1080p H.265 HDCVI Penta-brid DVR
32-Channel H.265 2U HDCVI Digital Video Recorder

**System Overview**

The X58A Series HDCVI DVR offers 1080p recording on each HDCVI channel and a host of advanced features and functions. The X58A takes advantage of HDCVI technology for easy integration into existing video surveillance systems while leveraging existing networks, cabling, and cameras. Penta-brid access technology seamlessly records video from HDCVI, AHD, TVI, CVBS, and IP sources simultaneously.

The X58A utilizes the Smart H.265+ Codec to significantly improve encoding efficiency and to reduce bandwidth and storage costs. This recorder is the ideal solution for actively monitoring and recording video feeds in a wide range of applications including public venues, retail stores, transportation hubs and access ways, personal property and homes, and educational institutions.

**Camera Connections**

Record and monitor video from analog/HDCVI camera inputs and IP camera inputs simultaneously. The X58A series supports a maximum of 32 channels, with up to 32 channels of HDCVI/AHD/TVI/CVBS/IP inputs. The flexibility of the HDCVI DVR allows all 32 channels to record input from IP cameras, or from a combination of input from analog and IP sources (not to exceed the maximum number of analog cameras allowed per recorder).

**Flexible Recording**

The HDCVI DVR offers a variety ofconfigurable recording options and schedule that saves HDD space and active monitoring time. The recorder monitors incoming video and can be programmed to record if motion is detected or if an alarm is triggered. The recorder can also be programmed to record on a schedule or at different intervals. The recording options and schedules can be set for each individual camera or copied to all cameras.

**Functions**

**Smart H.265+**

Smart H.265+ is the optimized implementation of the H.265 codec that uses a scene-adaptive encoding strategy, dynamic GOP, dynamic ROI, flexible multi-frame reference structure and intelligent noise reduction to deliver high-quality video without straining the network. Smart H.265+ technology reduces bit rate and storage requirements by up to 90% when compared to the H.264 video compression standard.

**HDCVI/AHD/TVI/CVBS Auto-detect**

The HDCVI DVR automatically recognizes the incoming signals of each attached camera without any setup, making installation easy and operation convenient.

**Intelligent Video System (IVS)**

With built-in IVS analytics on up to 16 channels, the HDCVI DVR delivers intelligent functions to monitor a scene for Tripwire violations, intrusion detection, and abandoned or missing objects. A device with IVS quickly and accurately responds to monitoring events in a specific area.

**Face Detection**

The HDCVI DVR offers Face Detection of the first analog channel. This technology detects and captures a snapshot of a human face in a defined area within a scene.

**Smart Fan Design**

The HDCVI DVR automatically turns on or turns off the fan according to the CPU temperature. This function reduces fan noise and helps to conserve electricity.

**Smart Search**

Smart Search allows an operator to specify a region in the playback video to search for a motion detection event, saving time and manpower.
## Technical Specification

### System
- **Main Processor**: Embedded Processor
- **Operating System**: Embedded LINUX

### Interface
- **Analog Camera Input**: 32 Channels, BNC
- **Preview Ability**:
  - Channels 1 and 2:
    - 5 M-N (1296 x 1944) at 20 fps or
    - 4 M-N (1280 x 1440) at 30 fps
  - Channels 3 to 32:
    - 4 M-N (1280 x 1440) at 30 fps
- **HDCVI**: 5 MP, 4 MP, 1080p at 30 fps; 720p at 60 fps
- **AHD**: 5 MP, 4 MP, 1080p at 30 fps; 720p at 30 fps
- **TVI**: 5 MP, 4 MP, 1080p at 30 fps; 720p at 30 fps
- **CVBS**: NTSC

### IP Camera Input
- 32 Channels, each channel up to 8 MP

### Audio
- **Input**: 16 Channels, BNC
- **Output**: One (1) Channel, BNC
- **Two-way Talk**: Input: One (1) Microphone, BNC
  Output: One (1) Speaker, BNC

### Recording
- **Compression**: Smart H.265+, H.265, Smart H.264+, H.264
- **Recording Resolution**: 5 M-N (1296 x 1944), 4 M-N (1280 x 1440), 1080p, 1080N, 720p, 960H, D1, CIF
- **Record Rate**:
  - **Main Stream**: Channels 1 and 2:
    - 5 M-N (1296 x 1944) at 20 fps
    - 4 M-N (1280 x 1440) at 30 fps
    - 4 M-N (1280 x 1440) at 30 fps
  - **Sub Stream**: D1 or CIF at 15 fps
- **Maximum Incoming Bandwidth**: 128 Mbps
- **Bit Rate**: 32 Kbps to 6144 Kbps per Channel
- **Record Mode**: Manual, Schedule (Regular, Continuous), MD (Video Detection: Motion Detection, Video Loss, Tampering), Alarm, Stop
- **Record Interval**: 1 to 60 minutes (default: 60 minutes), Pre-record: 1 s to 30 s, Post-record: 10 s to 300 s
- **Audio Compression**: AAC (first channel only), G.711A, G.711U, PCM
- **Audio Sample Rate**: 8 KHz, 16 bits per Channel
- **Audio Bit Rate**: 64 Kbps per Channel

### Display
- **Interface**: Two (2) HDMI
  - One (1) VGA
  - One (1) BNC
- **Native Output Resolution**:
  - HDMI 1: 3840 x 2160, 2560 x 1440, 1920 x 1080, 1280 x 1024, 1280x720
  - HDMI 2/VGA: 1920 x 1080, 1280 x 1024, 1280 x 720
- **Maximum Decoding**: 16 Channels of 4 M-N at 15 fps
  - 8 Channels of 4 M-N at 30 fps
  - 1 Channel of 6 MP at 30 fps
- **Multi-screen Display**: 1/4/8/9/16/25/36
- **On-screen Display**: Camera Title, Time, Video Loss, Camera Lock, Motion Detection, Recording

