

TruVision NVR 70 (TVN 70) A&E Specifications, Division 28 00 00 Electronic Safety and Security



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This A&E Specification conforms to CSI MasterFormat 2016 guidelines.

28 01 00 Operation and Maintenance of Electronic Safety and Security

28 01 20 Operation and Maintenance of Video Surveillance

# Operations

## The recorder shall use an easy-to-read, browser based menu structure.

## The recorder shall support Digital Zoom in a user defined area.

## Live view

### The live viewing of the recorder cameras will contain:

#### Camera live view with up to 16 cameras simultaneously.

#### Capability to switch between Main stream and Substream on individual cameras and all cameras at once.

#### PTZ functionality with Preset call up.

#### Control the recorder relay outputs.

## Playback

### The video player shall be a zero footprint player and exported with the video as an evidence player.

### The user shall be able to play back images smoothly at normal or fast speeds and in forward modes, without distortion.

### The recorder will allow for reverse playback.

### The recorder will allow the user to select which resolution, frame rate, and bandwidth will be streamed to the browser interface when in playback.

## Search

### During investigations, it shall be possible to search and retrieve stored video data by date, time, camera, alarm, and transaction text.

### The recorder shall have log view screens to show the entire system status at a glance.

### The unit shall provide full media search capabilities for archiving, restoring, and playback operations. Search capabilities shall include filters for start/stop times, start/stop dates, alarm and event occurrences, inserted text, and camera number.

### The recorder shall have an alarm history display capable of showing the last 100 alarms received by the system.

### The recorder will provide the ability to search based on motion metadata in-screen.

## Configuration

### The recorder browser pages will contain full configuration capability of the recorder and all of its features.

### The recorder will be configurable using standard available free-of-charge software or through SDK implementation in custom software.

### The recorder browser interface shall include a start-up wizard, configuring the basic and required elements of the system.

### The recorder shall prevent unauthorized program tampering through the use of at least sixteen users and passwords, with settings including:

#### Remote user privileges

#### Remote play privileges

#### Remote view privileges

### The system shall be upgraded through flash programming upgrades of software, using either an USB drive or TCP/IP.

28 05 00 Common Work Results for Electronic Safety and Security

28 05 07 Power Sources for Electronic Safety and Security

28 05 07.13 Power Sources for Video Surveillance

# The recorder shall be provided with a built-in redundant power supply to prevent susceptibility to power spikes, surges, harmonics, and other common electrical disturbance phenomena associated with the installation environment.

28 05 09 Surge Protection for Electronic Safety and Security

28 05 09.13 Surge Protection for Video Surveillance

# The recorder shall be provided with a built-in redundant power supply to prevent susceptibility to power spikes, surges, harmonics, and other common electrical disturbance phenomena associated with the installation environment

28 05 19 Storage Appliances for Electronic Safety and Security

28 05 19.15 Network Video Recorders

# Hardware

## An alarm indication bar shall visualize an alarm, additionally the causing criterion shall be shown by alarm indication lights for:

### Power

### Alarm

### Network

### HDD

### Ready

### Archive

## The unit shall use a battery to back up memory that stores the time, date, and all internal programming functions.

### The recorder shall be three units of rack space in height (3U) and capable of being rack mounted (EIA 19-inch standard) using dedicated rack mount shelves.

### eSATA port shall be configurable either as a Storage Expansion Port or for external video archiving on eSATA media.

### The recorder shall support up to 16 alarm inputs, programmable as normally open or normally closed from within the menus.

### The recorder shall support four form-C relays as alarm outputs, and rated for 0.5 A continuous, 1.0 A momentary. Upon alarm, the system shall be able to execute a change of state (COS) to relay number 1, relay number 2, relay number 3, relay number 4, or all.

### The recorder shall have a fully programmable additional audible device to alert the user to alarms, motion detection, and video loss occurrences or operation failure.

### The recorder shall support alarm latching with two settings, which shall be manually set or programmable from the menus as follows:

#### Manual acknowledge - When an alarm is activated, the recorder shall be manually acknowledged to reset the COS back to normal condition.

