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Smart Doorbell Cameras And Security Cameras (CCTV)

July 2025





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Smart Doorbell Cameras



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History - From Chimes to Video

The earliest smart, internet connected doorbell was a crowdfunded project by Entrepreneur Jamie Siminoff. Originally called the Doorbot, it entered the market in 2013 from the newly formed “Ring LLC” company.

The Doorbell was renamed Ring in 2014. Amazon bought the company in 2018 for approx \$1 billion.



1st Generation Doorbell

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What are they ?

A doorbell camera is a smart security device integrating a traditional doorbell with a camera, microphone, and network connectivity to enable real-time video streaming, two-way audio, and remote notifications.



Doorbells

Purpose

To enhance home security by enabling visual and audio identification of visitors, monitoring surroundings, and recording events at the entry point.

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Reasons to buy and fit one.....

- Strengthen your Home Security
- Protect your courier deliveries
- Screen Visitors from Anywhere
- Monitor your family and pets
- Integrate your doorbell into a smart home
- Get evidence for insurance claims



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Reasons to buy and fit one.....

Strengthen your Home Security

- The mere presence can be enough to deter burglars, thieves or vandals. Intruders tend to knock or ring before they try to break in but being on camera can make them think twice.
- Motion detection alerts & captures evidence
- 'Night vision' allows for low light images.
- Police treat recordings like any security camera and encourage the public to provide output to aid their investigations.



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Reasons to buy and fit one.....

Protect your courier deliveries

- Video doorbells discourage thieves who target packages left on doorsteps.
- Better still, you can speak to the person via the doorbell and get them to leave the package in a safe place (out of sight) or with a neighbour.
- Some video doorbells alert you when a package is delivered, even if the button isn't pressed.



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Reasons to buy and fit one.....

Screen Visitors from Anywhere

- See who's at the door without answering it
- Manage visitors when you're not at home by the using the app on a tablet or smartphone and talking to them to get them to come back later
- You can keep an eye on the to see that they leave.



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Reasons to buy and fit one.....

Monitor your family and pets

- Motion detection allows you to track your own family's movements, especially old and infirm relatives.
- It can tell you precisely when they enter or leave the house. You'll then know when they are safely home.
- You can also keep track of children & pets.
- Many doorbells let you specify the range that's covered and the type of movement they monitor, so you don't invade your neighbours' privacy or receive endless notifications

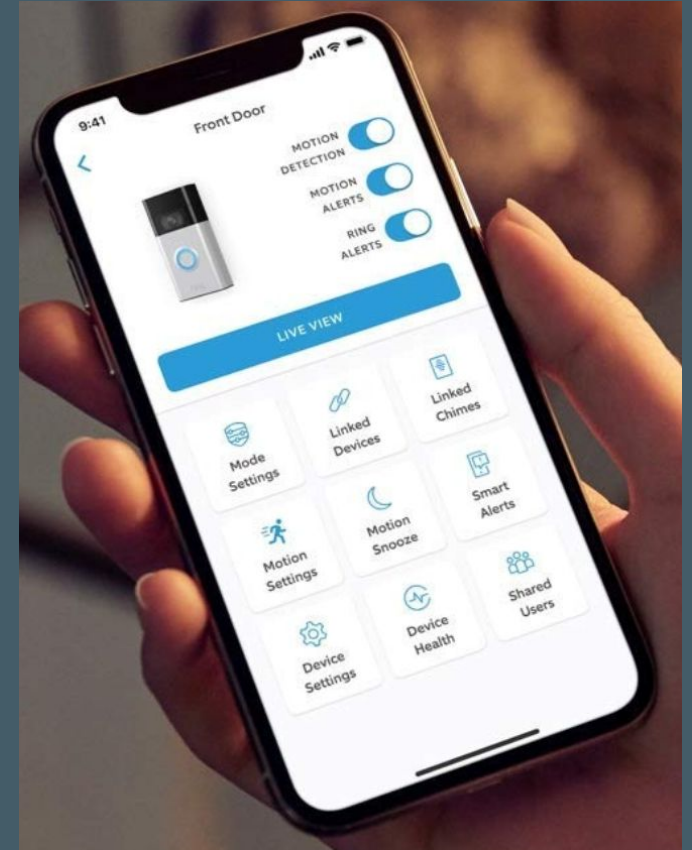


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Reasons to buy and fit one.....

