Silent Radar Notes
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Attributes of Silent Radar concept system:

1. **5.8 GHz ISM band (worldwide acceptance),**
2. **Range 150 Kms,**
3. **Up to 10 Watts transmit power spread with randomly changing [redacted],**
4. **TX antenna: RHCP helical with 15.5 dBi gain,**
5. **RX antenna: 2 ft parabolic dish with LHCP feed, 30 dBi gain,**
6. **4.8 deg beamwidth,**
7. **Azimuth range = 90 degrees,**
8. **Pitch range = 10 degs to 50 degs above elevation,**
9. **Screen update every 1.5 seconds with 10 msec integration time,**
10. **System is a personal project with associated budget-limited performance,**
11. **Figure 1 shows current status of 5.8 GHz concept system. Figure 3 shows transmitter being built,**
12. **Captured antenna data post-processed for a 3d radar return shown in Figure 4.**

Attributes of first fielded Ka-band system based on parabolic dish antenna:

1. **24.125 GHz ISM band (worldwide acceptance); would like to work at 28 GHz to reduce costs,**
2. **Range 150 Kms,**

3. **Up to 10 Watts transmit power spread with randomly changing [redacted],**
4. **Single or dual 8” parabolic dish(s) TBD, RHCP transmit, LHCP receive, gain = 34.6 dBi,**
5. **2.6 deg beamwidth,**
6. **Azimuth range = 90 degrees,**
7. **Pitch range = 10 degs to 50 degs above elevation,**
8. **Screen update every 4.5 seconds with 10 msecs integration time,**
9. **System is a personal project with associated budget-limited performance,**
10. **Figure 2 shows current status of Ka-band Silent Radar antenna,**
11. **Captured antenna data processed in real-time,**
12. **Figure 4 shows a projected 3d screen image using Windows XNA/Monogame.**

Figure 1. 5.8 GHz Silent Radar for concept testing (not for fielded application)

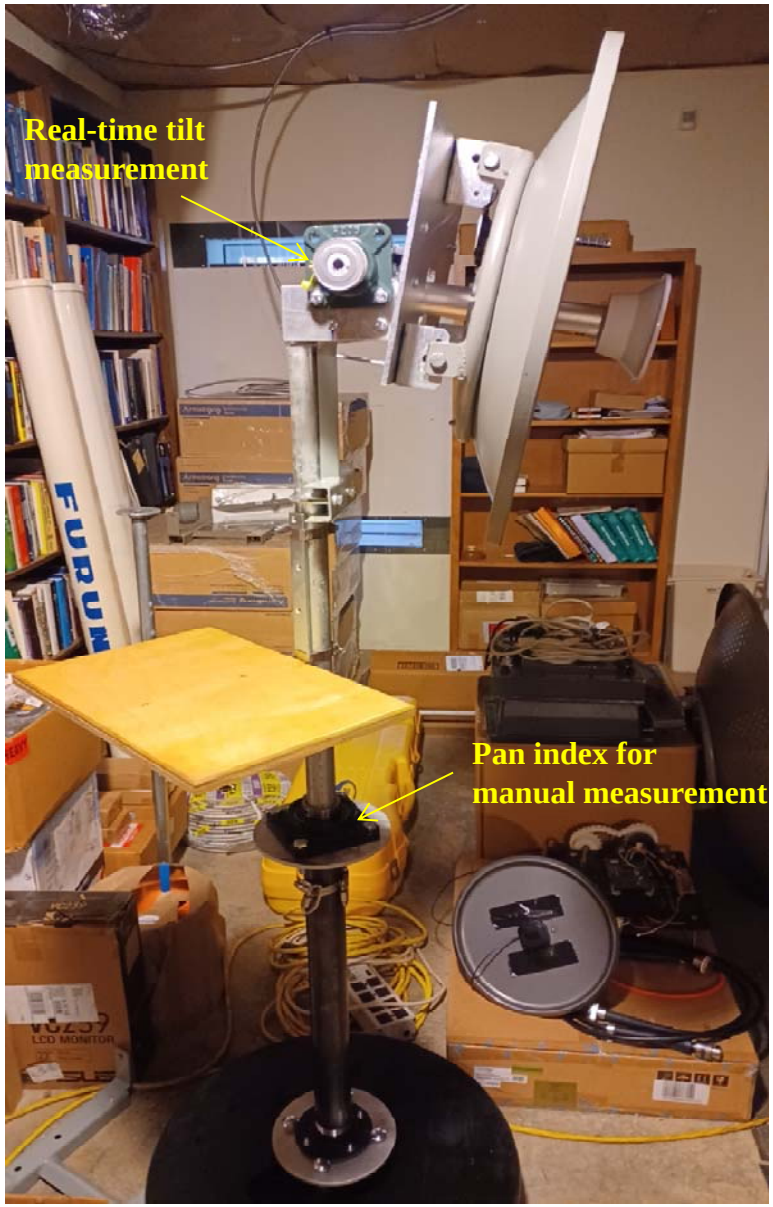
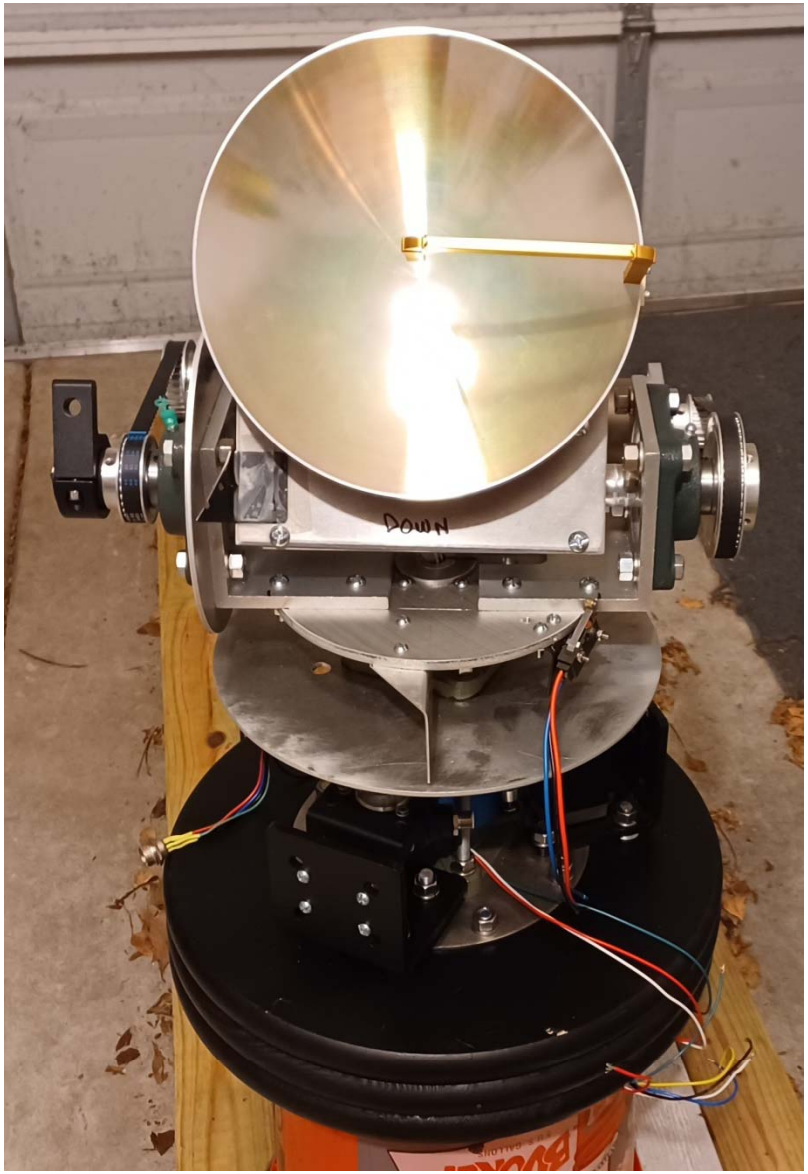