#### Timed out – The alarm shall automatically reset after a user-defined elapsed time.

### The recorder shall have three USB ports for:

#### USB memory key archiving devices

#### USB HDD archiving devices

### The recorder shall have an eSATA port for eSATA HDD archiving devices.

### The recorder shall have a removable strip for input/output connector to support the following functionality:

#### Alarm inputs

#### Relay outputs

### The recorder shall have an IR-remote that will emulate the front panel keys.

# Redundancy

## The recorder will support Hot Spare, allowing one spare recorder to act as a failover unit for up to four main recorders. When a main recorder goes offline and comes back online, the spare recorder will stream back the lost video to the main recorder.

## The recorder will support Edge Failover Recording (EFR), so that when connection between camera and recorder is lost and re-established, the camera will stream the lost video data back from its SD card to the recorder.

## The recorder will support redundant power supplies.

## The recorder will support at least two redundant network interface cards

## The recorder will support at least two redundant network ports per network interface card

## The recorder will support RAID 0/1/5/10 without the requirement of additional hardware equipment other than hard drives.

## The feature will have a front panel that flips open and provides easy access to the hard drives.

## The front panel will have a mechanical lock to be opened and closed with a key.

# Recording

## The recorder shall support user programmable stored video frame rates that can be programmed on a per-camera basis. All cameras shall be programmable to capture images in one of the following operating modes:

### Constant

### TimeLapse

### Event

### Alarm

## At a minimum, the recorder shall support the following stored video frame rates per camera:

### Real-time (NTSC/PAL)

### 22 fps

### 20 fps

### 18 fps

### 16 fps

### 15 fps

### 12 fps

### 10 fps

### 8 fps

### 6 fps

### 5 fps

### 4 fps

### 3 fps

### 2 fps

### 1 fps

## The recorder shall allow the user to select whether the hard drive recording should automatically overwrite data (starting with the oldest data first) or if the user must confirm overwriting before recording will continue when the hard drive is filled.

## The recorder shall have image quality settings, that are adjustable on a per camera basis by the end user, including the following:

### QCIF, CIF, 2CIF, 4CIF, VGA, SVGA, 720P, 900P, XVGA (960P), UXGA, 1080P, 2048x1536 and 2560x1920

### Streaming bandwidth: by User (32-8192 Kb), 2 Mb, 1.75 Mb, 1.5 Mb, 1.25 Mb, 1 Mb, 896 Kb, 768 Kb, 640 Kb, 512 Kb, 448 Kb, 384 Kb, 320 Kb, 256 Kb, 224 Kb, 192 Kb, 160 Kb, 128 Kb, 96 Kb, 80 Kb and 64 Kb.

## The recorder shall support from one to thirty seconds of pre alarm recording, maintained in a buffer, and shall append this buffer to the beginning of all recorded alarms. The recorder shall continue to record at the alarm rate until the alarm is reset, times out, or is acknowledged as determined by the alarm menu programming.

## The recorder shall support from one to thirty seconds of pre‑event recording, maintained in a buffer, and shall append this buffer to the beginning of all recorded events. The recorder shall continue to record at the event rate until the programmed event duration (from 5 seconds to 10 minutes) expires.

## The recorder shall allow the user to manually or automatically customize the record rates per camera for events and motion detection.

## The recorder shall support the recording of all images with a digital watermark. The verification of watermarked images shall reside solely with the manufacturer.

## The recorder shall have an Automatic Delete Mode (ADM) that may be enabled or disabled, preventing any video that is older than a user-defined period from being viewed or archived, when the unit is used in jurisdictions that mandate a finite storage time. Automatic Delete Mode shall be programmable from 0 to 365 days.

## The recorder shall be supplied with push-in wire terminal connections to facilitate easy connection of alarms and other input/output signals.

