

SPECIFICATION FOR 90 NOS.WALKY TALKY SET

TENTATIVE BOQ

Sl.	Name of the Equipment	Item	Qty	Offered (filled by Tenderer)		
				Make	Model	
1	DIGITAL HAND HELD RADIO SET WITH ACCESSORIES	1	VHF H/H Digital 1 watt/5 watts with helical antenna and NiMH/Li-ion/Li-polymer battery (Capacity min. 2000 mAH)	90		
		2	Spare rechargeable Battery 7.2V/7.4V (Capacity min. 2000 mAH)	90		
		3	Battery Charger	90		
		4	Spare helical antenna	90		
		5	Programming Hardware & Software kit for Hand Held Set windows base (windows-7 or higher version)	01		
		6	Technical/Service Manual for Hand Held Set	01		

SPECIFICATIONS OF DIGITAL TRANSCEIVER VHF HAND HELD AND ACCESSORIES

1. DIGITAL TRANSCEIVER VHF HAND HELD		
Sl .	Particulars	Specifications
A	GENERAL	
1	Frequency range	136-174 MHz (Split or full band)
2	Channel capacity	255 or higher (For display)
3	Protocol	TDMA (02 Slot)
4	Channel spacing	12.5 KHz or better
5	Frequency stability	±1.5 PPM or better
6	Weight	Light in weight preferably less than 500 gm. including accessories
7	Battery capacity	Preferably Li-ion/Li- polymer rechargeable battery of 2000 mAh or higher capacity. Vendor shall mention DC Voltage. During capacity test, battery shall give 100% of its rated capacity if discharged by C/5 rate.
8	Antenna Impedance	50 ohm
9	Communication Interface	Ethernet/USB/RS232
10	Display	Multifunction alphanumeric LCD display with back light/LED display. Readable in day light, sun light and in night. Minimum 3 rows or more.
11	Warranty	Standard warranty for 5 years
12	Compatibility	With all types of existing analog radios (i.e. Motorola, Kenwood, Icom, Vertex etc.)
13	Encryption	1- High grade 256 bit or higher Digital Encryption module built in/plug in type for secrecy. 2- Programmable key management facility
14	Minimum qualification	(a) Tenderor/OEM must have it's office and service center in India. (b) Tenderor/OEM must have minimum 03 years supply order from govt. department. (c) Tenderor/OEM must have 05 years presence in India.

B TRANSMITTER		
1	RF Power output	1 Watt to 5 Watt \pm 0.5 dB programmable
2	Type of Emission	Analog-11K OF 3E Digital-4FSK or equivalent technique complying with open standards/ non propriety digital protocol as defined by international standard body like ETSI/FCC etc.
3	Digital modulation	4FSK
4	Modulation Limiting	\pm 2.5 KHz
5	Audio Response	+1, -3dB, As per TIA 603D
6	FM Hum noise	- 40dB or better
7	Adjacent channel power	-60 dB or better
8	Digital Vocoder	AMBE+2
C RECEIVER		
1	Sensitivity	Analog:0.30 μ V(12dB SINAD) or better Digital:0.30 μ V @5% BER or better
2	Adjacent Channel Selectivity	60 dB or better
3	Inter- modulation	70 dB or better as per TIA603A-1T
4	Audio Output	Minimum 500 mW
5	Audio distortion	3% or better
D ENVIRONMENTAL SPECIFICATION		
1	Operating temperature range	-30°C to +55°C
2	Storage temperature	-30°C to +60°C
3	Humidity	95% non-condensing (-20°C to +60°C)
4	Applicable MIL standards	MIL standard 810 C/D/E/F/G
5	Applicable IP standards	IP 57/IP67
E FEATURES		
1	Mode of operations	Analog conventional, digital conventional Simple press to talk
2	GPS capability	<ul style="list-style-type: none"> • In built GPS with: TTFF Cold start <2 minutes, TTFF hot start <20 sec • Horizontal accuracy <10 meters • GPS data access methods (a) by polling (b) by fetching (on request) Vendor should mention– coordinate file Format Compatible with free map. Google map will be preferred for receiving and extracting GPS data/information for the use of location tracking purpose. (This feature has to be demonstrated at the time of testing/trial for future use. PC required for GPS tracking is not part of BOQ.)
3	Status message and SMS text message facility	<ul style="list-style-type: none"> • Status messaging facility • Short and long data message facility • Messaging facility using PCs one to many radios
4	Data transmission facility	Text messaging (file transfer) facility must be demonstrated, using PCs through accessory connector. (PC required for data transmission is not part of BOQ.)
5	Protection	Reverse polarity protection Protection against high VSWR

