

1080p H.265 Penta-brid HDCVI DVR

4+2 Channel Mini 1U HDCVI Digital Video Recorder



- Embedded Processor
- Smart H.265+ and Smart H.264+ Dual Codec
- Dual-stream Recording
- 5 M-N (1296 x 1944) at 20 fps Maximum Recording Resolution
- Four (4) HDCVI, AHD, TVI, CVBS Channels
- 4 + 2 IP Channels, up to 6 MP per Channel
- Maximum 24 Mbps Incoming Bandwidth
- Built-in Smart Search
- Intelligent Video System
- One (1) SATA HDD Port, up to 6 TB per Hard Disk Drive
- Five-year Warranty*



System Overview

The X51B1E Series HDCVI DVR offers 1080p recording on each HDCVI channel and a host of advanced features and functions. The X51B1E 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 X51B1E 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 X51B1E series supports a maximum of six (6) channels, with up to four (4) channels of HDCVI/AHD/TVI/CVBS inputs and up to an additional two (2) channels of IP inputs. The flexibility of the HDCVI DVR allows all six (6) 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 of configurable 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.

Long Distance Transmission

HDCVI technology guarantees real-time transmission over long distances without loss of video quality. HDCVI devices provide the same resolution as most IP network camera systems using existing RG-59, RG-6, or CAT 6 UTP cabling.

Intelligent Video System (IVS)

With built-in IVS analytics on up to two (2) 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.

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	Four (4) Channels, BNC
Preview Ability ¹	Channels 1 and 2: 5 M-N at 20 fps or 4 M-N, 1080p, 720p at 30 fps Other Channels: 4 M-N, 1080p, 720p at 30 fps
HDCVI	5 MP, 4 MP, 1080p at 30 fps, 720p at 60 fps, 720p at 30 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	4 + 2
Audio	
Input	Four (4) Channels, RCA
Output	One (1) Channel, RCA
Two-way Talk	Reuse Audio In/Out, RCA

Recording

Compression	Smart H.265+, H.265, Smart H.264+, H.264
Recording Resolution ¹	5 M-N (1296 x 1944), 4 M-N (1280 x 1440), 1080p, 1080N, 720p, 960H, D1, CIF
Record Rate ¹	Main Stream <ul style="list-style-type: none"> Channel 1: 5 M-N or 4 M-N at 20 fps Channels 2 to 4 1080p at 15 fps 1080N, 720p, 960H, D1, CIF at 30 fps
	Sub Stream
Maximum Incoming Bandwidth	24 Mbps
Bit Rate	32 Kbps to 6144 Kbps per Channel
Record Mode	Manual, Schedule (General, Continuous), MD (Video Detection: Motion Detection, Video Loss, Tampering), Alarm, Intel, 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	One (1) HDMI (3840 x 2160) One (1) VGA (1920 x 1080)
Native Output Resolution	1920 x 1080, 1280 x 1024, 1280 x 720
Maximum Decoding	4 Channels of 5 M-N at 10 fps 4 Channels of 1080p at 7 fps 4 Channels of 720p at 15 fps 4 Channels of 960H at 30 fps
Multi-screen Display	
IP extension mode disabled	1/4
IP extension mode enabled	1/4/6
On-screen Display	Camera Title, Time, Video Loss, Camera Lock, Motion Detection, Recording

Network

Interface	One (1) RJ45 (100 Mbps) Port
Network Function	HTTP, HTTPS, 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)
Maximum User Access	128 Users
Mobile Operating System	IOS, Android
Interoperability	ONVIF 16.12, CGI Conformant

Video Detection and Alarm

Alarms	
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
Alarms	
Input	Eight (8) Channels
Output	Three (3) Channels

Playback and Backup

Playback	1/4
Search Mode	Time/Date, Alarm, MD, Intel, 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 Ports, up to 6 TB capacity
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Auxiliary Interface

USB	Two (2) USB 2.0 Ports
RS485	One (1) Port for PTZ Control

Electrical

Power Supply	12 VDC, 1.5 A
Power Consumption	< 10 W, without HDD

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.

Construction

Dimensions	
HDCVI DVR	Mini 1U, 325.0 mm x 255.0 mm x 55.0 mm (12.80 in. x 10.04 in. x 2.17 in.)
with PFH101 Rack Mount Tray	482.6 mm x 287.15 mm x 53.0 mm (19.0 in. x 11.31 in. x 2.09 in.)
Net Weight, without HDD	1.10 kg (2.43 lb)
Gross Weight	1.80 kg (3.97 lb)
Installation	Desktop or Rack-mount

Environmental

Operating Temperature	-10° C to +45° C (+14° F to +113° F), up to 55° C (131° F) with case fan, 10% to 90% RH
Storage Temperature	-20° C to +70° C (-4° F to +158° F), 0% to 90% RH

Certifications

Safety	UL 60950-1 CAN/CSA C22.2 No. 60950-1-07 EN 60950-1/IEC 60950-1
Electromagnetic Compatibility (EMC)	47 CFR FCC Part 15 Subpart B:2016 EN 55032:2015, EN 61000-3-2:2014, EN 61000-3-3:2013, EN 50130-4:2011 + A1:2014
Immunity	EN 55024:2010 + A1:2015

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

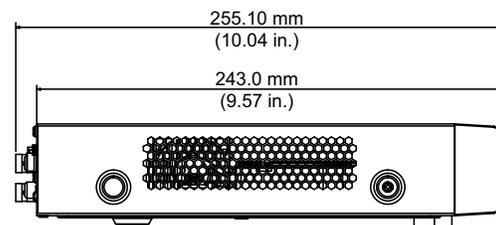
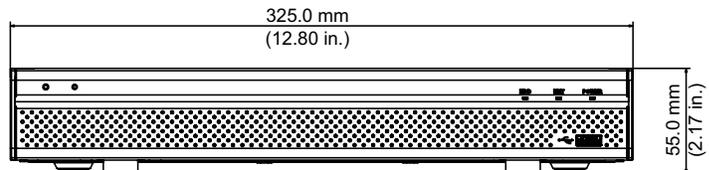
HDCVI DVR supports IVS features on only two (2) channels simultaneously. Each channel supports up to ten (10) IVS rules.

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.

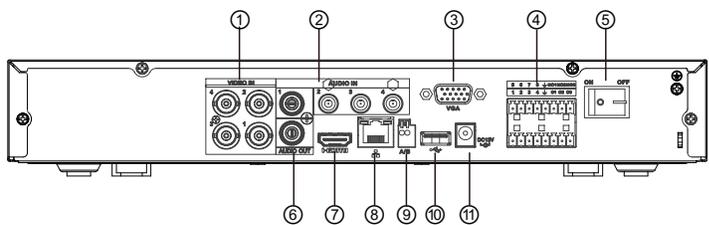
Ordering Information

Type	Part Number	Description
4-channel HDCVI DVR	X51B1E2	4 Analog/CVI Inputs, 4 + 2 IP Inputs, 2 TB HDD
	X51B1E4	4 Analog/CVI Inputs, 4 + 2 IP Inputs, 4 TB HDD
	X51B1E6	4 Analog/CVI Inputs, 4 + 2 IP Inputs, 6 TB HDD
Accessories, optional	PFH101	Rack-mount Tray

Dimensions (mm/in.)



Rear Panel



1	Video IN, BNC x 4	7	HDMI OUT
2	Audio IN, RCA x 4	8	Network Port
3	VGA OUT	9	RS485 Port
4	Alarm I/O	10	USB Port
5	Power Switch	11	12 VDC Power IN
6	Audio OUT, RCA x 1		