

TruVision DVR 44HD A&E Specifications

A. Digital Video HD Hybrid Streaming Recorder

1. The Digital Video HD Hybrid Streaming Recorder with Ethernet connectivity shall be as manufactured by Interlogix or an approved equal. The TVR 44HD 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 real time recording multiple cameras, and storing their digitized and compressed images on internal hard disk drives for fast search and retrieval either locally at the unit, or from a remote workstation using a Graphical User Interface (GUI). The TVR 44HD shall be able to record any combination of standard analog cameras and HD-TVI camera from the BNC connectors on the rear of the recorder. The TVR 44HD shall use the HD-TVI standard to record 720p or 1080p TVI high definition cameras. The TVR44HD shall be able to trade off one for one of the analog channels for IP channels.
2. 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.
3. The TVR 44HD shall include, but not be limited to the following:
 - a. The TVR 44HD shall be able to record and playback IP cameras up to the total number of analog channels.
 - b. The TVR44HD shall be able to record and playback standard analog, HD-TVI or IP cameras or any combination of IP cameras.
 - c. The TVR44HD shall support 1080p and 720p resolutions HD- TVI coax cameras.
 - d. The TVR 44HD 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 VGA, HDMI or analog monitors.
 - e. The TVR 44HD shall be capable of displaying onscreen text and menus in more than one language. This shall be user selectable via the menu system.
 - f. The TVR 44HD 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.
 - g. The TVR 44HD shall have robust buttons integrated into the front panel of the unit for each camera, display, sequence, live, playback, archive, pause, alarm, and a multifunction navigation.
 - i) An alarm indication light shall visualize an alarm, additionally the causing criterion shall be shown by alarm indication lights for:
 - a) HDD
 - b) Network

- c) Internal
 - d) Alarm
- ii) 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.
- h. The comprehensive search function shall be activated by using the search button.
- i. The TVR 44HD shall support one-button quick archive, auto detecting the storage media inserted and the maximal storage capacity.
- j. The TVR 44HD shall have two USB ports at the front panel and one in the rear supporting a mouse or memory sticks for archiving video and audio files for evidence.
- k. The TVR 44HD shall provide external PTZ keyboard support. All DVR and PTZ control functions shall be supported.
- l. The TVR 44HD shall use an easy-to-read, onscreen menu system of icons and pop-up selections.
- m. The TVR 44HD shall use a battery to back up memory that stores the time, date, and all internal programming functions.
- n. The TVR 44HD shall have log view screens to show the entire system status at a glance.
- o. The TVR 44HD shall support Auto Install to do the following:
 - i) Automatically detect loss of video sync, with onscreen indicators. If video loss is detected during recording the TVR 44HD will warn by onscreen, send message to remote, buzzer will sound and a relay can be switched.
- p. The TVR 44HD shall prevent unauthorized program tampering through the use of at least sixteen users and passwords, with settings including:
 - i) Local user priveleges
 - ii) Remote user priveleges
 - iii) Local play priveleges
 - iv) Remote play priveleges
 - v) Remote view priveleges
- q. The TVR 44HD shall be one and a half units of rack space in height (1.5U) and capable of being rack mounted (EIA 19-inch standard), with rack-mount hardware that was designed by the manufacturer to support the units.
- r. The TVR 44HD shall support Digital Zoom in a user defined area.
- s. The video player shall be zero footprint player and exported with the video as evidence player.
- t. A Windows Media Player filter shall be available in order to allow the playback of evidence video using default Windows Player.
- u. TVR 44HD shall support an easy to use Internet Explorer based Web Browser. The supported features shall be:
 - i) Camera live view with up to 16 cameras simultaneously
 - a) Capability to switch between Main stream and Substream per individual camera and all cameras at once
 - ii) PTZ functionality with Preset call up.
 - iii) Playback of recorded video
 - iv) Archiving of recorded video
 - v) Comprehensive remote configuration

4. The digital recorder shall have the following operational features:
 - a. Recording
 - i) The TVR 44HD shall record video on a hard disk drive. No videotape or videotape recorders shall be required.
 - a) The TVR 44HD 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 the latest SATA technology including SMART reporting
 - ii) The utilized hard drives shall be specially developed for the Digital Video Archiving Industry
 - iii) The TVR 44HD shall support user programmable stored video frame rates that can be programmed on a per-camera basis. All cameras shall be programmable to record videos in one of the following operating modes:
 - a) Constant
 - b) Time Lapse
 - c) Manual
 - d) Motion
 - e) Event
 - f) Alarm
 - iv) At a minimum, the TVR 44HD shall support the following stored video frame rates per camera:
 - a) Real-time (30 fps NTSC / 25 fps PAL)
 - b) 22 fps
 - c) 20 fps
 - d) 18 fps
 - e) 16 fps
 - f) 15 fps
 - g) 12 fps
 - h) 8 fps
 - i) 6 fps
 - j) 4 fps
 - k) 2 fps
 - l) 1 fps
 - m) ½ fps
 - n) ¼ fps
 - o) 1/8 fps
 - p) 1/16 fps
 - v) The TVR 44HD shall support an alarm record mode that is user programmable. At a minimum, the TVR 44HD shall support the following alarm mode stored video frame rates:
 - a) Real-time (30 fps NTSC / 25 fps PAL)
 - b) 22 fps

