

No.IV-17017/13/06-Prov.I
Ministry of Home Affairs
Prov.I

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New Delhi the 28th June,2006

To

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

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

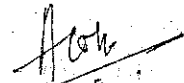
The Sub-Group constituted by MHA vide Memorandum No. .IV.17017/18/2001-Prov.I dated 5-7-2002 for laying down QRs/specifications of various items/equipments has since submitted its recommendations in respect of following weaponary/security equipments:

- (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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20/6/06

**QUALITATIVE REQUIREMENTS (QRS) : UHF LIGHT WEIGHT
REPEATER (DIGITAL) (25W)**

Technical Specification	Qualitative requirements
<u>GENERAL</u>	
Frequency Range	403 - 430 MHz
Channel Spacing	12.5 selectable to 25 KHz
Frequency stability	+1.0 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	Repeater mode at 100% duty cycle
Weight	Without external battery and aerial to be less than 21 Kgs
Power source	(i) Operating supply voltage - 230V AC \pm 10% 50Hz \pm 2%
	(ii) 12V / 24V DC \pm 10%(negative ground).
	(iii) Automatic changeover to battery in case of mains power supply failure along with float charging facility
Protection	(i) Reverse polarity protection . (ii) Protection against high VSWR.
<u>TRANSMITTER</u>	
RF Power Output	25Watts or higher at 100% duty cycle for both transmit and receive.
Frequency Deviation	(i) For 25 KHz : maximum \pm 5 KHz (ii) For 12.5 KHz : maximum \pm 2.5 KHz
FM Hum & Noise	(i) 25 KHz : 45 dB or better (ii) 12.5 KHz : 50 dB or better
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 1 KHz for \pm 1.5 KHz (12.5 KHz channel) and \pm 3 KHz (25 KHz channel) standard deviation.
Modulation Fidelity	+1, -3 dB of 6 dB / Octave pre -emphasis from 300-2700 Hz at 1 KHz reference.
Audio Distortion	Less than 2% @ 1KHz
<u>RECEIVER</u>	
Sensitivity	(i) Analog : 0.35 μ V or better at 12 dB SINAD (ii) Digital : 0.35 μ V or better 5% BER
Squelch Sensitivity	0.25 μ V or better at threshold
Selectivity (Adjacent channel)	(i) Analog : 75 dB or better (ii) Digital : 60 dB or better
Image rejection	100 dB or better
Inter modulation	80 dB or better
Audio response	+1,- 3 dB of 6 dB/Octave pre- emphasis from 300 to 3000Hz Less than 3% @ 1 KHz
Audio Distortion	Less than 5% at 1 KHz

5. LITERATURE

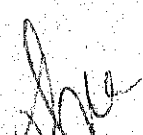
- (a) User manual with each radio sets.
- (b) Technical repairing manual with complete block diagram, circuit layout etc. at a scale of 10% of equipment being procured.
- (c) Firm should train a team of four operator and mechanics in handling, operating and repairing of radio receiver free of cost after procurement.

6. 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

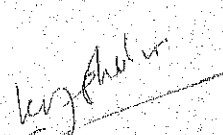
- (a) Two radio sets for 14 days to be provided for field trial on "no cost no commitments" basis to ascertain the users satisfaction before the proposal is accepted.
- (b) All the technical features / specification will be tested during trials.


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