

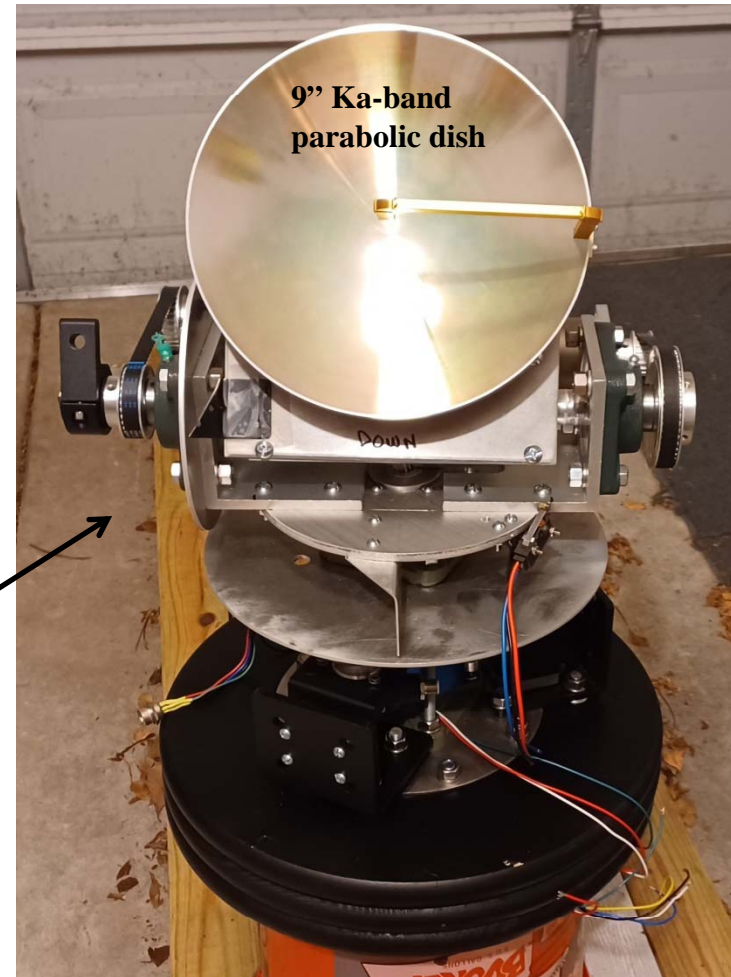
**Silent Radar Concept
LT Wurtz, Phd
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**30 dBi 2 ft parabolic dish
dual RHCP / LHCP feed
5.8 GHz ISM band**

Will replace 9" dish on pan-and-tilt

**Custom Pan-and-Tilt
with 40 GHz coaxial
rotary joints and slip
rings. Designed for
continuous operation.**



Working on a new radar concept in my spare time on my antenna range that may be of interest. I'm referring to the concept as a "Silent Radar" in that it's primary focus is to be undetectable outside a range of 1 Km while providing exceptional detection capability.

The Silent Radar will operate in the "license-free" 5.8 GHz ISM band and generate below -125 dBm/Hz signal power outside a range of 1 Km. The design will implement a CDMA DSSS technique involving [REDACTED]. In addition, a proprietary FHSS-like [REDACTED] hopping scheme will be implemented as an additional anti-jam / anti-detection feature.

Expected range is 150 Kms with 6 meter resolution.

"Silent Radar" concept benefits:

1. Pushing the illumination power spectral density at and below the noise floor will reduce interference and provide jamming immunity from accidental or deliberate jamming sources.

2. CMDA DSSS techniques provide for security and low probability of detection.

3. With the proprietary FHSS-like [REDACTED] hopping scheme, it would be near impossible for a sophisticated receiver to detect illumination and generate interference.

All components to develop the prototype system have been purchased and have either arrived or due early September.