

# **SPECIFICATION FOR CCTV SYSTEM**

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## **SPECIFICATIONS FOR CLOSED CIRCUIT TELEVISION (CCTV) SYSTEM**

### **1. GENERAL REQUIREMENT**

This specification covers the supply, installation, testing and commissioning of a complete Closed Circuit Television Surveillance System, including 12 months Defect Liability Period.

The installation works shall include all closed circuit video equipment, cables and all necessary provisions for a complete self-contained working installation, with the exception only of those specifically mentioned that they are to be excluded from this specification. All works performed under this contract shall comply in every aspect with the requirements of all authorities having jurisdiction over the works.

Tender shall be submitted based on layout and system specified. If alternative systems are to be proposed, they shall be listed as alternative offers. All deviation from the base offer shall be clearly highlighted.

Tenderers are requested to offer only proven design product for the major equipment (eg. microprocessor unit, power supplies, etc). No loss or distortion of data shall occur during a power interruption. On restoration of power, the CCTV system shall resume normal operations automatically.

The location of cameras as shown in the accompanying drawings are indicative and have been based on the outlined design and will therefore be subjected to change. Tenderers shall allow 3-meter changes in the final location of cameras to suit final layout without any additional cost.

The CCTV system shall under the specified lighting and relevant environmental conditions, ensure that the system operators are able to identify personnel, within the coverage of the cameras. High performance colour CCD camera shall be proposed for both the indoor and outdoor applications.

All equipment and material used shall be standard components, regularly manufactured, regularly utilised in the manufacturer's system.

The indoor enclosure must be constructed using aluminium or steel. The camera and lenses must be fully covered by the enclosure to prevent dust and dirt.

All systems and components shall have been thoroughly tested and proven in actual use.

Tenderers shall submit detailed system schematic drawings in their tender submission.

Other tenderer's responsibilities shall also include but not limited to the following:

- A comprehensive training program shall be conducted for the client at site immediately after equipment commissioning. Such training shall on the proper operation and maintenance of the equipment and shall also highlight the features of the CCTV system.
- Provide all the installation, interface drawings and detailed wiring diagrams, catalogues and technical literature, etc. which are necessary for the proper operation of the system.

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The CCTV system shall be compact in design both in hardware and software to facilitate system growth and flexibility.

The CCTV system shall also have the capacity and capability of being easily adapted to meet the changes in operational requirements due to future expansion and growth. Tenderers shall provide in this tender submission details showing how the system expansion flexibility is achievable.

### **2. COLOUR CCD DOME CAMERA**

The camera shall be a 1/3 inches high resolution solid state using SONY ccd image sensor. The pick-up device shall have pixel array 512(H) x 582(V). The camera shall produce a standard PAL colour video signal with Day/Night feature. The composite video output shall have to be 1.0 Vp-p with 75 ohms impedance. The camera picture shall free from blur, no geometric distortion, low lag and no burning.

The sensitivity of the camera shall be minimum 0 Lux on Night Mode and synchronization system shall be internal sync system. The horizontal resolution should be at least 480 TV lines.

The camera shall have a metal case to minimise radio frequency interference and the input power for the unit shall be 230VAC/50Hz with 12Vdc adaptor.

#### **TECHNICAL SPECIFICATION:**

|                       |                       |
|-----------------------|-----------------------|
| Image device          | 1/3" CCD              |
| Picture element       | CCD                   |
| Scanning system       | PAL                   |
| Synchronizing system  | Internal              |
| Horizontal resolution | 480 Tvline            |
| IR LED Wave Length    | 850nm                 |
| Day Colour Mode /     | YES                   |
| Night Monochrome Mode | YES                   |
| Lens                  | 4mm                   |
| S/N ratio             | 48dB                  |
| Min. illumination     | 0Lux                  |
| Video output level    | 1Vp-p                 |
| Iris                  | High Speed Electronic |
| Iris Speed            | 1/60 to 1/100,000 s   |

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### 5. 21" FLAT SCREEN MONITOR

The 21" Flat Screen Monitor shall have the following features :-

- 21" CRT, 0.7mm stripe pitch 90° deflection
- Horizontal resolution : 500 TV lines
- 2 composite and 1 Y/C video input
- Loop through, automatic 75Ω termination  
(75Ω termination is automatically set to off when connection is made to the OUT connector)
- World wide Multiple system (NTSC/PAL)
- Menu control (On-Screen display)
- Beam current feedback circuit for color balance stability
- Audio out : 1.2W
- Metal cabinet
- Comb filter internal
- FCC, UL, CSA, CE, TUV

