

TVN 50 A&E Specifications

1) Network Video Recorder

- a) The Network Video Recorder with Ethernet connectivity shall be as manufactured by Interlogix or an approved equal. The TVN 50 shall require minimal training for the end user. The unit shall be operated like a conventional multiplexer and VCR with local display monitors for live and playback viewing while the system continues to record new images. It shall be an integrated security system, capable of time division multiplexing and real time recording multiple cameras, and storing their digitized and compressed images on integral hard disk drives for fast search and retrieval either locally at the unit, or from a remote workstation using a Graphical User Interface (GUI).

- b) Additionally, the system shall provide automated alarm handling. Upon receipt of an alarm, the system shall be able to automatically change display and record speed, provide relay output operation, and provide serial data transfer to a host. The system shall be able to determine alarm change of state (COS) conditions from integral motion detection, hard-wired alarm inputs, or serial data transfer from a host. It shall similarly be able to sense an event COS by receipt of text data from a foreign host through a serial port on the unit. During investigations, it shall be possible to search and retrieve stored video data by date, time, camera, alarm, and transaction text.

- c) The TVN 50 shall include, but not be limited to the following:
 - i) The TVN 50 shall function as a standalone unit. It shall not require the use of a personal computer, special monitors, or other peripheral devices for either programming or operation. Live and recorded playback of video images shall display on conventional CCTV monitors or LCD monitor.
 - ii) The TVN 50 shall be capable of displaying onscreen text and menus in more than one language. This shall be user selectable via the menu system.
 - iii) The TVN 50 shall have robust buttons integrated into the front panel of the unit, used for menu navigation, setup, and control of the unit, with no need for an external control device.
 - iv) The TVN 50 shall have robust and illuminated buttons integrated into the front panel of the unit for each camera, display, sequence, monitor A, monitor B, live, playback, pause, alarm, and a multi function navigation.
 - (1) Camera buttons shall show the camera status, green for fully operational, red in case of Video Loss or occurring Alarm.
 - (2) An alarm button shall be lit if an alarm occurs.
 - (3) An alarm indication bar shall visualize an alarm, additionally the causing criterion shall be shown by alarm indication lights for
 - (a) Power
 - (b) Alarm
 - (c) Network
 - (d) HDD
 - (e) Ready
 - (f) Archive

- (4) Alarms shall be acknowledgeable by an alarm button, but shall be raised again after a certain time if the root cause has not been fixed.
- v) The comprehensive search function shall be activated by using the search button,
- vi) The TVN 50 shall support one button quick archive, auto detecting the storage media inserted and the maximal storage capacity.
- vii) TVN 50 shall have a USB port at the front panel supporting a mouse or memory sticks for archiving video and audio files for evidence.
- viii) TVN 50 shall provide external keyboard support, all DVR and PTZ control functions shall be supported.
- ix) The TVN 50 shall use an easy-to-read, onscreen menu system of icons and pop-up selections.
- x) The TVN 50 shall use a battery to back up memory that stores the time, date, and all internal programming functions.
- xi) The TVN 50 shall have log view screens to show the entire system status at a glance.
- xii) The TVN 50 shall support Auto Install to do the following:
 - (1) Automatically detect loss of video sync, with onscreen indicators. If video loss is detected during recording the TVN 50 will warn by onscreen, send message to remote, buzzer will sound and a relay will be switched.
 - (2) Automatically control gain per camera, which shall be adjustable by the user
- xiii) The TVN 50 shall prevent unauthorized program tampering through the use of at least sixteen users and passwords, with settings including:
 - (1) Local user privileges
 - (2) Remote user privileges
 - (3) Local play privileges
 - (4) Remote play privileges
 - (5) Remote view privileges
- xiv) The TVN 50 shall be two units of rack space in height (2U) and capable of being rack mounted (EIA 19-inch standard), with rack mount hardware that was designed by the manufacturer to support the units.
- xv) The TVN 50 shall be provided with a build in power supply to prevent susceptibility to power spikes, surges, harmonics, and other common electrical disturbance phenomena associated with the installation environment.
- xvi) The TVN 50 shall support Digital Zoom in a user defined area.
- xvii) eSATA port shall be configurable either as a Storage Expansion Port or for external video archiving on eSATA media
- xviii) The video player shall be zero footprint player and exported with the video as evidence player
- xix) A Windows Media Player filter shall be available in order to allow the playback of evidence video using default Windows Player
- xx) TVN 50 shall support an easy to use Internet Explorer based Web Browser. The supported features shall be:
 - (1) Camera live view with up to 16 cameras simultaneously
 - (a) Capability to switch between Main stream and Substream per camera individual and all cameras at once
 - (2) PTZ functionality with Preset call up
 - (3) Playback of recorded video
 - (4) Archiving of recorded video
 - (5) Comprehensive remote configuration
- d) The digital recorder shall have the following operational features:
 - i) Recording
 - (1) The TVN 50 shall record video on a hard disk drive. No videotape or videotape recorders shall be required.
 - (a) The TVN 50 shall support both internal and external hard disk configurations.

