Force Effect Unveils GNSS Jamming Threat Simulator

By Richard Scott

UK-based RF systems and engineering specialist **Force Effect** (Romsey, England) has launched a new Global Navigation Satellite System (GNSS) threat simulator designed to enable forces train against satellite navigation jamming and spoofing on live exercises without transmitting the jamming over the air.

Known as PARALLAX, the system fits between a platform's GNSS antenna and its receiver, mixing the real satellite signal with controlled jamming or spoofing across any GNSS constellation.

GNSS interference is now a fact of life on operations, but it is rarely replicated in training exercises because of range constraints associated with airspace coordination, regulatory approval and emission control. As a result, many units never receive exposure to the "real world" effects of GNSS jamming.

PARALLAX is a platform-mounted simulator that feeds realistic jamming and spoofing straight into any GNSS receiver. This means units can train for contested navigation/timing on live exercises without any signals being radiated.

According to Force Effect, PARALLAX has been designed for easy set-up and operation during exercises. Planners lay out the threat on a map, place virtual jammers, set their power and waveform, and schedule when they activate. Each unit knows where it is and models the signal path to every jammer, terrain included, so as a platform moves across the exercise area its navigation degrades, drops out or gets quietly pulled off course, just as it would for real. Two independent jamming channels mean a single unit can face more than one threat at once.

Once a scenario is loaded the units run themselves. However, exercise staff can watch and adjust every one of them from a single workstation, changing waveform, frequency or power on the fly. An API lets PARALLAX plug into wider exercise management systems.