



PSIONIC™

Psionic SurePath™ Advanced Navigation Technical Note

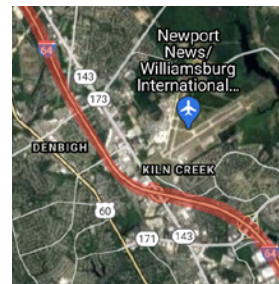
Improving APNT reliability with Psionic SurePath

Assured Position, Navigation, and Timing (APNT) is one way to reduce the risk to military systems that rely on GPS for navigation or targeting. However, APNT requires some external signal or signals, and whether these will be available on the battlefield won't be known until a military engagement is underway. By incorporating Psionic SurePath technology, APNT systems always have a reliable signal input even when GPS or other external signals are not available or cannot be trusted.

To always maintain PNT capabilities in a GPS-denied environment, DoD is moving rapidly to develop anti-jamming and anti-spoofing technology found in APNT systems. The APNT consists of different systems such as the M-Code, which is a next generation stronger GPS signal and Mounted Assured Positioning, Navigation and Timing (MAPS) systems designed to provide agencies with more access to GPS signals and removes the need for multiple GPS devices on a single platform. These current APNT solutions are being packaged into modular upgrade packets for robustness, cost and efficiency. The issue with the current APNT however, is what happens when GPS is down? In this case, APNT becomes useless. Hence, the Psionic SurePath is a critical augmentation tool for DoD to supplement its current APNT. SurePath offers precise navigation without GPS that is non-detectable and non-jammable. Each Psionic SurePath unit can be installed into any aircraft or ground vehicle to provide continuous, highly accurate data that displays speed, direction of travel, and vehicle pose and altitude.

Solution: Self-contained navigation

Psionic's SurePath™ technology is a self-contained system that provides precision navigation without GPS or any other incoming signal. As such, it operates independently allowing a vehicle to navigate without GPS. It cannot be spoofed and is extremely difficult to jam.



Source: August 2020 test report

Starting from a known point and used in combination with an existing IMU or other navigation system, Psionic SurePath™ technology corrects for the accumulated error that results from IMU-based navigation systems when they aren't able to get an external update to their current position via GPS or other GNSS.

Psionic SurePath technology ensures precise navigation over long distances even when GPS or other external signals are not available or can not be trusted.



Psionic SurePath Processor Development Unit, Gen. 5 (reduced SWaP, specifications to come)

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