

Correctional Service Canada  
Technical Services Branch  
Electronics Systems

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ELECTRONICS ENGINEERING  
STANDARDS

NETWORK VIDEO USER STATION  
CLOSED CIRCUIT TELEVISION

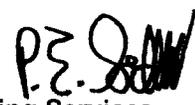
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**RECORD OF REVISIONS**

<b>Revision</b>	<b>Paragraph</b>	<b>Comment</b>
0	N/A	Original issue.

## 1.0 SCOPE

This standard defines the requirements of a Network Video User Station (NVUS) in Closed Circuit Television (CCTV) systems used by Correctional Service of Canada (CSC).

## 2.0 GENERAL

NVUSs are used in security surveillance and assessment applications in institutions. The NVUS provides control and monitoring of CCTV equipment in a client-to-server configuration. The system shall use common off-the-shelf operating systems and computers. The system shall require user login and passwords to view recorded and live video. User video access and priorities are defined in the system configuration. The system shall be capable of having a minimum of 32 NVUS stations logged into the system.

## 3.0 ENVIRONMENTAL CONDITIONS

The system shall meet all operational requirements over the following operating range:

- 3.1 Temperature: 5° C to 40° C; and
- 3.2 Humidity: 20 to 80% relative, non-condensing.

## 4.0 POWER REQUIREMENTS

The equipment shall use standard commercial VAC power within the following range:

- 4.1 Voltage: 120 VAC  $\pm$ 10%;
- 4.2 Frequency: 60 Hz  $\pm$ 1.5%; and
- 4.3 Power: power consumption shall not exceed 400 watts.

## 5.0 MECHANICAL REQUIREMENTS

The dimensions and weight shall not exceed the following:

- 5.1 Width: 450 mm;
- 5.2 Height: 200 mm;
- 5.3 Depth: 450 mm; and

5.4 Weight: 30 kg.

## 6.0 DESIGN REQUIREMENTS

- 6.1 The unit must be self contained and the NVUS computer must fit in a standard 19" rack.
- 6.2 The control functions must be usable with either a mouse or LCD touch screen.
- 6.3 Memory Backup shall protect timer settings in the event of power failure.
- 6.4 All test points on the NVMS computer shall be clearly labelled and easily accessible for calibration and maintenance.
- 6.5 All equipment shall be modular with plug-in circuit cards and assemblies.
- 6.6 The design Mean Time Between Failure (MTBF) shall be at least 10,000 hours.
- 6.7 Emergency repair or parts and labour for detective NVMSs shall be available within 24 hours after notification of equipment unserviceability to any authorized dealer service centres across Canada.

## 7.0 TECHNICAL REQUIREMENTS

The NVUS shall meet the following requirements:

- 7.1 Video Format: NTSC (colour and black/white);
- 7.2 Video Frame Rate: 30 frames/second/channel (max);
- 7.3 Video Freeze: yes
- 7.4 Video Output: SVGA;
- 7.5 Audio: Synchronized with video input;
- 7.6 Interface: 100Base-T/10Base-T (auto fallback); and
- 7.7 Protocol: Internet Interface Protocol.

## 8.0 FUNCTIONAL REQUIREMENTS

The NVUS shall interface to the network and provide access and control of all CCTV surveillance and assessment systems as follows:

### 8.1 General

- a. User login shall be through password protection that limits the user to specific cameras, both live and recorded.
- b. The Graphic User Interface (GUI) shall provide mapping functions to display camera locations. Cameras can be selected by camera number, or by dragging and dropping to a display.
- c. Alarms shall be able to be displayed on the map or through a text message.
- d. The system shall log all user operations.

### 8.2 Viewing

- a. Ability to have live and recorded viewing of a minimum of 16 cameras.
- b. Full control of all Pan/Tilt/Zoom (P/T/Z) cameras through user login of access rights to predefined cameras. Minimum of 16 priority levels to access cameras.
- c. Ability to set up guard tour and multiple camera sequences.
- d. Ability to display video in single, quad or step format.
- e. Full duplex audio capability. The GUI application provides the ability to control talk paths and listen to audio inputs at camera locations.
- f. Any live or recorded camera in the system shall be accessible through the single GUI interface without the need to change screens or applications.

### 8.3 Recording

- a. Ability to set record mode to automatically start recording on any appropriate alarm input, for example, a signal from the Fence Detection System.
  - b. Ability to set record mode to stop when it receives any reset signal (one input per video input);
  - c. Ability to manual initiate record mode.
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- d. Ability to initiate record mode on motion.
- e. Ability to initiate record mode based on time.
- f. Ability to be configured to stop recording when the hard drive is full, or configured to overwrite the oldest files.
- g. Provide an open or closed contact when the NVUS stops recording for any reason.

#### 8.4 **Playback**

- a. Ability to control playback speed.
- b. Ability to have multiple view playback.
- c. Ability to export single images and video sequences.
- d. Ability to search for motion in continuous recordings.
- e. Ability to search video sequences based on either date, time or motion.

#### 8.5 **System**

- a. Capable of triplex operation: record, search and playback simultaneously.
- b. Placing the unit into either the Search or Playback mode shall not interrupt any recording in process.
- c. Searching and viewing of stored images, and reconfiguration of system parameters shall be available via a TCP/IP connection through a LAN. Any remote access software required shall be provided for installation on a standard Windows based computer; and
- d. Transfer viewing software automatically to the CD when downloading audio and video for archive purposes. It should be possible to review the archived audio and video from any CSC PC with Windows XP without additional software.
- e. Should indicate Power on/off; Hard Drive Full Alarm; Time/Date; and Recording; on the operator console;
- f. Should have controls for Power on/off; Record; Play/Stop; Forward/Reverse Field Advance; Time, Date and Recording Mode on the operator console;
- g. Control signals available on the back of the NVUS shall include Automatic Alarm Input; and Manual Alarm Input;

- h. System messages must be contained in a log file available for downloading or printing.
- i. Multiple users shall be able to share common resources, with individual users being assigned different system access capability with password protection.

## 9.0 **INTERFERENCE**

The NVUS performance and video quality shall not be affected by the presence or use of standard CSC electronic equipment. The units shall work at the following distance limits:

- 9.1 CB transceivers at 1 metre or more;
- 9.2 VHF or UHF transceivers (25W) at 1 metre or more;
- 9.3 Other radio frequency transmitting, receiving and distribution equipment at 5 metres or more; and
- 9.4 Personal computers and/or computer work stations at 5 metres or more.

The NVUS shall not interfere with any standard electronic equipment used at the institutions.

## 10.0 **SAFETY**

- 10.1 The NVUS must be CSA, UL, ULC or CE approved, as required by law.

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