Subject: Finalization of QRs specifications for Electronic Security Gadget.

The QRs of certain security related Equipments which belong to the following four categories have been finalized and accepted by the MHA:

(i) VIDEO SURVEILLANCE SYSTEM - List of items at Annexure 'A'
(ii) ACCESS CONTROL SYSTEM - List of items at Annexure 'B'
(iii) FERMIETER PROTECTION SYSTEM - List of items at Annexure 'C'
(iv) INTRUSION DETECTION SYSTEM - List of items at Annexure 'D'

2. The QRs of all the individual items mentioned at (Annexure A, B, C & D) are sent herewith.

3. Henceforth, all the CPMEs should procure the above items required by them strictly as per the laid down QRs Specifications.

(Alok Mookerjea)
Under Secretary(Proc-I)

Copy to:

DD(Proc-I), MHA

Copy for information to:

1. PS to JS(PM), MHA
2. Dir(Proc-I), MHA
TECHNICAL SPECIFICATIONS OF OUTDOOR SPEED DOME COLOUR CAMERA

1. Pick-up device -- 1/4 or 1/3 format, interline transfer CCD image sensor
2. Horizontal resolution -- 520 TV Lines or better
3. Sensitivity -- 1 Lux day mode or better
   (Usable video) -- 0.05 Lux Night mode
4. Signal to noise ratio -- ≥ 50 dB
5. White balance -- Auto/Manual
7. Zoom -- 25 X optical with 8 X digital or more
8. Pan/Tilt -- 360° continuous pan, 0 to 90° tilt
9. Preposition Speed -- 360°/sec
10. Variable speed -- 120°/sec minimum
11. Features
   • Sector titles
     o Pre-set positions – 99 or more
     o Alarm inputs / outputs
     o Auto tours – Recorded or preset
     o Pre-programmed tours
     o Password control
     o Privacy masking
12. Operating Temperature -- -10°C to +50°C
### Technical Specifications of Digital Video Recorder

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Video Inputs</td>
<td>8 CH minimum (8 specified) &amp; 6 CH max</td>
</tr>
<tr>
<td>Video Outputs</td>
<td>2 Monitors, one composite &amp; one VGA</td>
</tr>
<tr>
<td>Video Format</td>
<td>NTSC/PAL</td>
</tr>
<tr>
<td>Display Speed</td>
<td>480 fps or more</td>
</tr>
<tr>
<td>Display Mode</td>
<td>Full, Quad, combination multi-screen</td>
</tr>
<tr>
<td>Resolution</td>
<td>720x240 or better</td>
</tr>
<tr>
<td>Recording</td>
<td>240 fps or better (Real time, linear &amp; ring recording up to 8 CH &amp; should be able to specify recording rate for each camera separately)</td>
</tr>
<tr>
<td>Playback Speed</td>
<td>50 fps or better</td>
</tr>
<tr>
<td>Backup</td>
<td>HDD, DVD,</td>
</tr>
<tr>
<td>Pan/Tilt/Zoom</td>
<td>RS 232/485/422</td>
</tr>
<tr>
<td>Alarm</td>
<td>Sensor in - 8, out - 2</td>
</tr>
<tr>
<td>Audio</td>
<td>1 in/out</td>
</tr>
<tr>
<td>Network</td>
<td>RJ-45 (10/100 Ethernet)</td>
</tr>
<tr>
<td>Controller</td>
<td>IR-Remote Controller</td>
</tr>
<tr>
<td>Protocol</td>
<td>TCP/IP, etc</td>
</tr>
<tr>
<td>Power Source</td>
<td>12-24 VDC, 220 VAC</td>
</tr>
<tr>
<td>HDD Capacity</td>
<td>400 GB</td>
</tr>
</tbody>
</table>
TECHNICAL SPECIFICATIONS OF PAN/TILT UNIT

It should be a light weight indoor Pan/Tilt unit for cameras.

Power : 220 ± 10% VAC, 12 to 24 VDC
Pan Speed : 6° per second or more
Pan Travel : 345° with adjustable limit stops
Tilt Speed : 4° per second or more
Tilt Travel : 70° or more
Maximum Load : For Pan – not less than 5 Kg
               For Tilt – Not less than 4 kg
Duty Cycle : Continuous for Pan & intermittent for Tilt

It should have dust proof seals.

