

# 4-channel Network Recorder Kit

Four Network IR Dome Cameras and One 4K NVR



## System Overview

The Dahua Recorder kits provide all the components to quickly install, configure, and employ a complete video surveillance solution. The network cameras offer the clarity of 3 MP video, and the NVR offers built-in motion detection algorithms, alarm triggers, and customized recording modes. The NVR also features Plug and Play technology to connect quickly to cameras on the same network. Each component accepts a PoE power supply to facilitate installation.

## Functions

### True Day/Night

A day/night mechanical IR cut filter makes these cameras ideal for applications with fluctuating lighting conditions, delivering color images during the day and automatically switching to monochrome as the scene darkens.

### Regions of Interest

Regions of Interest (ROI) is a user-defined feature that allows the operator to monitor specific areas of a scene while still maintaining overall situational awareness of less important areas.

### Smart IR

With IR illumination, detailed images can be captured in low light or total darkness. The camera's Smart IR technology adjusts the intensity of camera's infrared LEDs to compensate the distance of an object. Smart IR technology prevents IR LEDs from whitening out images as they come closer to the camera. The camera's integrated infrared illumination provides high performance in extreme low-light environments up to 30 m (98 ft).

### Camera Protection

The network camera complies with the IK10 Vandal Resistance impact rating making it capable of withstanding the equivalent of 55 kg (120 lbs) of force. Subjected to rigorous dust and water immersion tests and certified to the IP67 Ingress Protection rating makes it suitable for demanding outdoor applications.

## Network Camera

- 3 MP at 20 fps Maximum Resolution
- 2.8 mm Fixed Lens
- Maximum IR Length 30 m (98 ft) with Smart IR
- IP67 Environmental Protection and IK10 Vandal Resistance

## Network Video Recorder

- Quad-core Embedded Processor
- H.265 and H.264 Dual Video Compressions
- Up to 4K (8 MP) Resolution for Preview and Playback
- Simultaneous HDMI and VGA Video Output
- 200 Mbps Incoming Bandwidth

## Flexible Recording

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

## 4K NVR Resolution

4K resolution is a revolutionary breakthrough in image processing technology. 4K delivers four times the resolution of standard HD 1080p resolution and offers superior picture quality and image details. 4K resolution improves the clarity of a magnified scene to view or record crisp forensic video from large areas.

## Automatic Network Replenishment (ANR) Technology

Network Video Recorders with the ANR function automatically store video data on an IP camera SD card when the network is disconnected. After recovery of the network, the NVR automatically retrieves the video data stored on the camera.

## Environmental

The network cameras operate in extreme temperature environments, rated for use in temperatures from -30° C to +60° C (-40° F to +140° F), allowing the camera to operate in the harshest environments.

The NVR features an operating temperature of -10° C to +55° C (+14° F to +131° F).

## Technical Specification - Network Cameras

### Camera

Image Sensor	1/3-in. 3 MP CMOS
Effective Pixels	2304(H) x 1536(V), 3 MP
Scanning System	Progressive
Minimum Illumination	Color: 0.1 Lux at F2.0 0 Lux (with IR on)
S/N Ratio	More than 50 dB
IR Distance	Up to 30 m (98 ft)
IR On/Off Control	Auto, Manual
IR LEDs	24

### Lens

Lens Type	Fixed
Mount Type	Board-in
Focal Length	2.8 mm
Max Aperture	F2.0
Angle of View	Horizontal: 98° Vertical: 77°

### Pan / Tilt / Rotation

Range	Pan: 0° to 355° Tilt: 0° to 65° Rotation: 0° to 355°
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### Video

Compression	Smart H.264+, H.264, MJPEG	
Streaming Capability	Two (2) Streams	
Resolution	3 MP (2304 x 1296), 1080p (1920 x 1080), 1.3 MP (1280 x 960), 720p (1280 x 720), D1 (704 x 480), CIF (352 x 240)	
Frame Rate	Main Stream	3 MP at 20 fps or 2 MP at 30 fps
	Sub Stream	D1, CIF at 30 fps
Bit Rate Control	CBR, VBR	
Bit Rate	H.264: 24 K to 8192 Kbps	
Day/Night	Auto (ICR), Color, B/W	
BLC Mode	BLC, HLC, DWDR	
White Balance	Auto, Natural, Street Lamp, Outdoor, Manual	
Gain Control	Auto, Manual	
Noise Reduction	3D DNR	
Motion Detection	Off, On (4 Zone, rectangular)	
Region of Interest	Off, On (4 Zone)	
Advanced Features	Electronic Image Stabilization, Smart IR	
Digital Zoom	16x	
Flip	0°, 90°, 180°, 270°	
Mirror	Off, On	
Privacy Masking	Off, On (4 Area, rectangular)	

### Network

Ethernet	RJ-45 (10/100 Base-T)
Protocol	HTTP, HTTPS, TCP, ARP, RTSP, RTP, UDP, SMTP, FTP, DHCP, DNS, DDNS, PPPoE, IPv4/v6, QoS, UPnP, NTP, Bonjour, 802.1x, Multicast, ICMP, IGMP
Interoperability	ONVIF, PSIA, CGI
Streaming Method	Unicast, Multicast
Max. User Access	10 Users, 20 Users
Edge Storage	NAS (Network Attached Storage) Local PC for instant recording Micro SD Card, max. 128 GB
Web Viewer	IE, Firefox, Safari
Management Software	Smart PSS, DSS
Mobile Operating System	iOS, Android