Figure 2. Ka-Band Silent Radar for first fielded application



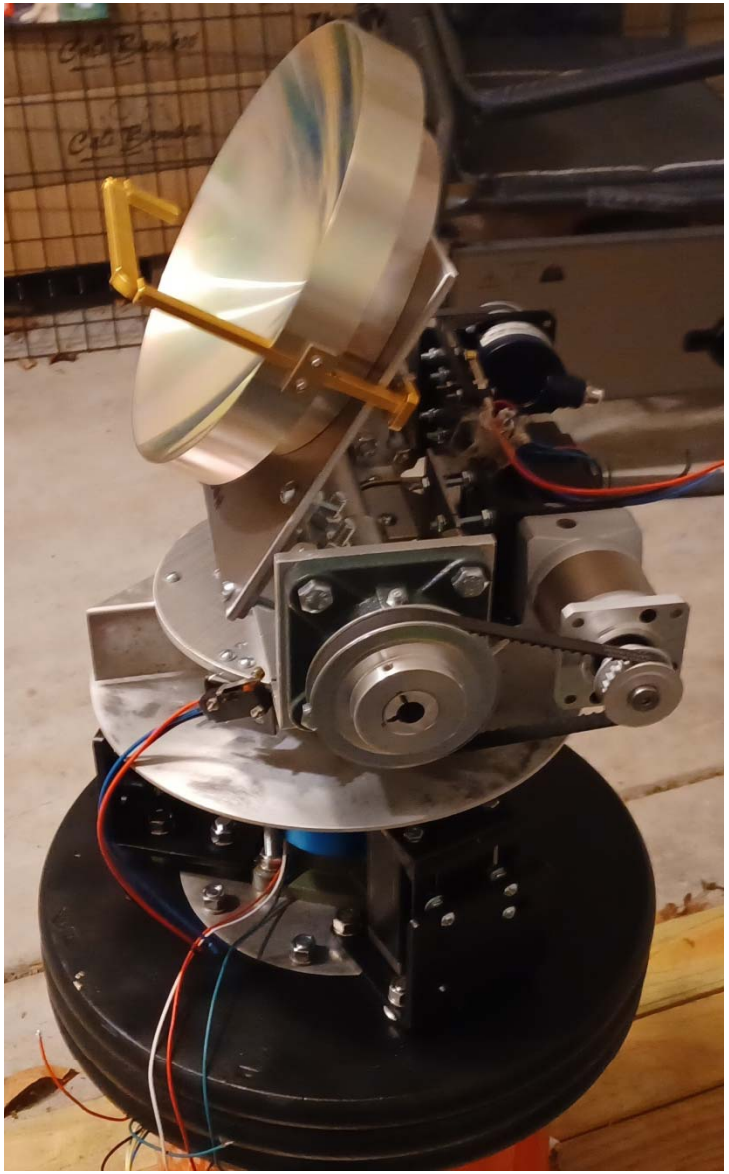


Figure 3. Silent Radar prototype transmitter/processor/PC for concept development

Dell Precision 7720

Figure 4. Proposed radar return screen using Windows/XNA/Monogame