(Abhishek Sen)
Asstt. Director (Tech) I.B.

(Dharmendra)
DIG, BSF/STS

(S.I.S. Ahmed)
DG, CISF
**IR ILLUMINATOR WITH 30 M Range**

1. Range : 30 meter (or as specified up to 50 m)
2. Angle : 10°
3. Wavelength : 850 nanometer (some visible)
4. Power : 12 VDC
5. Operating Temp : 0° C to 45° C

**IR ILLUMINATOR WITH 18 M Range**

1. Range : 18 meter (or as specified up to 30 m)
2. Angle : 60°
3. Wavelength : 940 nanometer (Completely non-visible)
4. Power : 12 VDC
5. Operating Temp : 0° C to 45° C
6. It should have Day/Night IR On/Off feature.

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(Sanjay Chander)
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(S.I.S. Ahmed)
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Auto iris vari-focal lens:
1. Image format -- 1/3-inch format
2. Focal length -- 3.5-8 mm
3. Iris range -- F1.8
4. Min. object distance -- 0.3m (1 ft)
5. Iris control -- DC
6. Focus control -- Manual

(Signed)
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(Signed)
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(Signed)
(S.I.S. Ahmed)
DG, CISF
**Varifocal lens**

<table>
<thead>
<tr>
<th>No.</th>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Image format</td>
<td>1/3-inch format</td>
</tr>
<tr>
<td>2.</td>
<td>Focal length</td>
<td>3.5 - 8 mm</td>
</tr>
<tr>
<td>3.</td>
<td>Iris range</td>
<td>F1.8</td>
</tr>
<tr>
<td>4.</td>
<td>Min. object distance</td>
<td>0.3 m (1 ft)</td>
</tr>
<tr>
<td>5.</td>
<td>Iris control</td>
<td>DC</td>
</tr>
<tr>
<td>6.</td>
<td>Focus control</td>
<td>Manual</td>
</tr>
<tr>
<td>7.</td>
<td>4-pin connector</td>
<td>DC-iris</td>
</tr>
</tbody>
</table>

(Title: Varifocal lens)

(I.S. Ahuja)  
Asst. Director I.B

(Harish Kumar)  
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(Sanjay Chander)  
DIG/TECH, CISF

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DG, CISF
DIGITAL VIDEO RECORDER CARD

1. No of channels - 8 channels (or be specified from VDO Channel)
2. Frames per channel - 25 fps PAL per channel (Total 200 fps)
3. It should be able to work on Window XP, Window-2000 etc.
4. It should have real time display, play back and recording (Triplex) simultaneously.
5. It should provide local and remote surveillance.
6. It should have PSTN/ISDN modem/LAN connectivity.
7. It should have PTZ camera control.
8. It should have various recording modes.
9. It should have video motion detection feature.
10. The no. of frames per channel should be adjustable.
11. It should be possible to use the PC for other purposes as well and should not be dedicated only for DVR purpose.
12. It should have facility to zoom recorded images.
13. It should have date/time stamp for verification of authenticity of recorded material.

(S.I.S. Ahuja)
Asstt. Director IB

(Hansh Kumar) DIG, BSF, STS-...

(Sanjay Chandar)
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(S.I.S. Ahmed)
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TECHNICAL SPECIFICATIONS OF DIGITAL KEYBOARD FOR DIGITAL VIDEO RECORDER &

1. Features
   - Control of Multiple DVRs
   & P/T/Z Cameras at the same time
   - Soft backlit keys with user friendly menu and easy to read display
   - Joystick for P/T/Z control of camera
   - Shall be interfaced to DVR for control of Camera selection and P/T/Z control.
   - LCD display of complete menu for selection of various functions

2. Connectors
   - Suitable for connectivity to DVR
   - Aux power, for extended distances
   - RS-232 port for remote programming

