

No.IV-17017/13/06-Prov.I

Ministry of Home Affairs

Prov.I

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New Delhi the 28<sup>th</sup> June,2006

To

The DGs: Assam Rifles/BSF/CISF/CRPF/ITBP/NSG/SSB/BPR&D.

**Subject: Finalization of QRs/Specifications for  
Weaponary/security Equipments**

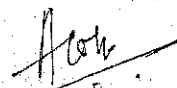
The Sub-Group constituted by MHA vide Memorandum No. IV.17017/18/2001-Prov.I dated 5-7-2002 for laying down QRs/specifications of various items/equipments has since submitted its recommendations in respect of following weaponry/security equipments:

- (i) UHF Handheld Radio Set Digital (~~25 W~~)
- (ii) UHF Mobile Radio Set Digital
- (iii) UHF Light Weight Repeater Digital (25 w)
- (iv) UHF Repeater 100 Watt

2. These recommendations have been accepted by MHA. The QRs finalized by the Sub-Group and accepted by MHA in respect of the above communication equipments are enclosed herewith.

3. Henceforth, all the CPMFs should procure the above items required by them to meet their operational needs strictly as per the laid down QRs/specifications.

Yours faithfully,



(Alok Mukhopadhyay )  
Under Secretary(Prov.I)  
Tele. No.23381278

Copy to : DD(Procurement), MHA

Copy for information to:

1. PS to JS(PM), MHA
2. Dir(Prov), MHA

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**THE QUALITATIVE REQUIREMENTS (QRS) FOR UHF MOBILE  
RADIO SET (DIGITAL)**

Technical Specification	Qualitative Requirements
<b><u>GENERAL</u></b>	
Frequency Range	403-430 MHz
Number of Channels	256 Higher
Channel Spacing	12.5KHz selectable to 25 KHz
Frequency stability	+2.0 ppm or better
Type of Emission	Analog - FM Digital - Fully APCO 25 open standard compliance which is not proprietary of a particular manufacturer.
Type of Operation	Simplex Press to talk
Weight	Without external battery and aerial to be less than 3 Kgs
Power source	(i) DC Voltage : 12V $\pm$ 10% (ii) AC Voltage : 230V $\pm$ 10% )at 50Hz $\pm$ 2% with option for trickle charging of backup battery.
Protection	(i) Reverse polarity protection . (ii) Protection against high VSWR.
<b><u>TRANSMITTER</u></b>	
RF Power Output	Variable up to 40 Watts or higher
FM Hum Noise	(i) 25 KHz : 40 dB or better (ii) 12.5 KHz : 35 dB or better
Frequency Deviation	(i) 25 KHz : maximum $\pm$ 5 KHz (ii) 12.5 KHz : maximum $\pm$ 2.5 KHz
Modulation sensitivity	2-10 mV at 1 KHz mic input for $\pm$ 1 KHz standard deviation for 12.5 KHz channel and $\pm$ 3 KHz standard deviation for 25 KHz channel.
Modulation distortion	Less than 5% at 1KHz for $\pm$ 1.5 KHz (12.5KHz channel) and $\pm$ 3KHz (25KHz channel) standard deviation.
Modulation Fidelity	+1, -3 dB of 6 dB / Octave pre-emphasis from 300-2700Hz at 1 KHz reference.
Audio Distortion	Less than 3% @ 1KHz
<b><u>RECEIVER</u></b>	
Sensitivity	(i) Analog : 0.30 $\mu$ V for 12 dB SINAD or better (ii) Digital : 0.30 $\mu$ V for 5% BER or better
Squelch Sensitivity	0.25 $\mu$ V or better at threshold
Selectivity (Adjacent Channel)	(i) Analog : 82 dB or less (ii) Digital : 75 dB or less
Image rejection	75dB or better
Inter modulation	75 dB or better
Audio Out put	2 -8W at 5% distortion for frequency 300 to 3000 KHz
Audio response	+1,-3dB of 6dB/Octalve pre- emphasis from 300 to 3000 Hz Less than 3% at 1 KHz
ENVIRONMENTAL	Operating Temperature: -10 $^{\circ}$ C to + 55 $^{\circ}$ C Storage Temperature : -40 $^{\circ}$ C to + 85 $^{\circ}$ C Humidity -90% at 50 $^{\circ}$ C (per Mil standard 810 E)

OTHER CONDITION

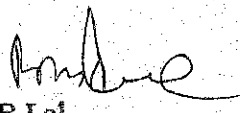
- (a) Bidder to indicate the customer care centers across India for after sales warranty support.
- (b) Warranty for 3 years
- (c) Should provide after sale support, supply of spares for at least 6 years after warranty period.
- (d) The firm should enclose DOT /WPC license for using radio equipment in India.

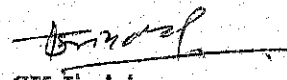
7. Field Trial

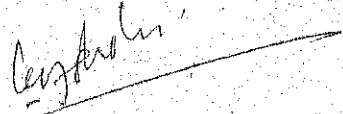
- (a) One repeater sets for 07 days to be provided for field trial on "no cost no commitments" basis to ascertain the users satisfaction before the proposal is accepted.
- (b) All the technical features / specification will be tested during trials.

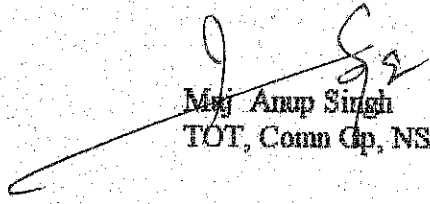
  
Kamlesh Deka  
IG (Comm), BSF

  
Brig MK Gupta  
DIG (Comm), NSG

  
B B Lal  
DD(Tech), IB

  
SK Jindal  
Scientist 'F' DRDO

  
KC Agnihotri  
DD(Eqpt), DCPW

  
Maj Anup Singh  
TOT, Comm Gp, NSG