

SPiDR-HELICOPTER

SNIPER PROJECTILE DETECTION RADAR

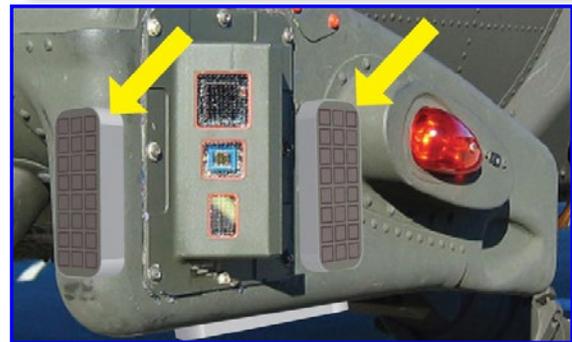
SPiDR-Helicopter is an ultra wideband “stealth” radar optimized to detect incoming fast projectile(s) of all types and alert the helicopter crew to hostile shooter(s). Hazard sensing is also possible, for landing in Degraded Visual Environments and nap-of-the-Earth flying. Conformal, small, flat-panel antennas are arrayed to surround the helicopter with a bubble of coverage. The two illustrations show the coverage concept and a concept for two (of many) sponson-mounted antenna arrays. Threats can be annunciated via existing threat warning systems such as the AN/AVR-2B Laser Warning System or Advanced Aircraft Survivability Equipment (AASE).

SPiDR-Helicopter:

- ❖ **Is lightweight and conformal for fuselage mounting**
- ❖ **Senses 360° around the helicopter, from nadir up to a high elevation, for protection in all aircraft attitudes**
- ❖ **Gives bearing to shooters**
- ❖ **Integrates with existing threat warning systems, or operates independently**

SPiDR-Helicopter has these capabilities:

- ❖ **Enhances helicopter survivability, lethality, and awareness**
 - **Well integrated.** Conformal antenna arrays mount on fuselage; central processing electronics
 - **High performance.** Detects 99.9+% of fast, incoming projectiles passing within 100-m; nil false alarms
 - **Stealthy.** Low-power, ultra-wideband, noise-like signal is LPI/LPD
 - **Safe.** RF exposure to air crew and ground crew is significantly less than a cell phone
- ❖ **Avoids the shortcomings of acoustical or optical systems**
 - **Robust detection.** Unaffected by noise, echoes, wind, downwash, sunshine, lasers, far-distant shooters, unseen shooters, inaudible shooters.
 - **Ignores outgoing fire.** Discriminates between incoming and outgoing fire.



SPiDR-Helicopter is currently in development:

- U.S. Army SBIR Phase 2, Topic A12-035, Helicopter Hostile Fire Indicator Sensor Development
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- Contract W15P7T-14-C-A701, period of performance through 16-AUG-2016

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