3. DVR
   and Keyboard should be compatible

(Asstt. Director(Tech) IB)
(Shreeraj Mali)
DIG, BSF, STS

(DIGITECH, CISF)
(S.S. Ahmed)
DG, CISF
**TECHNICAL SPECIFICATIONS OF IP CAMERA**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensor</td>
<td>1/3&quot; or 1/4&quot; CCD sensor</td>
</tr>
<tr>
<td>Sensitivity</td>
<td>0.5 Lux</td>
</tr>
<tr>
<td>Monitoring</td>
<td>It should provide real-time monitoring via network (LAN/WAN) through built-in server.</td>
</tr>
<tr>
<td>Image format</td>
<td>MPEG-4 &amp; Motion JPEG, QVGA, VGA</td>
</tr>
<tr>
<td>Frame rate</td>
<td>25 fps or better (PAL)</td>
</tr>
<tr>
<td>Image Control</td>
<td>Adjustment of brightness, contrast, auto gain, auto white balance, on/off, electronic iris</td>
</tr>
<tr>
<td>Resolution</td>
<td>640x480 or better</td>
</tr>
<tr>
<td>Motion Detection</td>
<td>Should have built-in motion detection &amp; built-in post alarm buffers.</td>
</tr>
</tbody>
</table>

The image should be viewed, recorded, played back, and managed simultaneously through internet explorer.

It should have multi-level password protection to prevent unauthorized access.

It should support minimum 10 users to browse the camera simulatenously.

It should have scheduled & triggered event functionality, i.e. motion detection on e-mail IDs.

It should have built-in memory for recording half an hour at 1 x speed. It should have a slot for inserting higher capacity memory stick or card.

---

(Abhimit Sen)
Asst. Director (Tech) I.B.

(Priyanka Kupari)
DIG, BSF/STS

(S.I.S. Alam)
DG, CISF

(Dharshaneep Singh)
DIG, TCG, C.I.
Operating Channels: At least 8 non-overlapping channels
Transmit output power: Up to 100 mW
Interfaces: RJ-45, 10/100 Base-Tx, Radio wave, Antenna N-male
Antenna type: External High gain antenna
Security system: Encryption
Software support: GUI Interface, SNMP Network Management interface, FTP

Optional Feature:
The system should be capable of controlling all the functions of the dome camera like Pan/tilt/zoom etc. receiving and transmitting data to the accessories.

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(Harish Kumar)
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(S.I.S. Ahmed)
DIG. CISF
# Technical Specifications of Button Camera with DVR

**CAMERA-**

<table>
<thead>
<tr>
<th>Description</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Image Sensor</td>
<td>1/3&quot; or 1/4&quot; CCD</td>
</tr>
<tr>
<td>Resolution</td>
<td>450 TV Lines</td>
</tr>
<tr>
<td>S/N Ratio</td>
<td>48 db min</td>
</tr>
<tr>
<td>Video System</td>
<td>NTSC/PAL</td>
</tr>
<tr>
<td>Illumination</td>
<td>0.3 Lux or better</td>
</tr>
<tr>
<td>Video output</td>
<td>TV Out Composite at 1.5 Vpp</td>
</tr>
<tr>
<td>Audio output</td>
<td>2V p-p</td>
</tr>
<tr>
<td>Lens</td>
<td>4.3 mm approx.</td>
</tr>
<tr>
<td>Angle of view</td>
<td>70 degree min</td>
</tr>
<tr>
<td>Power</td>
<td>6-12 VDC</td>
</tr>
</tbody>
</table>

It should be a button type wired CCD Camera for covert monitoring.

The front covert lens should be inter-changeable.

Complete power and cable accessories should be effective in that.

It should be provided with wireless kit.

## PORTABLE TRANSMITTER AND RECEIVER KIT

<table>
<thead>
<tr>
<th>Description</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency Band</td>
<td>1200 MHz or 2400 MHz</td>
</tr>
<tr>
<td>Channel</td>
<td>At least two channels</td>
</tr>
<tr>
<td>Range</td>
<td>100 M</td>
</tr>
<tr>
<td>DC Power</td>
<td>6-12 V</td>
</tr>
</tbody>
</table>
Technical Specifications of Wireless System for Video Surveillance

The system should consist of a transmitter, receiver, and connecting accessories so that remote camera signals could be connected to a video DVR.