- c) 20 fps
 - d) 18 fps
 - e) 16 fps
 - f) 15 fps
 - g) 12 fps
 - h) 8 fps
 - i) 6 fps
 - j) 4 fps
 - k) 2 fps
 - l) 1 fps
 - m) ½ fps
 - n) ¼ fps
 - o) 1/8 fps
 - p) 1/16 fps
- vi) The TVR 44HD 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.
- vii) The TVR 44HD shall have image quality settings that are adjustable on a per camera basis by the end user, including the following:
- a) 1080p
 - 1) Streaming
bandwidth:4096,3072,2048,1792,1536,1280,1024,896,768,640,512,448,384,320,256,224,192,160,128,96,80,64,48,32 and by User
 - b) 720p
 - 1) Streaming
bandwidth:4096,3072,2048,1792,1536,1280,1024,896,768,640,512,448,384,320,256,224,192,160,128,96,80,64,48,32 and by the User
 - c) 960 H
 - 1) Streaming
bandwidth:4096,3072,2048,1792,1536,1280,1024,896,768,640,512,448,384,320,256,224,192,160,128,96,80,64,48,32 and by the User
 - d) 4CIF
 - 1) Streaming
bandwidth:4096,3072,2048,1792,1536,1280,1024,896,768,640,512,448,384,320,256,224,192,160,128,96,80,64,48,32 and by the User
 - e) 2CIF
 - 1) Streaming
bandwidth:4096,3072,2048,1792,1536,1280,1024,896,768,640,512,448,384,320,256,224,192,160,128,96,80,64,48,32 and by the User
 - f) CIF
 - 1) Streaming
bandwidth:4096,3072,2048,1792,1536,1280,1024,896,768,640,512,448,384,320,256,224,192,160,128,96,80,64,48,32 and by the User

- g) QCIF
 - 1) Streaming
bandwidth:4096,3072,2048,1792,1536,1280,1024,896,768,640,512,448,384,320,256,224,192,160,128,96,80,64,48,32 and by the User
 - viii) The TVR 44HD 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 TVR 44HD 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.
 - ix) The TVR 44HD 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 TVR 44HD shall continue to record at the event rate until the programmed event duration (from 5 seconds to 10 minutes) expires.
 - x) The TVR 44HD shall allow the user to manually or automatically customize the record rates per camera for events and activity detection.
 - xi) The user shall be able to play back images smoothly at normal or fast speeds and in forward modes, without distortion.
 - xii) 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.
 - xiii) The unit shall use H.264 technology to compress and store pictures prior to recording.
 - xiv) The TVR 44HD shall support the recording of all images with a digital watermark. The verification of watermarked images can be verified by the TruVision proprietary player.
- b. Dual Streaming and V-stream
- i) The TVR 44HD shall allow the installer to setup a substream for streaming live Video and Audio over the network without affecting the record rate, quality and resolution of recorded video. The TVR 44HD shall allow up to four substreams to be recorded.
 - ii) The TVR 44HD shall allow the installer to setup a V-stream that allows the Web browser or remote client to view several channels (up to 16) in one stream thereby saving network bandwidth.
- c. Archiving
- i) The TVR 44HD shall support archiving of recorded images through USB memory stick.
 - ii) The TVR 44HD shall support archiving of recorded video and audio data through an optional external USB connected CD/DVD burner
 - iii) The TVR 44HD shall support the archiving of recorded images through an eSATA port located on the rear panel of the unit.
 - iv) The TVR 44HD shall have an option to select the type of archiving device connected when interfaced to the devices specified or approved equals.
 - v) The TVR 44HD shall support selective archiving.
 - vi) The TVR 44HD shall have an on-screen progress indicator when selective archiving or restoration operations are accessing the archive device.
 - vii) The TVR 44HD 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.

