

uWatch technical bulletin: MAY 2024

## Understanding the threat posed by *jammers*.

**Signal jammers** or **blockers** are the single biggest existential threat to the security of Wireless based security systems, worldwide.

Every single wireless video doorbell in the whole world can be disabled with a Jammer costing under £100. Widely deployed jammer detectors are an absolute necessity to generate the data that drives police force's strategies to fight this crime.

Jammers are the catalyst for the current explosion in both non-serious and acquisitive crime, highlighted by the theft of high value Land Rovers. Using jammers gives Organised Crime Groups (OCGs) the confidence that they are not going to get interrupted by technology while going about their business; they can even jam police pursuit vehicle communications.



### Overview:

- Rural gangs jamming Wi-Fi-based CCTV/security systems.
- HGV drivers disabling their Tachometer.
- Thieves jamming card payment machines causing chaos to facilitate shoplifting.
- Car thieves disabling domestic Wi-Fi, CCTV security systems, vehicle trackers and mobile phones, and stealing vehicles in 65 seconds.

Not only does their use have the potential to disrupt the whole “connected” world they also leave no physical evidence of use. Yet alerting devices would have for example, prevented the theft of most of the 1% of all Land Rovers stolen in 2023.

### What is a jammer?

A radio frequency **jammer** or **blocker** is a device that transmits high powered signals on one or multiple radio frequencies, disrupting the communication between a base station and its remote devices by overwhelming the device local to the jammer.

Different applications utilise different radio frequencies as low frequency radio waves are more powerful than higher frequencies so have a longer range, but carry less data than the latter. Hence jamming is not some simple process and to jam all frequencies effectively to the same range, all the time is nye on impossible with current “off the shelf” devices, without spending many £1000's.

## Types of jammers:

- **Single frequency GPS jammers** jam vehicle trackers, plug into the cigarette lighter.
- **Battery powered handheld jammers** typically will jam a range of common frequencies over a range of 20-30m with up to 10 antennas, costing £200 upwards.
- **Mains/external powered "hedgehogs"** jam up to 300m. Many antennas are used to "protect" chop shops where stolen vehicles are dismantled, cost upwards of £1500.

## Examples of jammable technologies:

- **A GPS tracker** needs to log on to several satellites. A jammer generates radio waves which are far more powerful than the satellite's, overwhelming the car's tracker.
- **Mobile Phones/anything with a SIM card** needs to exchange validation data with the local GSM tower before a connection can be established and communication started.
- **WiFi-enabled products** require two-way communication with a hub, i.e. a Wi-Fi router.

## Vulnerable crime prevention products:

- **Wireless CCTV:** disabled unless you want to sit up all night watching your computer
- **Wi-Fi including Ring doorbells:** works on one of the most common frequencies that jammers target as criminals have been breaking into Wi-Fi system through wi-fi enabled devices like kettles and home automation systems for years.
- **Vehicle trackers:** GPS satellite signals travel a long way. Single frequency jammers targeting just GPS, plug into the vehicle's cigarette lighter and cost just a few pounds.

**In 2023, an average of 175 vehicles were stolen every day including 1% of all Land Rovers, along with 1000s of pieces of farm equipment and resaleable possessions by OCGs disabling the wireless based systems the police have.**

## Alerting devices:

***True Crime prevention is achieved by being alerted before you have become a victim.*** The only unjammable system on the market is from **uWatch Ltd**, designed and developed in the UK, which will wake you in your bed in under 10 seconds to alert you for example that someone stealing your car, parked up to 300m down the road.

You will have about 50 more seconds to distract the thieves by making a noise, let the dog out or shine a very bright light, (never approach them) or call 999 "crime in Progress".

It has been on the market for 18 months but the police refuse to acknowledge it.

## Jammer detectors

The uWatch system also includes a range of **jammer detectors** so before you have something actually stolen the jammer detector will alert you that someone is in your yard trying to jam your security systems. Another version can be put up on a drone with a range of over 5 miles to detect Chop Shops and another deployed in shopping centres which will alert security of people using them in high footfall locations. Checkout uWatch **Ring Fence** the system which will make you Wi-Fi home security system safe again.