**TRANSMITTER:**

- It should be based on 2.4 GHz or 5.8 GHz audio/video transmission technology.
- It should be capable of sending the camera signals to receivers up to a distance of 5 km (or as specified by the tenderer).
- It should have at least four independent channels.
- It should have high-performance antennas enabling efficient radio wave transmission.
- It should be providing with brackets supporting transmission toReceiver.

**RECEIVER:**

- It should be capable of receiving wireless signals from transmitters over a distance not less than 5 km (or as specified by the tenderer).
- It should have at least four independent channels.
- It should have high-performance antennas for reception.
- It should be provided with brackets supporting reception of signals.
- Other features:

- It should be compatible to any type of Camera and DVR:

The transmission should not be affected by RF or any other external interference.

**Frequency Band:** Two combined bands specified.

In the given frequency range.
### TECHNICAL SPECIFICATIONS OF LCD MONITOR

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>LCD Panel</td>
<td>40 inch TFT LCD (as specified)</td>
</tr>
<tr>
<td>TV System</td>
<td>PAL</td>
</tr>
<tr>
<td>Resolution</td>
<td>1280 X 768 or better</td>
</tr>
<tr>
<td>Aspect Ratio</td>
<td>16:9</td>
</tr>
<tr>
<td>Brightness</td>
<td>500 Cd/sq m or more</td>
</tr>
<tr>
<td>Contrast ratio</td>
<td>600:1</td>
</tr>
<tr>
<td>Viewing angle</td>
<td>170° (H) 170° (V)</td>
</tr>
<tr>
<td>Connector type</td>
<td>2 Speakers output</td>
</tr>
<tr>
<td></td>
<td>1 VGA input</td>
</tr>
<tr>
<td></td>
<td>1 Composite video input (B/W)</td>
</tr>
<tr>
<td></td>
<td>Component Video input</td>
</tr>
<tr>
<td></td>
<td>RF input</td>
</tr>
<tr>
<td></td>
<td>S-Video, Coaxial RF, USB</td>
</tr>
<tr>
<td>Other features</td>
<td>Picture &amp; Picture (PAL)</td>
</tr>
<tr>
<td></td>
<td>RS 232C</td>
</tr>
<tr>
<td></td>
<td>AUTO power on/off</td>
</tr>
<tr>
<td></td>
<td>On screen menu</td>
</tr>
<tr>
<td></td>
<td>Remote control</td>
</tr>
<tr>
<td></td>
<td>Stand should be included</td>
</tr>
<tr>
<td></td>
<td>CE, FCC Certified</td>
</tr>
</tbody>
</table>

Signed:

[Signature]

Asset Director (Tech) L.B

[Signature]

DG BSF

[Signature]

DG CISF

[Signature]

DIGITEC CFP
TECHNICAL SPECIFICATIONS OF VIDEO CAMERA JAMMER

Frequency Band : 900 MHz to 2.5 GHz
Effective range : 30-60 meter
Input Power : 6-12 VDC
Signal source : Synthesized
Operating temp : -10 to 55 deg C
Humidity : 80%
Size : 20 cm x 19 cm x 35 cm Maximum

This should be capable to jam any wireless camera, wireless, and Bluetooth.

(Asstt. Director (Tech) I B)
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PIN HOLE CAMERA

Pick up device 1/3 * CCD image sensor
Resolution 380 TV Lines
Sensitivity 1 Lux

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Asstt. Director I.B

(Sanjay Chander)
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(S.I.S. Ahmed)
DG, CISF
**FIX INDOOR COLOUR CAMERA**

1. **Pick-up device**
   - 1/3-inch format, interline transfer, CCD image sensor

2. **Active picture elements**
   - standard (752H x 582V)

3. **Horizontal resolution**
   - 520 TV Lines or better

4. **Scene illumination**
   - 1 lx at Usable picture

5. **Color mode**
   - 1 lx at Usable picture

6. **Signal to noise ratio**
   - ≥ 48dB minimum

7. **Aperture correction**
   - Horizontal & Vertical symmetrical

8. **Backlight compensation**
   - Center Zone photometry System

9. **White Balance**
   - Auto tracking

10. **Electro Inst range**
    - 1 to 50,000 lx (With F 1.2)

