

Amazon eyes defense against hijacking of delivery drones by 'nefarious individuals'

30 June 2018, by Ethan Baron, The Mercury News

Amazon is pushing hard to get delivery drones into the sky, but the latest in a series of patents again highlights the potential risk to public safety.

The Seattle e-commerce giant has filed a host of drone-related patents for everything from quieter propulsion systems to giant beehive-shaped loading centers. It has also acknowledged in patent documents that [delivery](#) drones may suffer catastrophic mid-air failure or fly into buildings.

Now, Amazon has raised the specter of hijacking as a significant threat to drones, also known as [unmanned aerial vehicles](#).

The company on Tuesday received a patent for "Hostile takeover avoidance of unmanned vehicles."

Amazon, in the patent document, predicts that attackers will set their sights on delivery drones for purposes including theft of the aircraft and their packages, crashing drones deliberately, or otherwise interfering with their operations.

"Nefarious individuals and/or systems may be able to obtain control of the UAVs by hacking the communication signals being sent to the UAVs from a controller and/or being sent by the UAV to the controller," the patent document says.

"Such attacks could cause the UAVs to operate unsafely and could also result in considerable financial loss for their operators."

A drone's resistance to hijacking would start with a "heartbeat" signal transmitted automatically every few seconds from the aircraft's controller. Should the [drone](#) stop receiving the signal, that would indicate hijacking, and the aircraft would shift to "safety" mode, according to the patent.

"In the safety mode, the UAV performs one or more pre-programmed actions designed to

reestablish communication with the controller, regain control over the UAV in the event of a hostile takeover, and/or land the UAV at a safe location," the [patent document](#) says.

Not all technology that's patented sees the light of day, but whether or not Amazon pursues this anti-hijacking system, the firm has identified a threat delivery drones are likely to face, and will have to find solutions if regulators are to allow airspace use by delivery drones.

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