No.IV-17017/48/02-Prov.I
Ministry of Home Affairs
Prov.I
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New Delhi the 6TH Oct.,2004

To

The DGs:Assam Rifles/BSF/CISF/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 recover (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)

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SPECIFICATIONS FOR 30 – 100 MHz DISCONE ANTENNA

1.	Frequency Range	:	30 – 100 MHz
2.	Power Handling	:	1.5 KW CW
3.	VSWR	:	3 : 1 max.
4.	Gain	:	Better than 0 ± 2 dBi
5.	E-plane beam width	:	75° ± 10°
6.	Horizontal Radiation Pattern	:	Circular
7.	Deviation for Circularity	:	± 3 dBi max.
8.	Mass	:	< 15 Kg
9.	Dimensions (maximum)	:	Discone diameter : 3.5 m Radial Length (max) : 3.0 m (should be of split design with 2/3 sections)
10.	Mounting	:	Suitable mounting interface for vertical polarization
11.	Permissible Wind Velocity	:	160 Km/h
12.	Operating Temperature	:	- 10°C to + 55°C

SPECIFICATIONS 100 – 1000 MHz

1.	Frequency Range	:	100 – 1000 MHz
2.	Power Handling	:	1.2 KW CW for 100-500 MHz
3.	Impedance	:	50 Ω nominal
4.	VSWR	:	≤ 2.0 for 100-500 MHz ≤ 2.5 for 500-1000 MHz
5.	Gain	:	2 dBi typical
6.	Horizontal Radiation Pattern	:	Circular
7.	Deviation for Circularity	:	2 dB max.
8.	Weight	:	8 Kgs max.
9.	Dimensions (Dia X Height)	:	400 mm x 1200 mm (max.)
10.	Mounting	:	Suitable mounting interface for vertical polarization.
11.	Permissible Wind Velocity	:	160 Km/h
12.	Operating Temperature	:	- 10°C to + 55°C

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Specifications

I. 30-100 MHz Log Periodic Dipole Antenna

1.	Frequency Range	:	30 – 100 MHz
2.	Power Handling	:	1.5 KW CW
3.	Impedance	:	50 Ω nominal
3.	VSWR	:	3 : 1 max.
4.	Gain	:	3 dBi from 30-40 MHz 3 to 5 dBi from 40-50 MHz 5 dBi from 50-100 MHz
5.	E-plane beam width	:	75° ± 15°
6.	H-plane beam width	:	135° ± 25°
7.	FBR	:	10 typical
8.	Weight (max.)	:	25 Kg (including mounting bracket)
9.	Dimensions (maximum)	:	Boom length (max) : 4.5 m (The antenna boom should be of split boom design with 2/3 sections of a maximum length of 2.0 m) Element Length (max) : 2.0 m

II. 100-1000 MHz Log Periodic Dipole Antenna

1.	Frequency Range	:	100 – 1000 MHz
2.	Power Handling	:	1.0 KW CW, for 100-500 MHz 500 W CW, for 500-1000 MHz
3.	Impedance	:	50 Ω nominal
3.	VSWR	:	≤ 2.5 for 100-500 MHz ≤ 3.0 for 500-1000 MHz
4.	Gain	:	8 dBi nominal
5.	E-plane beam width	:	65° ± 10°
6.	H-plane beam width	:	90° ± 20°
7.	FBR	:	10 dB typical
8.	Weight (max.)	:	10 Kg (including mounting bracket)
9.	Dimensions	:	Boom length (max) : 2.5 m Element Length (max) : 1.0 m

General :

1.	Mounting	:	Central mounting bracket with a provision for vertical/horizontal mounting
2.	Permissible Wind Velocity	:	160 Km/h
3.	Operating Temperature	:	-10°C to + 55°C

ANNEXURE – I

SPECIFICATIONS FOR PARABOLIC DISH ANTENNA 1000-2000 MHz

1.	Frequency	:	1000 – 2000 MHz
2.	Gain	:	20 dBi (min) at 1.5 GHz
3.	Front to Back Ratio	:	20 dB
4.	Side lobes	:	- 12 dB
5.	Weight	:	= 8 Kg
6.	Connectors	:	N (F)
7.	VSWR	:	2.2 : 1 (max)
8.	Half Power Beam Width	:	17° at 1 GHz 8° at 2 GHz

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