

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

New Delhi, Dated 03.04.2006

To

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

Subject: Finalization of QRs/Specifications for Weaponry/Security Equipments

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

- (a) Wide Band Surveillance Receiver
- (b) PC Based Data and Telegraph Decoder

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

Copy to : DD(Procurement), MHA

Copy for information to:
1. PS to JS(PM), MHA
2. Dir.(Prov), MHA

**QUALITATIVE REQUIREMENT FOR PC BASED DATA AND TELEGRAPH
DECODER/ANALYSER**

1. PC Pentium-IV Intel.3 GHz 400 MHz Burst speed/512 MB RAM.80 GB HDD or Better. 17 inch colour Monitor.3.5 inch-FDD with CD writer DAT., Drive with standard Accessories.
2. The system should have Plug in PCI card.
3. The system can be used locally or over LAN/WAN with standard application software.
4. The system must computing power of the PC.
5. The system should have the following interfaces.

AF-Input (BNC)	50 Hz-16 KHz
IF-Input variable (BNC)	16 KHz-1.5 MHz
IF-Input 10.7 MHz (BNC)	10.685 MHz-10715 MHz
IF-Input 21.4 MHz (BNC)	21.835 MHz-32.415 MHz
Ext. Demod. (Min-DIN)	<12 Kbps
AF Output (Min-DIN)	1Hz-24KHz
PC BUS	PCI 32/64 Bit

6. The system should have the following demodulating capabilities.

FSK	10-2400 Baud
BFSK	10-4800 Baud
GFSK	10-10200 Baud
4FSK	10-3250 Baud
MFSK	Tone Length 4-1000ms/Max 64 Tones
	DPSK
(2DPSK-16 DPSK)	10-2400 symbols/s
BPSK	10-2400 symbols/sa
QPSK	10-4800 symbols/s
CW-MORSE	5-500 WPMP
AM-FAX, Carrier 2.4 KHz	
BR6028 Modem	7 FDM Channels ± 85 Hz. Pilot Tone 561 KHz

7. The Alphabet menu should have the options for Transport and Normal output.
8. The system should have transparent alphabets which include output of nonprintable characters of data transmission e.g. ITA-2 controls characters like Letter shift and Figure shift and underlined upper case characteristics.
9. The system should have the following analysis systems.

REAL-TIME FFT
REAL-TIME WATERFALL
REAL-TIME SONOGRAM
REAL-TIME OSCILLOSCOPE
FSK ANALYSIS

9

LOG PERIODIC ANTENNA

1. Frequency Range	: 30 MHz to Minimum 2500 MHz to be covered in single or two antenna.
2. Configuration	: Log Periodic Dipole Array (LPDA)
3. Gain	: Minimum 4 dBi to 9 dBi depending on frequency bands.
4. VSWR	: 3:1 Maximum
5. E-plane beam width	: $75^\circ \pm 15^\circ$
6. H-plane beam width	: $100^\circ \pm 25^\circ$
7. FBR	: 10 dB Minimum
8. Dimensions	: Boom length 5 meter maximum largest element length 2 meter maximum
9. Mounting	: Central mounting bracket with provision for vertical/horizontal mounting
10. Operating Temperature	: -10°C to 55°C
11. Permissible Wind Velocity	: 160 Kms/hour

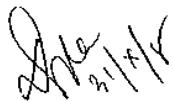
FSK CODE CHECK
 PSK SYMBOL RATE
 PSK PHASE PLAN
 MFSK ANALYSIS
 AUTOCORRELATION
 BIT CORRELATION
 BITLENGTH ANALYSIS

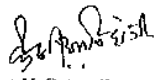
- 10 The system should have operating temperature range 0°-50° C *at 95% R.H*
- 11 The system should have Storage temperature range- 10° to 70° C
- 12 The system should work on power AC 160 to 260 V 5 A with SMPS.
- 13 The system should support the following protocols.

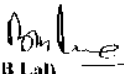
BR0028
 CCIR-1
 CCIR-7
 METEOSAT
 MFSK-16
 GOLAY
 TWINPLEX-ARQ
 MFSK-8
 MH-188-141A(ALE)
 NATEL
 PACTOR 1-8
 PACTOR-II 1-8
 PACTOR-II-FEC 1-8
 PSK-125 F
 PSK-31
 PSK-63F
 SAT-A-TELEX
 SAT-C-CONTROL
 SAT-C-DATA
 SPREAD-11
 SPREAD-21
 SPREAD-51

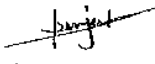
OTHER CONDITIONS	(a) Operate the equipment efficiently and correct.
	(b) Assemble and install the equipment.
	(c) Be able to perform first level of maintenance
	(d) The bidder should Quote separately for annual maintenance contract (AMC) at least six years after the warranty/Guarantee period of two years
	(e) Should have three year experience in maintaining similar type of equipment.


	(f) The supplier should give undertaking for supply of spare part for at least ten years.
	(g) The supplier shall provide operation/maintenance training to selected staff of the user at a mutually agreed location. The duration of training should be specified by the supplier.
	(h) Should house in portable cabinet with attached keyboard and LCD monitor for mobile station and should run on car battery.



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