	Bidders will be required to provide demonstration of offered equipment within 4 weeks from the closing date of tender. Acceptance is subject to satisfactory demonstration.
28.	List of Users	List of Users in Bangladesh, for the offered equipment are to be provided.
29.	Delivery.	Within 84 Days after signing the contact.
30.	Validity of the Offer.	Quoted offer should remain valid up to 30 June 2018.
31.	Terms of Payment.	Full payment will be paid in local Currency (Quotations in Foreign currency will not be accepted) after accepted by the CI&QC of BCG.

32.	Commissioning.	Upon installation the set will be operated and acceptance will be given after satisfactory performance. The Wire aerial should be installed by 2 (Two) in no 40 feet height GI pipe Mast provided at supplier's cost.
33.	Qualification of bidder (principal) and certificate/document of authentication:	<p>The bidder (principal) should either be the manufacturer of the communication set or an authorized dealer/agent of the manufacturer. The bidder (principal) must provide the following certificate(s) with the offer/quotation as to the reliability of the source in order to establish a chain of links from the original source regarding the supply of the items.</p> <p>a. One certificate: One certificate of authentication by the manufacturer of the communication sets in favor of the bidder (principal), in case of the manufacturer as the direct source of the bidder (principal), or</p> <p>b. Two certificates of authentication: One by the manufacturer of the communication sets in favor of its authorized dealer/agent and the other by the authorized dealer/agent of the manufacturer in favor of the bidder (principal), in case of the authorized dealer/agent of the manufacturer as the immediate source of the bidder (principal), or</p> <p>c. Three certificates of authentication: First One by the manufacturer of the communication sets in favor of its authorized dealer/agent, the second one by the authorized dealer/agent of the manufacturer in favor of its authorized dealer/sub-agent and the third one by authorized dealer/sub-agent of the authorized dealer/agent of the manufacturer in favor of the bidder (principal) in case of the authorized dealer/sub-agent of the authorized dealer/agent of the manufacturer as the immediate source of the bidder (principal)</p> <p>d. In addition to the above certificate the bidder principal is to provide a certificate, declaring the Bangladeshi company, acting locally on its behalf of the project is its local agent in Bangladesh and is authorized to act on its behalf as local agent for the project.</p> <p>e. The bidder (principal) is also to provide a certificate (in original) from the manufacturer, declaring that the quoted communication sets along with all accessories of the offered package will be brand new and of latest production range.</p>
34.	Optional Spares.	A list of spare modules/components as recommended by the manufacturer (showing item wise price and recommended quantity) is to be included with the offer.

35.	Port of shipment (same as country of origine).	Is to be mentioned. Relevant documents need to be submitted during supply of the goods.
36.	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.