

Secret Service testing drones, how to disrupt their flying

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In this Jan. 26, 2015 file photo, Secret Service officers search the south grounds of the White House in Washington after an unmanned aerial drone was found on the White House grounds during the middle of the night. Mysterious, middle-of-the-night drone flights by the U.S. Secret Service during the next several weeks over parts of Washington are part of secret government testing intended to find ways to interfere with rogue drones or knock them out of the sky. (AP Photo/Susan Walsh, File)

The Secret Service is conducting middle-of-the-night drone flights near the White House in secret tests to devise a defense against the unmanned aircraft, The Associated Press has learned.

The government-controlled drones will be flown between 1 a.m. and 4 a.m. during the next several weeks over parts of Washington —airspace that's usually off limits as a no-fly zone, according to a U.S. official briefed on the plans.

The official said the Secret Service is testing drones both for its own use in law enforcement and protection, and to identify how to defend against hostile drones. The official spoke on condition of anonymity because this person was not authorized to publicly discuss the plans. The Secret Service has said details are classified.

Among the tests is the use of signal-jamming technology to thwart control of a remotely piloted aircraft, the official said.

Researchers at the Homeland Security Department, which oversees the Secret Service, have been testing methods to combat drones at remote sites. But testing in a real-world environment around the White House will help understanding of how radio waves are affected by buildings, monuments and even tall trees.

The challenge for the Secret Service is how to quickly detect a rogue drone flying near the White House or another location where the president is, then within moments either hacking its guidance mechanism to seize control, or jamming its signal to send it off course or make it crash.

Some consumer-level drones, which commonly carry video cameras, have enough lifting power to carry small amounts of explosives.

The Secret Service has said only that it will openly test drones over Washington, but it has declined to provide details such as when it will fly, how many drones, over what parts of the city, for how long and for what purposes. It decided to tell the public in advance about the tests out

of concern that people who saw the drones might be alarmed, particularly in the wake of the drones spotted recently over Paris at night. Flying overnight also diminishes the chances that radio jamming would accidentally affect nearby businesses, drivers, pedestrians and tourists.

It is illegal under the U.S. Communications Act to sell or use signal jammers except for narrow purposes by government agencies.

Depending on a drone's manufacturer and capabilities, its flight-control and video-transmission systems commonly use radio frequencies also common to popular Wi-Fi and Bluetooth technologies. Jamming by the Secret Service could disrupt nearby Internet networks or phone conversations until it's turned off.

Signals emanating from an inbound drone—such as coming from a video stream back to its pilot—could allow the Secret Service to detect and track it.

Federal agencies generally need approval to jam signals from a Commerce Department agency, the National Telecommunications and Information Administration. The agency declined to tell the AP whether the Secret Service sought permission because it said such requests are not routinely made public.

The Federal Aviation Administration has confirmed it formally authorized the Secret Service to fly the drones and granted a waiver to fly them over Washington. The agency declined to provide specifics.

In January, a wayward quadcopter drone piloted by an off-duty U.S. intelligence employee landed on the White House lawn. The Secret Service said the landing appeared to be accidental and not a security threat.

The incident led the agency to focus more attention on drone-related security issues. Published reports have disclosed that the Secret Service already uses jammers in high-level motorcades to disrupt signals that might detonate remotely triggered bombs.

Researchers with DHS's science and technology directorate working on strategies to interdict an unauthorized drone flying into a secure area are trying to balance security against their burgeoning commercial use and the interests of hobbyists. Likewise, the National Telecommunications and Information Administration said last week it's studying how the U.S. can resolve privacy risks that come with increasing drone use.

There are basically three ways to stop a drone, said Jeremy Gillula, a staff technologist at the Electronic Frontier Foundation: block the radio signals linking the drone to its controller, hack the aircraft's control signals and trick it into believing it is somewhere else, or physically disable it. Some drone manufacturers program a "geo fence"—location coordinates that their [drones](#) treat as off limits, and refuse to fly past—into the drone's programming. Police also could physically knock a drone out of the air with a projectile or use a net to catch it.

"If it were me, that would actually be the first thing I would think about doing," Gillula said. "You would have to basically encase the White House in this net. It sure wouldn't look pretty, but in some ways it would be the most effective way."

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