

Penta-brid 1080p Mini DVR

4/8/16-Channel Penta-brid 1080p-Lite Mini 1U Digital Video Recorder



- Embedded Processor
- Smart H.264+ / H.264 Dual-stream Video Compression
- Offers 720p (real-time) and 1080p (15 fps) Resolutions
- 4, 8, or 16 HDCVI/AHD/TVI/CVBS Channels
- 4 + 2, 8 + 4, or 16 + 8 IP Channels, up to 5 MP per Channel
- Max. 24/48/96 Mbps Incoming Bandwidth
- Built-in Smart Search



System Overview

Dahua, a global leader in security systems, introduces XVR technology - the perfect affordable solution to upgrade existing video surveillance systems while leveraging existing networks, cabling, and cameras. XVR technology utilizes Penta-brid access technology to seamlessly record video from HDCVI, AHD, TVI, CVBS, and IP sources simultaneously.

The XVR offers advanced options such as built-in motion detection algorithms, alarm triggers, and customized recording modes. XVR technology is the ideal solution for actively monitoring and recording video feeds in 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/CVI camera inputs and IP camera inputs simultaneously. The X21A series supports a maximum of 24 channels, with up to 16 channels of HDCVI/AHD/TVI/CVBS inputs and up to an additional 8 channels of IP inputs. The flexibility of the XVR allows all 24 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 XVR). In addition, the XVR supports a maximum of 16 local live-view channels and 16 playback channels.

Functions

Smart H.264+

The Smart H.264+ video compression standard can reduce bit rate and storage requirements by up to 70% without having to invest in new cameras.

HDCVI/AHD/TVI/CVBS Auto-detect

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

5 MP Resolution

The XVR supports 5 MP resolution (2560 x 1920) on IP camera inputs for recording and live viewing.

Flexible Recording

The XVR offers a variety of configurable recording options and schedules that saves HDD space and active monitoring time. The XVR monitors incoming video and can be programmed to record if motion is detected or if an alarm is triggered. The XVR 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.

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

Display

Interface	One (1) HDMI One (1) VGA		
Resolution	1920 × 1080, 1280 × 1024, 1280 × 720, 1024 × 768		
Multi-screen Display	X21A1E	X21A2E	X21A3E
	1/4/6	1/4/8/9/16	1/4/8/9/16/25
On-screen Display Options	Camera Title, Time, Video Loss, Camera Lock, Motion Detection, and Recording		

Video Detection and Alarm

Trigger Events	Recording, PTZ, Tour, Alarm Out, Video Push, Email, FTP, Snapshot, Buzzer, and Screen Tips		
Video Detection	Motion Detection, MD Zones: 396 (22 × 18), Video Loss, Tampering, and Diagnosis		
Alarm Input	X21A1E	X21A2E	X21A3E
	8	8	16
Relay Output	Three (3)		

Playback and Backup

Playback	X21A1E	X21A2E	X21A3E
	1/4	1/4/9	1/4/9/16
Search Mode	Time / Date, Alarm, Motion Detection, 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	One (1) SATA Port, up to 6 TB capacity
HDD Mode	Single

Auxiliary Interface

USB	X21A1E	X21A2E	X21A3E
	Two (2) USB 2.0 Ports	One (1) USB 2.0 Port One (1) USB 3.0 Port	
RS485	One (1) Port, for PTZ Control		

Third-party Support

Third-party Support	Dahua, Arecont Vision, AXIS, Bosch, Brickcom, Canon, CP Plus, Dynacolor, Honeywell, Panasonic, Pelco, Samsung, Sanyo, Sony, Videotec, Vivotek, and others
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Audio and Video

Camera Inputs	Model	Analog Inputs	IP Inputs
	X21A1E	4	4 + 2
	X21A2E	8	8 + 4
	X21A3E	16	16 + 8
Resolution		1080p at 15 fps per channel	Up to 5 MP per channel
Audio Connections	Model	Audio IN	Audio OUT
	X21A1E	4	1
	X21A2E	8	1
	X21A3E	16	1
Two-way Talk	Reuse Audio In (channel 1) / out, RCA		