11. **Video outputs**
    - Composite video - 1.0 V p-p, 75 ohm

12. **Synchronization**
    - Line lock - for roll-free vertical viewing

13. **Controls**
    - BLC: On/Off, AGC: On/Off

14. **Operating Temperature**
    - -10 °C to 50 °C

15. **EMC**
    - All relevant immunity and safety standards
**FIX COLOUR DAY/NIGHT CAMERA**

| 1. Pick-up device | -- | 1/3-inch format, interline transfer, CCD image sensor |
| 2. Horizontal resolution | -- | 520 TV Lines or better |
| 3. Scene illumination | -- | |
| 4. Signal to noise ratio | -- | ≥ 48 dB minimum |
| 5. Electronic Shutter | -- | Automatic On/off selectable |
| 6. Aperture correction | -- | Horizontal & Vertical symmetrical |
| 7. Backlight compensation | -- | Required auto with manual override |
| 8. Video outputs | -- | Composite video - 1.0 V p-p, 75 ohm |
| 9. Synchronization | -- | Internal/External Synchronization |
| 10. Controls | -- | BLC, On/Off, AGC, On/Off, Auto Black, On/Off |
| 11. Operating Temperature | -- | -10 °C to +50 °C at 90% humidity |
| 12. EMC | -- | Relevant intentionally recognized standards of immunity and safety |
| 13. | -- | It should automatically switch to night mode in low light conditions. |
### Technical Specifications of Zoom Colour Camera

- **Image Pick-up Device**: 1/4" interline CCD
- **Effective Pixels**: 752(H) x 582(V) minimum
- **Resolution**: 520 Lines for Colour or better
- **S/N Ratio**: 50 dB or more
- **Illumination**: 0.5 Lux for normal mode @ F 1.6 or better
- **Gain Control**: 0.05 Lux for night mode @ F 1.6 or better

- **White Balance**: Low, middle, high, off selectable
- **Electronic Shutter speed**: Auto & selectable
- **OSD**: Auto/Manual selectable (1/60 – 1/1,000,000 sec)
- **Motion Detection**: Built in
- **On/off selectable**: on/off selectable
- **Zoom**: 30X optical, 8X digital
- **Preset**: 8 or more positions
- **Flip**: Left, right, up & down
- **Tilt control**: Auto/Manual selectable
- **Control Output**: RS-485
- **Temperature**: -5°C to 50°C
- **Weight**: Not more than 800 gm

---

**Approvals**

- **Abhijit Sen**
  Asstt. Director (Tech) I.B.
  (Hansh Kumar)
  DIG, BPS, STS

- **S. I. S Ahmed**
  DG, CISF

- **Suresh Malviya**
  DIG/TECH, CISF
Zoom

Compression protocol
Archiving
Date/Time Stamp
Video authentication

Search
Programmable modes

Motion Detection

Camera Titling
Video loss
It should have simultaneous display, recording, playback.
Recording

It should be provided with remote viewer software.

It should have USB ports.

Up to 4X

MPEG 4
DVD-R/RW
Should be available
Should have watermarking feature for detect
of tampering.
By time, date, event/motion, camera
4 or more- definite drift behavior like record
rate, alarm handling, motion detection, should
be set as per day/time
yes, selectable area of scene, specification o
direction of motion, speed sensitivity

16 Character- user programmable.
Alarm

Recording should be event based/motion bas
operator triggered /scheduled

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Haresh Kumar
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13. Humidity
   - 0 to 80% relative, non-condensing.

14. EMC
   - CE, Immunity, Safety: CE

16. Mount
   - Either Pole or Wall mount as required

OUTDOOR HOUSING FOR SPEED DOME CAMERA

1. Construction
   Aluminum cover, neoprene gaskets, UV-resistant polymer end caps, and all stainless steel hardware. The mount shall have mounting head adjustable 360° pan, 180° tilt.

2. Environmental
   - Shall meet IP 65 or better protection. It should have sun shield with thermostatically controlled heater blower kit.

(Signed)
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Asstt. Director (Tech) I.B.

(Hariharan)
DIG, BSF, STH

(S. I. S. Ahmed)
DG, CISF