

No.IV-17017/48/02-Prov.I  
Ministry of Home Affairs  
Prov.I

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New Delhi the 6<sup>TH</sup> Oct.,2004

To

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

**Subject: Finalization of QRs/Specifications Communication and other Security Equipments.**

The Sub-Group constituted by MHA vide Memorandum No. IV.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 communication and security equipments:

- (i) Fax Encrypter
- (ii) Frequency hopping HF/VHF sets
- (iii) Digital hand held mobile/static VHF/UHF Radio
- (iv) Wideband surveillance receiver (VHF/UHF Analog)
- (v) Wideband surveillance receiver (HF Analog)
- (vi) Wideband surveillance receiver (HF/VHF/UHF Analog and digital)
- (vii) Light Vehicle based Direction finder ✓
- (viii) Portable Direction finder ✓
- (ix) Discone, Parabolic Dish Antenna
- (x) High altitude Parachute Penetration System(HAPPS)
- (xi) Bomb Data Centre Equipment
  - i. IED Response Vehicle
  - ii. Explosive Test Kit
  - iii. PBI Kit
- (xii) ✓ Telescopic Manipulator
- (xiii) ✓ Waterman ship Equipment
- (xiv) ✓ Deep search Mine/Metal Detector.
- (xv) ✓ Digital HF Transceiver
- (xvi) ✓ Satellite Phone (Hand Held)

2. These recommendations have been accepted by MHA. The QRs finalized by the Sub-Group and accepted by MHA in respect of the 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)

QEs/TECHNICAL SPECIFICATIONS OF WIDEBAND SURVEILLANCE RECEIVER		
PART I : HF ANALOG		
1	FREQUENCY RANGE	2 MHz to 30 MHz
	I. Freq. setting by key pad or roll key.	Continuous tuning facility for slow and fast tuning
	II. Freq. Digital read out in control panel	
e)	FREQ. STABILITY	1 PPM or better (-10deg. C to 55deg. C)
b)	FREQ. RESOLUTION	10 HZ or better
c)	SCAN CHARACTERISTICS	
	I. Scanning speed	50 Ch/Sec or better
	II. Interception Scanning Speed	50 MHz/Sec or better
	III. Automatic Memory Scan	At least 1000 definable memory locations or better
	IV. Minimum Signal Presence	10 m Sec.
d)	DEMODULATION MODE	OOK, FSK, AFSK, GFSK, BFSK, QPSK, BPSK, BMSK, MSK, QAM, 16 QAM, 256 QAM, DM, ADPCM, PCM (OPTIONAL CDMA, SSMA, TDM, TDMA)
e)	CAPABILITY TO DETECT SIGNALS	100 milli sec.
f)	OVERALL NOISE FIGURE	14dB or better
g)	SENSITIVITY	CW: 10dB Sinal for 0.3 $\mu$ V or better, IF Band width 100 Hz SSB: 1.0 $\mu$ V or better for 10dB Sinal, IF Band Width 3 KHz AM : 2.0 $\mu$ V for 12 dB Sinal, IF Band width 6 KHz
h)	HF FILTERS	Adequate No. of Filters between 0.1 to 300 KHz
i)	HF REJECTION	> 80 db
k)	IMAGE REJECTION	> 80 db
l)	SPURIOUS REJECTION	> 100 db
l)	SPURIOUS FREE DYNAMIC RANGE	50 dB
m)	AF OUT PUT	LS: 500 m Watt on 4 Ohm HP: 0 dbm, 600 Ohm
n)	SPURIOUS FREE DYNAMIC RANGE	50 dB
o)	AUDIO DISTORTION	Less than 5% for rated audio O/P
p)	AGC	Better than 60 db

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q)	APC	Digital tuning facility for signals of unstable strength
c)	ANTENNA	IP : 50 ohm nominal overfold protected upto atleast 1 volt
2 ENVIRONMENTAL REQUIREMENT		As per IS 5555 specifications, revised version 2000
	EMC	486 C or equivalent
POWER REQUIREMENT		
i)	Power Supply	(i) AC 230 V $\pm$ 10%, 50 Hz, $\pm$ 3. Over Voltage protected
		(ii) 12V/24V DC operated. Reverse polarity protected
3 OTHER CHARACTERISTICS		Real time spectrum display of all Data (time domain and freq domain display)
		Built in Test Eopt to locate faulty module and card level (EITE) and perform all diagnostic and maintenance activities.
		Accurate measurements of Mod depth/range with various modulation frequencies in AM, FM & PM mode, signal level & field strength.

*(Signature)*

(Kamlesh Deka  
Inspector General (Comm.), BSF

*(Signature)*

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(Brig B.S. Sandhu)  
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