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Implementation of the Interlock Protocol to Enhance Security in Unmanned Aerial Vehicles

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Abstract : This paper depicts the implementation of a new infallible technique to protect an Unmanned Aerial Vehicle from cyber-attacks. An Unmanned Aerial Vehicle (UAV) could be vulnerable to cyber-attacks because of jammers or eavesdroppers over the network which pose as a threat to the security of the UAV. In the field of network security, there are quite a few protocols which can be used to establish a secure connection between UAVs and their Operators. In this paper, we discuss how the Interlock Protocol could be implemented to foil the Man-in-the-Middle Attack. In this case, Wireshark has been used as the sniffer (man-in-the-middle). This paper also shows a comparison between the Interlock Protocol and the TCP Protocols using cryptcat and netcat and at the same time highlights why the Interlock Protocol is the most efficient security protocol to prevent eavesdropping over the communication channel.

Keywords : interlock protocol, Diffie-Hellman algorithm, unmanned aerial vehicles, control station, man-in-the-middle attack, Wireshark
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