Recording

Compression	Smart H.264+ / H.264
Resolution	1080p, 720p, 960H, D1, HD1, BCIF, CIF, QCIF
Record Rate	
Main Stream	1080p at 1 to 15 fps or 1080N, 720p, 960H, D1, HD1, BCIF, CIF, QCIF at 1 to 30 fps
	Sub Stream
Bit Rate	1 Kbps to 6144 Kbps per channel
Record Mode	Manual, Schedule (Regular, Continuous), Motion Detection (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

Network

Interface	X21A1E / X21A2E	X21A3E
	One (1) RJ-45 Port (100 M)	One (1) RJ-45 Port (1000 M)
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, NVS)	
Max. User Access	128 users	
Mobile Operating System	IOS and Android	
Interoperability	ONVIF 2.4.1, CGI Conformant	

Electrical

Power Supply	DC12V, 2 A
Power Consumption	< 10 W (without HDD)

Environmental

Operating Conditions	-10° C to +55° C (+14 °F to +131 °F), 86 to 106 kpa
Storage Conditions	0° C to +50° C (+32 °F to +122 °F), 0 to 90% RH

Construction

Dimensions	Mini 1U, 325.0 mm × 255.10 mm × 55.0 mm (12.80 in. × 10.0 in. × 2.20 in.)
Net Weight	1.50 kg (3.30 lbs), without HDD
Gross Weight	2.0 kg (4.40 lbs)
Installation	Desktop installation

Certifications

Safety	Conforms to UL Standard
Electromagnetic Compatibility (EMC)	FCC Part 15 Subpart B ANSI C63.4 – 2014 ICES 003

Ordering Information

Part Number	Description
X21A1E	4 Analog/CVI Inputs, 4 + 2 IP Inputs, 0 TB 8 Alarm Inputs, 3 Alarm Outputs
X21A1E1	4 Analog/CVI Inputs, 4 + 2 IP Inputs, 1 TB 8 Alarm Inputs, 3 Alarm Outputs
X21A1E2	4 Analog/CVI Inputs, 4 + 2 IP Inputs, 2 TB 8 Alarm Inputs, 3 Alarm Outputs
X21A1E3	4 Analog/CVI Inputs, 4 + 2 IP Inputs, 3 TB 8 Alarm Inputs, 3 Alarm Outputs
X21A1E4	4 Analog/CVI Inputs, 4 + 2 IP Inputs, 4 TB 8 Alarm Inputs, 3 Alarm Outputs
X21A1E6	4 Analog/CVI Inputs, 4 + 2 IP Inputs, 6 TB 8 Alarm Inputs, 3 Alarm Outputs
X21A2E	8 Analog/CVI Inputs, 8 + 4 IP Inputs, 0 TB 8 Alarm Inputs, 3 Alarm Outputs
X21A2E1	8 Analog/CVI Inputs, 8 + 4 IP Inputs, 1 TB 8 Alarm Inputs, 3 Alarm Outputs
X21A2E2	8 Analog/CVI Inputs, 8 + 4 IP Inputs, 2 TB 8 Alarm Inputs, 3 Alarm Outputs
X21A2E3	8 Analog/CVI Inputs, 8 + 4 IP Inputs, 3 TB 8 Alarm Inputs, 3 Alarm Outputs
X21A2E4	8 Analog/CVI Inputs, 8 + 4 IP Inputs, 4 TB 8 Alarm Inputs, 3 Alarm Outputs
X21A2E6	8 Analog/CVI Inputs, 8 + 4 IP Inputs, 6 TB 8 Alarm Inputs, 3 Alarm Outputs
X21A3E	16 Analog/CVI Inputs, 16 + 8 IP Inputs, 0 TB 16 Alarm Inputs, 3 Alarm Outputs
X21A3E1	16 Analog/CVI Inputs, 16 + 8 IP Inputs, 1 TB 16 Alarm Inputs, 3 Alarm Outputs
X21A3E2	16 Analog/CVI Inputs, 16 + 8 IP Inputs, 2 TB 16 Alarm Inputs, 3 Alarm Outputs
X21A3E3	16 Analog/CVI Inputs, 16 + 8 IP Inputs, 3 TB 16 Alarm Inputs, 3 Alarm Outputs
X21A3E4	16 Analog/CVI Inputs, 16 + 8 IP Inputs, 4 TB 16 Alarm Inputs, 3 Alarm Outputs
X21A3E6	16 Analog/CVI Inputs, 16 + 8 IP Inputs, 6 TB 16 Alarm Inputs, 3 Alarm Outputs

Dimensions (mm)