- (b) Internal storage configurations shall be 2TB, 4TB, 8TB, 12TB and 16TB.
- (c) The utilized Hard Drives shall support latest SATA technology including SMART reporting
- (2) The utilized Hard Drives shall be especially developed for the Digital Video Archiving Industry
- (3) The TVN 50 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:
 - (a) Constant
 - (b) TimeLapse
 - (c) Event
 - (d) Alarm
- (4) At a minimum, the TVN 50 shall support the following stored video frame rates per camera:
 - (a) real-time (NTSC/PAL)
 - (b) 22 fps
 - (c) 20 fps
 - (d) 18 fps
 - (e) 16 fps
 - (f) 15 fps
 - (g) 12 fps
 - (h) 10 fps
 - (i) 8 fps
 - (j) 6 fps
 - (k) 5 fps
 - (l) 4 fps
 - (m) 3 fps
 - (n) 2 fps
 - (o) 1 fps
- (5) The TVN 50 shall support an alarm record mode that is user programmable. At a minimum, the TVN 50 shall support the following alarm mode stored video frame rates:
 - (a) real-time (NTSC/PAL)
 - (b) 22 fps
 - (c) 20 fps
 - (d) 18 fps
 - (e) 16 fps
 - (f) 15 fps
 - (g) 12 fps
 - (h) 10 fps
 - (i) 8 fps
 - (j) 6 fps
 - (k) 5 fps
 - (l) 4 fps
 - (m) 3 fps
 - (n) 2 fps
 - (o) 1 fps
- (6) The TVN 50 shall allow the user to select whether the hard disk 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 disk is filled.

- (7) The TVN 50 shall have image quality settings, that are adjustable on a per camera basis by the end user, including the following:
 - (a) QCIF, CIF, 2CIF, 4CIF, VGA, SVGA, 720P, 900P, XVGA (960P), UXGA, 1080P, 2048x1536 and 2560x1920
 Streaming bandwidth: by User (32-8192Kb), 2Mb, 1.75Mb, 1.5Mb, 1.25Mb, 1Mb, 896Kb, 768Kb, 640Kb, 512Kb, 448Kb, 384Kb, 320Kb, 256Kb, 224Kb, 192Kb, 160Kb, 128Kb, 96Kb, 80Kb and 64Kb.
 - (8) The TVN 50 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 TVN 50 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.
 - (9) The TVN 50 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 TVN 50 shall continue to record at the event rate until the programmed event duration (from 5 seconds to 10 minutes) expires.
 - (10) The TVN 50 shall allow the user to manually or automatically customize the record rates per camera for events and motion detection.
 - (11) The user shall be able to play back images smoothly at normal or fast speeds and in forward modes, without distortion.
 - (12) 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.
 - (13) The TVN 50 shall support the recording of all images with a digital watermark. The verification of watermarked images shall reside solely with the manufacturer.
- ii) Dual Streaming
 - (1) The TVN 50 shall allow the installer to setup a Substream for streaming Video and Audio over Network without affecting the record rate, quality and resolution of recorded video.
 - iii) Archiving
 - (1) The TVN 50 shall support archiving of recorded images through USB memory stick.
 - (2) The TVN 50 shall support archiving of recorded images through eSATA to an external eSATA-HDD.
 - (3) The TVN 50 shall support archiving of recorded video and audio data through eSATA to an external eSATA -HDD
 - (4) The TVN 50 shall have an option to select the type of archiving device connected, when interfaced to the devices specified or approved equals.
 - (5) The TVN 50 shall support selective archiving.
 - (6) The TVN 50 shall have an on-screen progress indicator when selective archiving or restoration operations are accessing the archive device.
 - (7) The TVN 50 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 60 days.
 - iv) Multiscreen
 - (1) The TVN 50 shall be a triplex type unit, allowing simultaneous recording, playback, and live Multiscreen viewing at the unit, with no need for additional hardware.
 - (2) The TVN 50 shall provide the following displays in live mode: full screen, sequencing, 4-way, 6-way, 8-way, 9-way, or 16-way.
 - (3) The TVN 50 shall provide the following Triplex displays in playback mode: full screen, 2-way, 4-way, 9-way, or 16-way and switching between cameras.
 - (4) The TVN 50 shall allow the user to rearrange cameras in any Multiscreen display in live mode.
 - (5) The TVN 50 shall incorporate the following display options:
 - (a) Camera titling with a minimum of up to 16 alphanumeric characters