Integrate your doorbell into a smart home

- Video doorbells are controlled using an app on your phone or tablet, but you can become part of a smart-home system.
- The obvious examples are to add it to Alexa or a Google Nest doorbell to a Google Home setup.
- Advantages include controlling the doorbell with your voice, reviewing live or recorded footage on your smart TV or smart screen.



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Reasons to buy and fit one.....

Get evidence for insurance claims

- It may be possible to reduced home insurance as this recognised home security device is protecting your property. It doesn't hurt to ask (You may need to pair this with a security system).
- But if you have an incident, you'll have 'timestamped' video evidence to give to the police and support an insurance claim.



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Key Features to consider.....

Live Video Streaming

Two-Way Audio

Motion Detection Alerts.

Night Vision

Wide-Angle Lens

Cloud or Local Storage

Wired or Battery

Smart Home Integration



Feature	Ring Video Doorbell 4	Google Nest Doorbell (Battery)	Eufy Video Doorbell (Battery)	Tapo Video Doorbell D235
Camera Resolution	1080p HD	960 x 1280 HD	2K (2560 x 1920)	2K (2560 x 1920)
Field of View	160° horizontal	145° diagonal	160° diagonal	180° diagonal
Aspect Ratio	16:9	3:4 (taller view)	4:3	4:3
Night Vision	Infrared night vision	HDR + night vision	Infrared night vision	Full Colour night vision with spotlight
Power Source	Battery + Wired option	Battery + Wired option	Battery + Wired option	Battery + Wired option
Battery Life	6-12 months (varies by usage)	1-6 months (varies by usage)	4-6 months (varies by usage)	6-7 months (varies by usage)
Motion Detection	Advanced motion detection + pre-roll video preview	Motion + person, package, vehicle detection (AI)	PIR motion sensor + AI human detection	PIR motion sensor + AI human detection
Pre-roll Recording	Color pre-roll video preview	Not available	Not available	Not available
Two-Way Audio	Yes	Yes	Yes	Yes
Cloud Storage	Subscription (Ring Protect) required for recording	Subscription (Nest Aware) required for recording	No subscription required (local storage on HomeBase)	Subscription required (Tapo Care Cloud) required for recording
Local Storage	None	None	Yes (16GB Eufy HomeBase or expandable)	Yes (512GB SD Card)
Smart Home Integration	Alexa	Google Assistant	Alexa, Google Assistant	Alexa, Google Assistant
Connectivity	2.4 GHz Wi-Fi	2.4 GHz Wi-Fi	2.4 GHz Wi-Fi	2.4 GHz Wi-Fi
Installation	Easy; compatible with existing wiring or battery mount	Easy; battery mount or existing wiring	Easy; battery mount or existing wiring	Easy; battery mount or existing wiring
Video Encoding	H.264	H.264	H.264	H.264
Subscription Cost	Starts £4.99/month	Starts £8/month	No mandatory subscription	Starts £2.99/month
Data Privacy	Cloud-based (US servers)	Cloud-based (Google servers)	Local encrypted storage (no cloud needed)	Cloud-based (US Servers)

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Costs

Ring Doorbell Battery Gen 4 £99

Eufy Doorbell E340 £109

Tapo Doorbell D235 5MP (with
Chime)

£89

Google Nest Doorbell (wired) £178

Google Nest Doorbell (Battery) £137



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Privacy Laws

Firstly, its legal to record video at your home (with Caveats)

No rules apply to inside the boundaries of your property

If a recording covers outside your boundary, such as the street or neighbouring homes or gardens, then you have responsibilities under the General Data Protection Regulations (GDPR). You could capture audio and video containing other people's private data.