6	Radio programming facility	PC programmable
7	Front panel Key pad	DTMF front panel keypad with back light
8	Battery strength indicator	Battery strength bar indicator or digital readout. Beep alert for low battery.
9	Signal Strength indicator	RSSI-Received Signal Strength Indicator bar or digital read out.
10	OTAR	Should have provision for over the air frequency re-programming (wirelessly)
11	Networking	Should be IP based for automatic roaming etc.
F	OTHER FEATURES	
1	Simple press to talk	
2	Alpha numeric list of 256 users for sending SMS & for selective calling.	
3	Alpha numeric channel alias	
4	Alpha numeric PTT ID alias	
5	Facility for locking the channel or keypad (Programmable)	
6	Facility to assign network access code, CTCSS (Continuous Tone Coded Squelch System)/DCS (Digital Coded Squelch)	
7	Channel scan & priority channel scan	
8	Call alert	
9	Talk around mode	
10	Transmitter Time Out Timer (TOT) operation	
11	Emergency call facility (SOS)	
12	Selective call, group call	
13	Late entry	
14	Busy channel lock out	
15	Capable to kill-unkill, disable-enable	
16	Any one of 2 tone/5 tone/DTMF signaling	
17	Text message & pre-defined messages.	
18	Automatic number identification	
19	Vender shall mention other manufacturer's models of the radios which are inter operable for voice & data communication to the system offered.	
20	All the parameters and specification of offered models should have been tested by an ILAC/NABL approved laboratory and test reports should be submitted along with the bid as per MHA guidelines	

2. BATTERY FOR VHF HAND HELD RADIO

Sl.	Type of Radio	TECHNICAL SPECIFICATION
1	Transceiver VHF Hand Held, 1/5 Watt Synthesized	i) Rechargeable Battery pack (original from OEM) of minimum 2000 mAH capacity, Ni-Mh or Li-ion or Li- polymer suitable for offered VHF hand held radio set : Certificate from OEM to be attached. ii) All batteries should be mechanically and electrically interchangeable with the corresponding Transceiver model. iii) The battery capacity should not be less than the rated capacity when discharged at C/5 rate and at least 90% or better of the rated capacity when discharged at C rate. iv) Month & year of manufacture and the Logo/Trade mark of the OEM to be embossed/heat stamped. This Logo/Trade mark is to be indicated in the offer. v) The sleeve of the cells used should preferably indicate the following : (a) Part Number

		<p>(b) Month & year of manufacture (c) Voltage of cell (d) Capacity (e) Country of origin vi) One battery pack may be cut open (generally 1 out of 500) at the time of inspection. Sample Battery will not be the part of BOQ. vii) Supplier should submit complete BIS test report from authorized Govt. laboratory in reference of Hand Held batteries. viii) Enclose OEM certification in reference of Part number of offered battery.</p>
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3. CHARGER FOR BATTERY PACK OF VHF HAND HELD RADIO SET

Sl.	TECHNICAL SPECIFICATION
1	Single Unit Battery charger from OEM of offered radio : Certificate from OEM to be attached
2	Input Voltage : 230 Volt AC \pm 10% at 50 Hz
3	Output Voltage : As per the set rechargeable battery pack for which charger is supplied
4	Capable of charging Battery packs of 7.2V/7.4V NiMH or Li-ion or Li- polymer up to 3000 mAh capacity or better.
5	Visual Indication for all modes of charging status.
6	Reverse polarity protection (DC input) should be provided.
7	Reverse polarity protection (Battery terminal) should be provided.
8	Short circuit protection should be provided.
9	Battery Charging Rate at constant current: The battery charger should be standard type or rapid type. In case of standard type charger, the charging current shall not exceed 400 mA and for Rapid type it shall be within 1 Amp. The charging time shall be 6 to 14 hours for standard charger and 1 to 3 hours (for charging batteries up to 1800 mAh) or 2 to 4 hours (for charging batteries from 2000 to 3000 mAh) respectively for rapid chargers.