- d. Multiview
 - i) The TVR 44HD shall be a triplex type unit, allowing simultaneous recording, playback, and live multiview viewing at the unit, with no need for additional hardware.
 - ii) The TVR 44HD shall provide the following displays in live mode: full screen, sequencing, 4-way, 6-way, 8-way, 9-way, or 16-way.
 - iii) The TVR 44HD shall provide the following Triplex displays in playback mode: full screen, 2-way, 4-way, 9-way, or 16-way and switching between cameras.
 - iv) The TVR 44HD shall allow the user to rearrange cameras in any multiview display in live mode.
 - v) The TVR 44HD 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.
 - vi) The TVR 44HD shall provide image update rates for live and record modes of up to 30 unique pictures per second for NTSC or up to 25 unique pictures per second for PAL. per channel
 - a) The TVR 44HD shall have three monitor outputs as follows:
 - 1) One analog Multiscreen monitor
 - A) Composite video, BNC connector
 - B) NTSC/EIA or PAL/CCIR compatible
 - C) Shall display live, playback, and programming functions
 - 2) One digital Multiscreen monitor output
 - A) HDMI connector
 - B) Shall be able to display all cameras live or in sequence mode
 - 3) One VGA multiscreen monitor output
 - A) VGA connector
 - B) Shall be able to display all cameras live or in sequence mode
- e. Video motion detection
 - i) The TVR 44HD shall support the following video motion detection, with on-screen indications when motion is occurring.
 - ii) Activity detection, which shall be treated as an alarm.
 - a) The TVR 44HD shall support an on-screen setup scale to determine the optimum sensitivity setting for each camera input.
 - b) The TVR 44HD shall have 396 zones per camera, arranged in a 22 by 18 grid.
 - c) The TVR 44HD shall have 7 levels of sensitivity.
 - d) The TVR 44HD shall have 255 levels for size discrimination.
- f. Masking / Privacy Zones
 - i) The TVR 44HD shall support video masking.
 - ii) The TVR 44HD shall have 396 zones per camera, arranged in a 22 by 18 grid.
 - iii) The TVR 44HD shall have 4 mask areas per camera.

- g. Tampering
 - i) The TVR 44HD shall support the following video tampering.
 - a) The TVR 44HD shall have 3 levels of sensitivity.
 - b) The TVR 44HD shall have 396 zones per camera, arranged in a 22 by 18 grid.
- h. VCA (video content analysis)
 - a. The TVR44HD shall support the following VCA alarm on maximum of 2 analog channels
 - i. Line Crossing Detection
 - ii. Intrusion Detection
- i. Alarms
 - i) The TVR 44HD shall support up to 16 alarm inputs, programmable as normally open or normally closed from within the menus.
 - ii) The TVR 44HD shall support one form-C relays as alarm outputs, each programmable as normally open or normally closed from within the menus, 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.
 - iii) The TVR 44HD shall have a fully programmable additional audible device to alert the user to alarms, motion detection, and video loss occurrences or operation failure.
 - iv) The TVR 44HD shall support alarm latching with two settings, which shall be programmable from the menus as follows:
 - a) Manual acknowledge - When an alarm is activated, the TVR44HD 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.
 - v) The TVR 44HD 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.
 - vi) The TVR 44HD shall provide status relays that shall link to alarms, motion detection, and video loss.
 - vii) The TVR 44HD shall have an alarm history display capable of showing the last 100 alarms received by the system.
 - viii) The TVR 44HD shall be supplied with push-in wire terminal connections to facilitate easy connection of alarms and other input/output signals.
 - ix) The TVR 44HD shall support notification on alarm to user accounts. The TVR 44HD 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 disconnected
 - f) Abnormal video signal
 - g) Hard disk error
 - h) Abnormal record

- j. RS-485 communications and networking
 - i) The TVR 44HD shall provide a RS-485 bus and shall support RS-485 networking and control to facilitate operation of the following:
 - a) Remote control of system operation, setup, uploading and downloading, and system programming operations
 - b) Motorized PTZ control with selectable protocols per camera
 - c) Programmable presets on alarm
 - d) Up to 16 PTZ camera receivers
 - e) System integration
- k. RS-232 communications
 - i) The TVR 44HD 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:
 - 1) The TVR 44HD shall accept 10 characters or 20 digits per line
 - 2) Each message shall be associated with a single camera.
 - 3) Four types of event text messages shall be supported:
 - A) Start of event (event mode is started and optional text string is stored with first event field).
 - B) End of event (event mode is stopped and optional text string is stored with next event field).
 - C) Event snapshot (at least one field from the event camera is recorded with an optional text string).
 - D) No change (text is added to next field of the selected camera without changing the camera's record rate).
 - 4) Text messages shall be discarded if the TVR 44HD is not in record mode.
 - 5) In full screen playback on the TVR 44HD, the text will be displayed on the field it was recorded with. Only the first 10 characters shall be displayed in a single line.
 - 6) The color of the text is programmable on the live view page. Text shall not be updated more than once per second.
- l. Ethernet communications
 - i) The TVR 44HD shall support LAN/WAN Ethernet access.
 - ii) The TVR 44HD shall support Ethernet bandwidths of 10 Mbps or 100 Mbps 1 Gbps on 8 and 16 channel models.
 - iii) The TVR 44HD shall support simultaneous Ethernet access by not less than 16 workstations connected to the LAN/WAN.
 - iv) The TVR 44HD shall support in real time viewing graphically the incoming and outgoing network traffic from the OSD.
 - v) The TVR 44HD shall be provided with a Graphical User Interface (GUI) software for remote playback and viewing that shall support the Windows XP ,Vista, Windows 7 and Windows 8 operating systems and full searching capabilities. It shall be possible to remotely set up the TVR 44HD unit using the remote viewing software.
 - vi) The TVR 44HD shall not stop recording during any Ethernet access, nor shall it be possible to remotely issue a command via Ethernet to stop the recording.