### Certifications

Safety	UL 60950-1
Electromagnetic Compatibility (EMC)	FCC Part 15 Subpart B

### Electrical

Power Supply	12 VDC, PoE (802.3af, Class 0)
Power Consumption	< 5.0 W

### Environmental

Operating Conditions	-30° C to +60° C (-22° F to +140° F), Less than 95% RH
Storage Conditions	-30° C to +60° C (-22° F to +140° F), Less than 95% RH
Ingress Protection	IP67
Vandal Resistance	IK10

### Construction

Casing	Metal
Dimensions	ø109.90 mm x 81.0 mm (ø4.33 in. x 3.19 in.)
Net Weight	0.34 kg (0.75 lb)
Gross Weight	0.47 kg (1.04 lb)

**Technical Specification - NVR**

## System

Main Processor	Quad-core Embedded Processor
Operating System	Embedded LINUX

## Audio and Video

IP Camera Inputs	Four (4) Channels
Audio Connections	Input: One (1) Channel, RCA Output: One (1) Channel, RCA

## Display

Interface	One (1) HDMI One (1) VGA
Resolution	3840 x 2160, 1920 x 1080, 1280 x 1024, 1280 x 720, 1024 x 768
Multi-screen Display	1/4
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 x 18), Video Loss and Tampering
Alarm Input	Four (4) Channels, Low-level Effective, Green Terminal Interface
Relay Output	Two (2) Channels, NO/NC Programmable, Green Terminal Interface

## Playback and Backup

Synchronous Playback	1/4
Search Mode	Time / Date, Alarm, Motion Detection, Exact Search (accurate to 1 second), and Smart Search
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	Two (2) SATA III Ports Unit ships with a pre-installed 2 TB HDD
HDD Mode	Single

## Auxiliary Interface

USB	One (1) USB 2.0 Port One (1) USB 3.0 Port
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## 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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## Recording

Compression	H.265, H.264, MJPEG
Resolution	8 MP, 6 MP, 5 MP, 4 MP, 3 MP, 1080p, 1.3 MP, 720p, D1, CIF
Record Rate	200 Mbps
Bit Rate	16 Kbps to 20 Mbps per channel
Record Mode	Manual, Schedule (Regular, Continuous), Motion Detection (Video Detection: Motion Detection, Video Loss), Stop
Record Interval	1 to 120 minutes (default: 60 minutes) Pre-record: 1 s to 30 s Post-record: 10 s to 300 s

## Network

Interface	One (1) RJ-45 Port (10/100/1000 Mbps)
Ethernet Port	One (1) Independent 1000 Mbps Ethernet Port
PoE	Four (4) Ports (IEEE 802.3af/at)
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	48 VDC, 2 A
Power Consumption	NVR: < 9 W, without HDD PoE: Maximum 25.5 W, single port, 50 W total

## Environmental

Operating Conditions	-10° C to +55° C (+14 °F to +131 °F), 86 to 106 kpa
Storage Conditions	-20° C to +70° C (-4 °F to +158 °F), 0 to 90% RH

## Construction

Dimensions	375.0 mm x 281.50 mm x 56.0 mm (14.80 in. x 11.10 in. x 2.20 in.)
Net Weight	1.6 kg (3.53 lbs), without HDD
Gross Weight	3.2 kg (7.05 lbs)

## Certifications

Safety	UL 60950-1 CAN/CSA C22.2 No.60960-1
Electromagnetic Compatibility (EMC)	FCC Part 15 Subpart B ANSI C63.4 – 2014

**Ordering Information**

Type	Part Number	Description
4-channel Network Recorder Kit	BN441E42	<ul style="list-style-type: none"> <li>• 4 x 3 MP Network IR Dome Cameras</li> <li>• 1 x 4K NVR with PoE, 2 TB</li> </ul>
Camera Accessories, Optional	PFA136	Junction box (For use alone)
	PFB203W	Wall mount (For use alone or with PFA152 pole mount)
	PFA152	Pole mount (For use with PFB203W wall mount)

**Accessories**

Optional:



PFA136  
Junction box

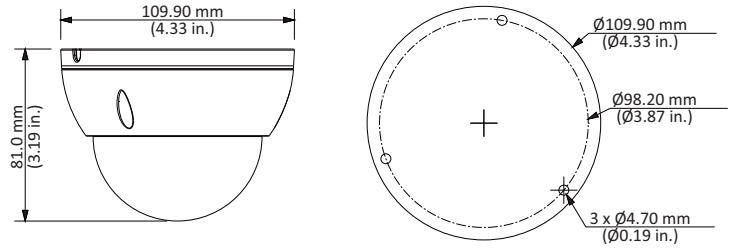


PFB203W  
Wall mount

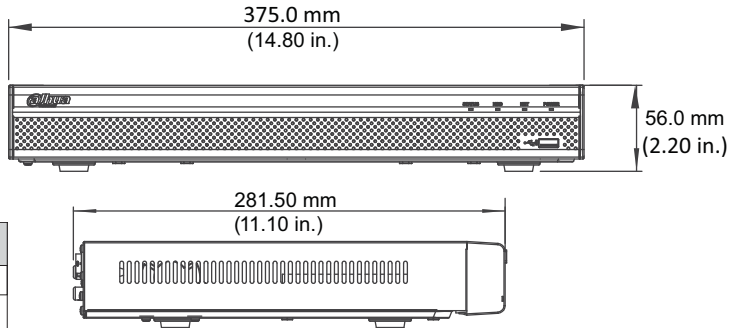


PFA152  
Pole mount

**Dimensions (mm/in.) - Network Camera**



**Dimensions (mm/in.) - NVR**



Junction Mount	Pole Mount
PFA136	PFB203W + PFA152
Wall Mount	
PFB203W	