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

New Delhi, Dated 03.04.2006

To

The DG: Assam Rifles/BSF/CRSF/CRPF/ITBP/NSS/SSB/BPR&AI,

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

The Sub-Group constituted by MHA vide Office Memorandum No. IV.17017/13/06-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 CPMs should procure the above items required by them to meet their operational needs strictly as per the laid down QRs/specifications.

Yours faithfully,

[Signature]

(Alok Mohapatra)
Under Secretary (Prov. I)

Copy to: DLO (Procurement), MHA

Copy for information to:
1. FS to IS(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 Bus, speed 512 MB RAM, 10 GB HDD or Better, 17 inch colour Monitor, 3.5 inch FDD with OD writer D/A, 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) 10.65 MHz - 10715 MHz
   - IF Input 21.4 MHz (BNC) 21.335 MHz - 32.415 MHz
   - Ext. Demod. (Mini-DIN) <12 Kbps
   - AF Output (Mini-DIN) 11 Hz - 24 KHz
   - PC BUS PCI 32/64 Bit

6. The system should have the following demodulating capabilities:

   - FSK 10-2400 Band
   - FFSK 10-4900 Band
   - QPSK 10-10500 Band
   - 4FSK 10-3250 Band
   - MFSK Tone Length 4 - 1000ms / Max 64 Tones
   - DPSK
   - QDPSK-16 DPSK
   - BPSK 10-2400 symbols/s
   - QPSK 10-4800 symbols/s
   - CW-MORSE 5-500 WPMP
   - AM-FAX, Carrier 2.4 KHz
   - BR6024 Modem 7 VFD Channels 255 Hz, Pilot Tone 561 KHz

7. The Alphabet menu should have the options for Transiterated and Normal output.

8. The system should have transparent alphabets which include output of non-printable characters of data transmission e.g. ITA-2 controls characters like Letter shift and underline/upper case characters.

9. The system should have the following analysis systems:

   - REAL-TIME IPT
   - REAL-TIME WATERFALL
   - REAL-TIME SONOGRAM
   - REAL-TIME OSCILLOSCOPE
   - FSK ANALYSIS
## LOG PERIODIC ANTENNA

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Frequency Range</td>
</tr>
<tr>
<td>2.</td>
<td>Configuration</td>
</tr>
<tr>
<td>3.</td>
<td>Gain</td>
</tr>
<tr>
<td>4.</td>
<td>VSWR</td>
</tr>
<tr>
<td>5.</td>
<td>E-plane beam width</td>
</tr>
<tr>
<td>6.</td>
<td>H-plane beam width</td>
</tr>
<tr>
<td>7.</td>
<td>FDR</td>
</tr>
<tr>
<td>8.</td>
<td>Dimensions</td>
</tr>
<tr>
<td>9.</td>
<td>Mounting</td>
</tr>
<tr>
<td>10.</td>
<td>Operating Temperature</td>
</tr>
<tr>
<td>11.</td>
<td>Permissible Wind Velocity</td>
</tr>
</tbody>
</table>

- **30 MHz to Minimum 2500 MHz to be covered in single or two antennas.**
- **Log Periodic Dipole Array (LPDA):**
- Minimum 4 dBi to 9 dBi depending on frequency bands.
- **3:1 Maximum**
- **75° ± 15°**
- **100° ± 25°**
- **10 dB Minimum**
- Boom length 5 meter maximum
  - Largest element length 2 meter maximum
  - Central mounting bracket with provision for vertical/horizontal mounting
- **-10°C to 55°C**
- **160 Kms/hour**
The system should have operating temperature range 0°C to 50°C.

The system should have storage temperature range -10°C to 70°C.

The system should work on power AC 160 to 260 V 5 A with SMPS.

The system should support the following protocols:

BR028
CDR-1
CDR-7
METEOSAT
MFSK-16
TWINPLEX-ARQ
MFSK-8
MU-38S-41 (A, E)
NATEL
PACTOR 1-3
PACTOR II 1-3
PACTOR II-1PL 1-3
PSK-125 F
PSK-31
PSK-61F
SAT-A-TIELEX
SAT-C-CONTROL
SAT-C-DATA
SPREAD-11
SPREAD-21
SPREAD-31

(a) Operate the equipment efficiently and correctly.
(b) Assemble and install the equipment.
(c) Be able to perform first line of maintenance.
(d) The bidder should quote separately for annual maintenance contract (AMC) at least six years after the warranty period of two years.
(e) Should have three year experience in maintaining similar type of equipment.
<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(i)</td>
<td>The supplier should give undertaking for supply of spare part for at least ten years.</td>
</tr>
<tr>
<td>(ii)</td>
<td>The supplier shall provide operational/maintenance training to selected staff of the user at a mutually agreed location. The duration of training should be specified by the supplier.</td>
</tr>
<tr>
<td>(iii)</td>
<td>Should house in portable cabinet with attached keyboard and LCD monitor for mobile station and should run on car battery.</td>
</tr>
</tbody>
</table>

(Kamalshi Delta)
Inspector General (Comm), BSF

(R B Lal)
By Director (Tech), IB

(S K Verma)
GC (Comm), NSG

(K C Agnihotri)
Dy. Director (Eqpt), DCPW

(Sanjot Kumar)
Dy. Director (QA), DGS&D

(Vimal Satyarthi)
Commandant (C-Eqpt), BSF