### Network
- **Interface**: Two (2) RJ45 (1000 Mbps) Port
- **Network Function**: HTTP, TCP/IP, IPv4/IPv6, UPnP, RTSP, UDP, SMTP, NTP, DHCP, DNS, IP Filter, PPPoE, DDNS, FTP, Alarm Server, P2P, IP Search (Supports Dahua IP cameras, DVRs, NVRs)
- **Maximum User Access**: 128 Users
- **Mobile Operating System**: iOS, Android
- **Interoperability**: ONVIF 16.12, CGI Conformant

### Video Detection and Alarm
- **Trigger Events**: Recording, PTZ, Tour, Video Push, Email, FTP, Snapshot, Buzzer and Screen Tips
- **Video Detection**: Motion Detection, MD Zones: 396 (22 x 18), Video Loss, Tampering and Diagnosis
- **Alarm Input**: 16 Channels
- **Relay Output**: Six (6) Channels

### Playback and Backup
- **Playback**: 1/4/9/16
- **Search Mode**: Time/Date, Alarm, MD and Exact Search (accurate to 1 second)
- **Playback Function**: Play, Pause, Stop, Rewind, Fast Play, Slow Play, Next File, Previous File, Next Camera, Previous Camera, Full Screen, Repeat, Shuffle, Backup Selection, and Digital Zoom
- **Backup Mode**: USB Device/Network

### Storage
- **Internal HDD**: Eight (8) SATA Ports, up to 10 TB capacity for each disk

### Auxiliary Interface
- **USB**: Two (2) USB 2.0 Ports and Two (2) USB 3.0 Ports
- **RS232**: One (1) Port for PC Communication and Keyboard
- **RS485**: One (1) Port for PTZ Control
- **RS422**: One (1) port for PTZ Control

### Electrical
- **Power Supply**: 100 VAC to 240 VAC, 50/60 Hz
- **Power Consumption**: < 35 W

### Construction
- **Dimensions**: 2U, 440.0 mm x 455.10 mm x 94.90 mm (17.30 in. x 17.92 in. x 3.74 in.)
- **Net Weight**: 7.0 kg (15.40 lb), without HDD
- **Gross Weight**: 9.80 kg (21.60 lb)
- **Installation**: Desktop or Rack-mount

### Environmental
- **Operating Conditions**: -10° C to +55° C (+14° F to +131° F), 10% to 90% RH
- **Storage Conditions**: -20° C to +70° C (-4° F to +158° F), 0% to 90% RH

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1. The M-N resolution refers to technology that allows a 1080p HDCVI DVR to accept a video signal from a 5 MP or a 4 MP camera by sampling every other pixel on a horizontal line from the camera. The resulting recording resolutions are: 5 M-N: 1296 x 1944; 4 M-N: 1280 x 1440.
### Ordering Information

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<tr>
<th>Type</th>
<th>Part Number</th>
<th>Description</th>
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<tbody>
<tr>
<td>Penta-brid</td>
<td>X58A5S</td>
<td>32 Analog/IP Inputs, 1080p Penta-brid, 16 Alarm Inputs, 6 Alarm Outputs, 2U HDCVI Digital Video Recorder</td>
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<td>HDCVI DVR</td>
<td>X58A5S4</td>
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### Certifications

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<th>Category</th>
<th>Standards</th>
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<td>Safety</td>
<td>UL 60950-1, EN 60950-1, IEC 60950-1</td>
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<td>Electromagnetic Compatibility (EMC)</td>
<td>FCC Part 15 Subpart B ICES 003 Issue 6, EN 55032, EN 50130, EN 61000-3-2, EN 61000-3-3</td>
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<tr>
<td>Immunity</td>
<td>EN 55024 : 2010</td>
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### Intelligence

The IVS features are operational only when the additional IP channel feature is not active. The HDCVI DVR supports only IVS or the additional IP channel inputs, both features cannot be in use simultaneously. IVS triggers an alarm and takes a defined action for the following events:

- **Premium Features**
  - Channels 1 through 16: Support Tripwire and Intrusion Detection
  - Channels 1 and 2: Additionally support Abandoned/Missing Object Detection

- **Tripwire**: A target crosses a user-defined line.
- **Intrusion**: A target enters or exits a defined perimeter.
- **Abandoned/Missing Object**: A target leaves an object in designated area, or a target removes an object from the same designated area.

### Advanced Feature

Available on Analog Channel 1 (feature not available if an IP camera is connected as Camera 1)

- **Face Detection**: Detects and captures a snapshot of a human face in a defined area within a scene.

### Dimensions (mm/in.)

<table>
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<tr>
<th>Dimension</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>440.0 mm</td>
<td>(17.30 in.)</td>
</tr>
<tr>
<td>89.0 mm</td>
<td>(3.50 in.)</td>
</tr>
<tr>
<td>455.10 mm</td>
<td>(17.92 in.)</td>
</tr>
<tr>
<td>445.0 mm</td>
<td>(17.52 in.)</td>
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### Rear Panel

```
1. Audio OUT, BNC x 1
2. Microphone IN, BNC x 1
3. Audio IN, BNC x 1
4. Alarm I/O, RS485, RS422
5. RS232 Port
6. VGA OUT
7. Power Input
8. Video OUT, BNC x 1
9. Video IN, BNC x 32
10. Network Port x 2
11. eSATA Port
12. USB 3.0 x 2
13. HDMI 1 and HDMI 2 OUT
```