- vii) The TVR 44HD shall allow the user to disable all Ethernet access from the menus by limiting the Total Net Bandwidth which functions as throttle.
 - viii) The TVR 44HD shall allow the admin user to enable or disable Telnet access.
 - ix) The TVR 44HD shall allow the user full programming of Ethernet parameters, including the following:
 - a) Ethernet (enable/disable)
 - b) Host name
 - c) DHCP (enable/disable)
 - d) DDNS
 - e) IP address
 - f) Default gateway
 - g) Subnet mask
 - h) Name server
 - i) HTTP port
 - j) Main port
 - k) UPnP
 - m. The system shall be upgraded through flash programming upgrades of software, using either an USB drive or TCP/IP.
5. The TVR 44HD shall have the following additional specifications:
- a. Video
 - i) 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 80 MB.
 - ii) Video sampling rate shall be at least 27 MHz.
 - iii) Available colors shall be to specification YUV 4:2:2, providing up to 65k colors.
 - iv) There shall be 256 grayscale levels.
 - v) Horizontal resolution shall be 1920 pixels.
 - vi) Vertical resolution shall be 1080 pixels
 - vii) Inputs
 - a) Camera
 - 1) There shall be 16 camera inputs.
 - 2) Inputs shall use BNC connectors.
 - 3) Inputs shall be HD-TVI, NTSC/EIA or PAL/CCIR compatible.
 - b. Audio
 - i) There shall be per camera one associated and synchronized audio input.
 - ii) 1 bidirectional audio line output
 - iii) The audio inputs shall use RCA connectors.
 - a) Signal conditioning
 - 1) All inputs shall have automatic gain control.

- c. Outputs
 - i) The TVR 44HD shall have three monitor outputs as follows:
 - a) One analog multiview monitor
 - 1) Composite video, BNC connector
 - 2) NTSC/EIA or PAL/CCIR compatible
 - 3) Shall display live, playback
 - b) One digital HDMI multiview monitor output
 - 1) HDMI connector
 - 2) Shall display live, playback, and programming functions
 - c) One analog VGA multiview monitor output
 - 1) VGA connector
 - 2) Shall display live, playback, and programming functions
 - d. The TVR 44HD shall have a RS-232 serial data ports to support the following functionality:
 - i) Remote communications
 - ii) Transaction Text insertion
 - e. The TVR 44HD shall have three USB ports for:
 - i) USB memory key archiving devices
 - ii) USB HDD or CD/DVD archiving devices.
 - iii) Mouse control functions.
 - f. The TVR 44HD shall have a removable strip for input/output connector to support the following functionality:
 - i) Alarm inputs
 - ii) Relay outputs
 - g. Remote control
 - i) The TVR 44HD shall have an IR-remote that will emulate the front panel keys
 - h. Mouse: The TVR 44HD shall provide mouse control support for:
 - i) All menu settings and navigation functions
 - ii) Control functions live, playback, PTZ and archive
 - i. Electrical
 - i) Input voltage: AC 100 V to 240 V
 - ii) Power: 40 W maximum
 - j. Environmental
 - i) Operating temperature range -10 to +55 °C
 - ii) Relative humidity: 10% to 90% non-condensing
 - k. Mechanical
 - i) Dimensions shall be 17.4 x 14.61 x 2.91 in (442 x 371 x 74mm), 19-inch (1.5U) EIA rack mounting.
 - ii) Weight shall be <17.6 lb. (8 kg)
6. The digital recorder shall conform to these internationally recognized compliance standards:
- a. FCC

- b. CE
- c. UL

Contacting Support

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Web site:

www.interlogix.com/customer-support

EMEA:

See specific country listings at:

www.utcssecurityproducts.eu/support