- (b) Title display enable/disable, per channel
- (c) Time/date formatting
- (d) Time/date enable/disable, per channel
- (6) The TVN 50 shall provide image update rates for live and record modes of up to 30fps for NTSC or up to 25 fps for PAL per channel
 - (a) The TVN 50 shall have three monitor outputs as follows:
 - (i) One analog Multiscreen monitor-A output
 - 1. Composite video, BNC connector
 - 2. NTSC/EIA or PAL/CCIR compatible
 - 3. Shall display live, playback, and programming functions
 - (ii) One digital Multiscreen monitor-B output
 - 1. HDMI connector
 - 2. Shall be able to display all cameras live or in sequence mode
 - (iii) One analog Multiscreen monitor-C output
 - 1. VGA connector
 - 2. Shall display live, playback, and programming functions
- v) Video motion detection
 - (a) The TVN 50 shall support the following video motion detection, with onscreen indications when motion is occurring:
 - (b) Motion detection, which shall be treated as an alarm.
 - (i) The TVN 50 shall support an onscreen setup scale to determine the optimum sensitivity setting for each camera input.
 - (ii) The TVN 50 shall have 396 zones per camera, arranged in a 22 by 18 grid.
 - (iii) The TVN 50 shall have 7 levels of sensitivity.
 - (iv) The TVN 50 shall have 255 levels for size discrimination.
- vi) Masking / Privacy Zones
 - (1) The TVN 50 shall support video masking
 - (2) The TVN 50 shall be able to have 4 mask areas per camera
- vii) Tampering
 - (1) The TVN 50 shall support video tampering
 - (2) The TVN 50 shall have 3 levels of sensitivity
- viii) Alarms
 - (1) The TVN 50 shall support up to 16 alarm inputs, programmable as normally open or normally closed from within the menus.
 - (2) The TVN 50 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.
 - (3) The TVN 50 shall have a fully programmable additional audible device to alert the user to alarms, motion detection, and video loss occurrences or operation failure.
 - (4) The TVN 50 shall support alarm latching with two settings, which shall be manually set or programmable from the menus as follows:
 - (a) Manual acknowledge - When an alarm is activated, the TVR41 shall be manually acknowledged to reset the COS back to normal condition.
 - (b) Timed out – the alarm shall automatically reset after a user-defined elapsed time.
 - (5) The TVN 50 shall have automatic full screen associated alarm display that shall change as incoming alarms continue to arrive. As additional alarms arrive, the display monitor shall sequence between the cameras in alarm. It shall be possible, using the telemetry preset control described elsewhere in this specification, to utilize presets with associated alarm display to show the alarmed scene and surrounding escape paths during a high level alarm condition.

- (6) The TVN 50 shall provide status relays that shall link to alarms, motion detection, and video loss.
- (7) The TVN 50 shall have an alarm history display capable of showing the last 100 alarms received by the system.
- (8) The TVN 50 shall be supplied with push-in wire terminal connections to facilitate easy connection of alarms and other input/output signals.
- (9) The TVN 50 shall support notification on alarm to user accounts. The TVN 50 shall allow the user to program notification in response to any of the following conditions:
 - (a) Hard disk full
 - (b) NTSC/PAL mismatch
 - (c) Illegal Access
 - (d) IP Address conflict
 - (e) Network issues
 - (f) Network access
 - (g) Hard disk error
- ix) RS-232 communications
 - (1) The TVN 50 shall support RS-232 communications and control to facilitate:
 - (a) Remote control of system operation, setup, and system programming operations
 - (b) Text insertion shall be supported as follows:
 - (i) The TVN 50 shall accept 42 characters line
 - (ii) Each message shall be associated with a single camera.
 - (iii) Four types of event text messages shall be supported:
 - 1. Start of event (event mode is started and optional text string is stored with first event field)
 - 2. End of event (event mode is stopped and optional text string is stored with next event field)
 - 3. Event snapshot (at least one field from the event camera is recorded with an optional text string)
 - 4. No change (text is added to next field of the selected camera without changing the camera's record rate)
 - (iv) Text messages shall be discarded if the TVN 50 is not in record mode.
 - (v) In full screen playback on the TVN 50, the text will be displayed on the field it was recorded with. Only the first 42 characters shall be displayed in a single line.
- x) Ethernet communications
 - (1) The TVN 50 shall support LAN/WAN Ethernet access.
 - (2) The TVN 50 shall support Ethernet bandwidths of 10 Mbps or 100 Mbps or 1000 Mbps.
 - (3) The TVN 50 shall support simultaneous Ethernet access by not less than 16 workstations connected to the LAN/WAN.
 - (4) The TVN 50 shall be provided with a Graphical User Interface (GUI) software for remote playback and viewing that shall support the Windows XP and Vista operating systems and full searching capabilities. It shall be possible to remotely set up the TVN 50 unit using the remote viewing software.
 - (5) The TVN 50 shall not stop recording during any Ethernet access.
 - (6) The TVN 50 shall allow the user full programming of Ethernet parameters, including the following:
 - (a) Ethernet (enable/disable)
 - (b) Hostname
 - (c) DHCP (enable/disable)
 - (d) DDNS
 - (e) IP address
 - (f) Default gateway