The 21" Flat Screen Monitor shall minimally comprise the following technical specification :-

|                                  |                                                                                                            |
|----------------------------------|------------------------------------------------------------------------------------------------------------|
| System                           | PAL/NTSC                                                                                                   |
| Picture Tube                     | 12 inch CRT, 0.7mm stripe pitch, 90° deflection<br>Visible picture size 55cm (20 inch) measured diagonally |
| Horizontal Resolution            | More than 450 TV lines                                                                                     |
| Video Input                      | Loop-through BNC<br>Composite 1Vp-p, sync negative<br>Automatic 75Ω termination                            |
| Subcarrier Frequency Sync. Range | 4.433618 MHz ± 500 Hz (room temperature, PAL)<br>3.579545 MHz ± 500 Hz (room temperature, NTSC)            |
| Horizontal Frequency Stability   | 50 Hz ± 5 Hz (PAL)<br>60 Hz ± 5 Hz (NTSC)                                                                  |
| High Voltage                     | 25KV ± 1.5KV<br>Phono, -5dBu, High impedance<br>(0 dBu = 0.775Vrms)                                        |
| Audio in A/B/C                   |                                                                                                            |
| Audio Out                        | 1.2W                                                                                                       |
| Convergence                      | Less than 0.3mm (at the center of display area)                                                            |
| Power Consumption                | 75 Watts                                                                                                   |

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### 4. COLOUR 8-CHANNEL TRIPLEX DIGITAL VIDEO RECORDER (DVR)

The DVR must be able to display on monitor display with 1024 x 768 pixels and multi-split display image features. Multi screen display mode is selectable for live and playback viewing. Able to record while doing the playback from the hard disk.

The DVR must c/w Watermark to prevent any unauthorized editing on the storage data. It must be able to remote view or playback search via TCPIP network.

A USB port must be bundled with the DVR unit so that the data can be transfer to a normal computer to get the AVI/JPG files.

The DVR shall be Pacitron MDVR8TV or equivalent

#### TECHNICAL SPECIFICATION:

| DESCRIPTION      | SPECIFICATION                                                                                                                                                  |                                                                                                                       |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| Video            | Signal format<br>Video inputs<br>Video input requirements<br>Video outputs<br>Compression MJPEG<br>Contrast, Brightness, Colour<br>And Recording style setting | PAL colour / CCIR B/W<br>8 cameras<br>1 V p-p video, 75 ohm<br>3 (1-SVGA, 1-monitor and 1-Spot Monitor)<br>Yes<br>Yes |
| ELECTRICAL       | Power                                                                                                                                                          | 230 Vac, 25 watts                                                                                                     |
| PHYSICAL         | Dimensions<br>Weight<br>Operating temperature                                                                                                                  | 430w x 100H x 444D mm<br>~5 kg<br>0° to 50°C<br>90%, non-condensing                                                   |
| DATA BACKUP      | USB                                                                                                                                                            | Yes                                                                                                                   |
| CONNECTORS       | Camera in<br>Monitors (out)                                                                                                                                    | BNC, 1 per camera<br>1 SVGA and 2-BNC                                                                                 |
| MOTION DETECTION | Video Motion Record                                                                                                                                            | Yes ( On/FF)                                                                                                          |

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|                                |                                                              |                   |
|--------------------------------|--------------------------------------------------------------|-------------------|
| PREVENTION EDITING             | Watermark                                                    | Yes               |
| NETWORKING                     | TCPIP                                                        | Yes (10/100BaseT) |
| DATE                           | Date, Time and Camera ID                                     | Yes               |
| OS                             | RTOS                                                         | Yes               |
| PROTECTION                     | Level of Password of protection                              | Yes               |
| AUDIO INPUT<br>AUDIO<br>OUTPUT | 1-Channel<br>1-Channel                                       | Yes<br>Yes        |
| FRAME PER<br>SECOND            | Real Time Display<br>100 FPS Record                          | Yes<br>Yes        |
| TRIPLEX                        | While doing PLAYBACK<br>The System Still Doing<br>The Record | Yes               |
| REMOTE<br>VIEW VIA<br>3G/GPRS  | By Nokia Mobile Hand<br>Phone                                | Yes (Optional)    |