Under data protection legislation, anyone captured on footage from your camera has the right to ask for a copy, have it erased or request for them not to be filmed in the future.



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Privacy Laws

- **Consider placement:** consider what they are recording. wide angle lens?
- **Use privacy features:** use built-in privacy features (privacy zones) but audio
- **Consult your neighbours:** Explain why.
- **Be reasonable:** If your neighbour is concerned, consider changing cameras
- **Warning sign:** Can't get consent from everyone who walks past your house
consider putting up a sign.
- **Delete unused footage:**
- **Help the police if asked**



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Motion Zone



Set up motion zones to stop your doorbell sending unnecessary alerts

Also set up Privacy zones to stop your doorbell recording unnecessary video

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Considerations Before Buying

- Wi-Fi connectivity requirements (i.e. stable WiFi, 2.4Ghz).
- Subscription costs for video storage.
- Local Storage Micro SD card slot
- Installation method: battery-powered vs. wired.
- Video resolution and field of view.
- Data privacy and encryption standards.
- Inside or Outside – Weatherproof housing (IP65-IP67)

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Future Trends

- AI-powered facial recognition.
- Integration with **smart locks** for automated access control.
- Advanced package detection with auto alerts..

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Other points of Interest



Ring Peephole
Camera (Door View
Cam) | 34–55mm or
54-57 door thickness

£119



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Other points of Interest



Ring Solar Panel
£50



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Ring's Flying Home Security Camera



ring

Always Home Cam

\$249⁹⁹



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Security Cameras (or CCTV)

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History



An early mechanical CCTV (Closed-Circuit Television) was developed in 1927 in Russia and used in the Kremlin to monitor visitors.

The next use was in 1942 in Peenemunde to monitor V2 launches.

The first commercial CCTV was in 1949 in the US did not require a government permit as it used cables to connect the system and not RF.

In the 1970's VCR technology started to be integrated with CCTV allowing recording, playback and therefore investigative use.

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Our Interest is Security Cameras.....

There are stand-alone CCTV kits available with say 4 cameras and a recorder unit.

With the Doorbell camera watching the front of your house, lets look at a dedicated home security camera to watch other outdoor or indoor areas.

Getting a camera from the same manufacture as the doorbell will allow you to use the same app but could be expensive.

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- **Indoor Cameras:** high-resolution video & night vision makes them perfect for keeping an eye on pets
- **Outdoor Cameras:** Weather considerations, include features such as waterproofing, motion detection, and night vision to secure your surroundings effectively.
- **Wired Cameras:** cameras connect to a power source and data storage
- **Wireless Cameras:** cameras connect via Wi-Fi. Flexibility and ease of installation with features like battery operation and remote access.
- **Floodlight Cameras:** cameras have powerful floodlights for enhanced security in outdoor areas. Also have motion sensors to trigger the lights and camera to capture clear footage even in the dark.

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Blink Mini 2 - £30

Plug-in smart security camera, HD night view in colour, built-in spotlight, two-way audio, motion detection, works with Alexa.

Use indoors or out. Cost means no AI object recognition but it does reliably detect people. 143 field of view. £2.50/month cloud storage subscription

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Swann CoreCam - £85

Wire-free 1080p Full HD Indoor & Outdoor
Waterproof rechargeable Security Camera With
Night Vision, 2-way Talk & Siren, Heat, Motion &
Person Detection, Free Cloud & Local Recording.
Connects to your WiFi so no cables.

True Detect technology detects people, packages,
pets and vehicles, records their movement and
alerts you via its app. This requires a subscription,
which costs from £3.99 a month

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My system

Synology 2 bay NAS system (£180) comes with free Synology Surveillance Station software and Reolink PTZ WiFi camera (£40).

This provide local & my own cloud storage. Data sharing, backup storage. Comes with lots of useful apps but security monitoring with a camera allows 24/7 continuous recording with auto delete (30 days for me).

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The End