- (g) Sub-net mask
 - (h) HTTP port
 - (i) Main Port
- xi) The system shall be upgraded through flash programming upgrades of software, using either an USB drive or TCP/IP.
- e) The TVN 50 shall have the following additional specifications:
 - i) Video
 - (1) Total available video memory shall be at least 1 GB.
 - (a) Live/playback display memory shall be at least 128 MB.
 - (b) Record memory shall be at least 72 MB.
 - (2) Video sampling rate shall be at least 27 MHz.
 - (3) Available colors shall be to specification YUV 4:2:2, providing up to 65K colors.
 - (4) There shall be 256 grayscale levels.
 - (5) Horizontal resolution shall be 704 pixels.
 - (6) Vertical resolution shall be:
 - (a) 480 active lines NTSC/EIA
 - (b) 576 active lines PAL/CCIR
 - (7) Inputs
 - (a) Camera
 - (i) There shall be 32 camera inputs.
 - (ii) Inputs shall use Ethernet.
 - (iii) Inputs shall be NTSC/EIA or PAL/CCIR compatible.
 - ii) Audio
 - (1) There shall be per camera one associated and synchronized audio input
 - (2) 1 bidirectional audio line input
 - (3) The line audio input shall use RCA connectors
 - (a) Signal conditioning
 - (i) All inputs shall have automatic gain control.
 - iii) Outputs
 - (1) The TVN 50 shall have three monitor outputs as follows:
 - (a) One analog Multiscreen monitor-A output
 - (i) Composite video, BNC connector
 - (ii) NTSC/EIA or PAL/CCIR compatible
 - (iii) Shall display live, playback, and programming functions
 - (b) One digital HDMI Multiscreen monitor-B output
 - (i) HDMI connector
 - (ii) Shall display live, playback, and programming functions
 - (c) One analog VGA Multiscreen monitor-C output
 - (i) VGA connector
 - (ii) Shall be able to display all cameras live or in sequence mode
 - iv) The TVN 50 shall have a RS-232 serial data ports to support the following functionality:
 - (1) Remote communications
 - (2) Transaction Text insertion
 - v) The TVN 50 shall have 3 USB ports for:
 - (1) USB memory key archiving devices
 - (2) USB HDD archiving devices
 - (3) Mouse control functions
 - vi) eSATA

- (1) The TVN 50 shall have an eSATA port for eSATA HDD archiving devices
- vii) The TVN 50 shall have a removable strip for input/output connector to support the following functionality:
 - (1) Alarm inputs
 - (2) Relay outputs
- viii) Remote control
 - (1) The TVN 50 shall have an IR-remote that will emulate the front panel keys
- ix) Mouse: The TVN 50 shall provide Mouse control support for
 - (1) all menu settings and navigation functions
 - (2) control functions live, playback, PTZ and archive
- x) Electrical
 - (1) Input voltage: 100 to 240 VAC, 50 to 60 Hz
 - (2) Power: 45W maximum without hard drive
- xi) Environmental
 - (1) Operating temperature range -10 to +55°C (14°F ~131°F), Relative humidity 10% to 90%
 - (2) Relative humidity: 10% to 90% non-condensing
- xii) Mechanical
 - (1) Dimensions shall be 445 x 470 x 90 mm, 19-inch (2U) EIA rack mounting.
 - (2) Weight shall be 8 kg maximum without hard drive.
- xiii) Compliance
 - (1) FCC
 - (2) CE
 - (3) UL

Contacting support

For help installing, operating, maintaining, and troubleshooting this product, refer to this document and any other documentation provided. If you still have questions, contact us during business hours (Monday through Friday, excluding holidays).

Note: Please be ready at the equipment before calling.

Table 1: Technical support

North America	
T	+1 855.286.8889
E	techsupport@interlogix.com
W	www.interlogix.com/customer-support
Europe, Middle East, and Africa	
W	Select <i>Contact Us</i> at www.utcssecurityproducts.eu
Australia	
E	security.tech.support@interlogix.com.au