## Total available video memory shall be at least 1 GB.

## Live/playback display memory shall be at least 128 MB.

## Record memory shall be at least 72 MB.

# Network

## The recorder shall support LAN/WAN Ethernet access.

## The recorder shall support Ethernet bandwidths of 10 Mbps or 100 Mbps or 1000 Mbps.

## The recorder shall support simultaneous Ethernet access by not less than 256 workstations connected to the LAN/WAN.

## The recorder shall not stop recording during any Ethernet access.

### The recorder shall allow the user full programming of Ethernet parameters, including the following:

#### Ethernet (enable/disable)

#### DHCP (enable/disable)

#### DDNS

#### IP address

#### Default gateway

#### Sub-net mask

#### HTTP port

#### Main Port

# Camera support

## The recorder shall support the following video motion detection, with onscreen indications when motion is occurring:

### Motion detection, which shall be treated as an alarm.

#### The recorder shall support an onscreen setup scale to determine the optimum sensitivity setting for each camera input.

#### The recorder shall have 396 zones per camera, arranged in a 22 by 18 grid.

#### The recorder shall have 7 levels of sensitivity.

### Tampering

#### The recorder shall support video tampering

#### The recorder shall have 3 levels of sensitivity

# Other functionality

## The recorder shall provide external keyboard support, all PTZ control functions shall be supported.

### The recorder shall support notification on alarm to user accounts. The recorder shall allow the user to program notification in response to any of the following conditions:

* + 1. Hard drive full
    2. NTSC/PAL mismatch
    3. Illegal Access
    4. IP Address conflict
    5. Network issues
    6. Network access
    7. Hard drive error

## The recorder shall support RS-232 communications and control to facilitate:

### Remote control of system operation, setup, and system programming operations

### Text insertion shall be supported as follows:

#### The recorder shall accept 42 characters per line.

#### Each message shall be associated with a single camera.

### Four types of event text messages shall be supported:

#### Start of event (event mode is started and optional text string is stored with first event field).

#### End of event (event mode is stopped and optional text string is stored with next event field).

#### Event snapshot (at least one field from the event camera is recorded with an optional text string).

#### No change (text is added to next field of the selected camera without changing the camera’s record rate).

### Text messages shall be discarded if the recorder is not in record mode.

28 05 27 Archival Systems for Electronic Safety and Security

28 05 27.13 Storage Media

# Recorder Hard Drives

## The recorder shall record video on a hard drive.

## The recorder shall support both internal and external hard drive configurations.

## The recorder shall be able to record both the main stream and sub stream of the camera.

## Internal storage configurations shall be up to 96 TB, using up to 16 6 TB SATA HDDs.

## The utilized hard drives shall support latest SATA technology including SMART reporting.

## The utilized hard drives shall be especially developed for the Digital Video Archiving Industry.

## The recorder shall support RAID 0/1/5/10 configuration.

28 05 29 Storage Management Software for Electronic Safety and Security

# Software

## The recorder shall be provided with a Graphical User Interface (GUI) software for remote playback and viewing that shall support the Windows XP and higher operating systems and full searching capabilities.

## It shall be possible to remotely set up the recorder unit using the remote viewing software.

## The recorder shall be able to be operated with:

### Dedicated free of charge software.

### Dedicated free of charge mobile app.

### Integration software packages for Interlogix intrusion detection.

### Integration software packages for Lenel OnGuard access control.

### MasterMind monitoring station software.

### Other software integration platforms using the SDK.

28 05 45 Systems Integration and Interconnection Requirements

28 05 45.11 Mechanical

# Mechanical

## Dimensions shall be 445 (W) x 530 (D) x 150 (H) mm, 19-inch (2U) EIA rack mounting.

## Weight shall be 18 kg maximum without hard drive.

28 05 45.13 Electrical

# Electrical

## Input voltage: 100 to 240 VAC, 50 to 60 Hz.

## Power: 70 W maximum without hard drive.

28 05 45.15 Information

# Environmental

## Operating temperature range -10 to +55°C (14~131℉), Relative humidity 10 to 90%.

## Relative humidity: 10 to 90% non-condensing.

# Compliance

## FCC

## CE

## UL

Contacting Support

North America:

855-286-8889

[techsupport@interlogix.com](mailto:techsupport@interlogix.com)

Latin America:

561-998-6114

[latam@interlogix.com](mailto:latam@interlogix.com)

Web site:

[www.interlogix.com/customer-support](http://www.interlogix.com/customer-support)

EMEA:

See specific country listings at:

[www.utcfssecurityproducts.eu/support](http://www.utcfssecurityproducts.eu/support)