

Phase Array Antenna Systems "In-the-Works"
Custom Microelectronic Systems, Inc.
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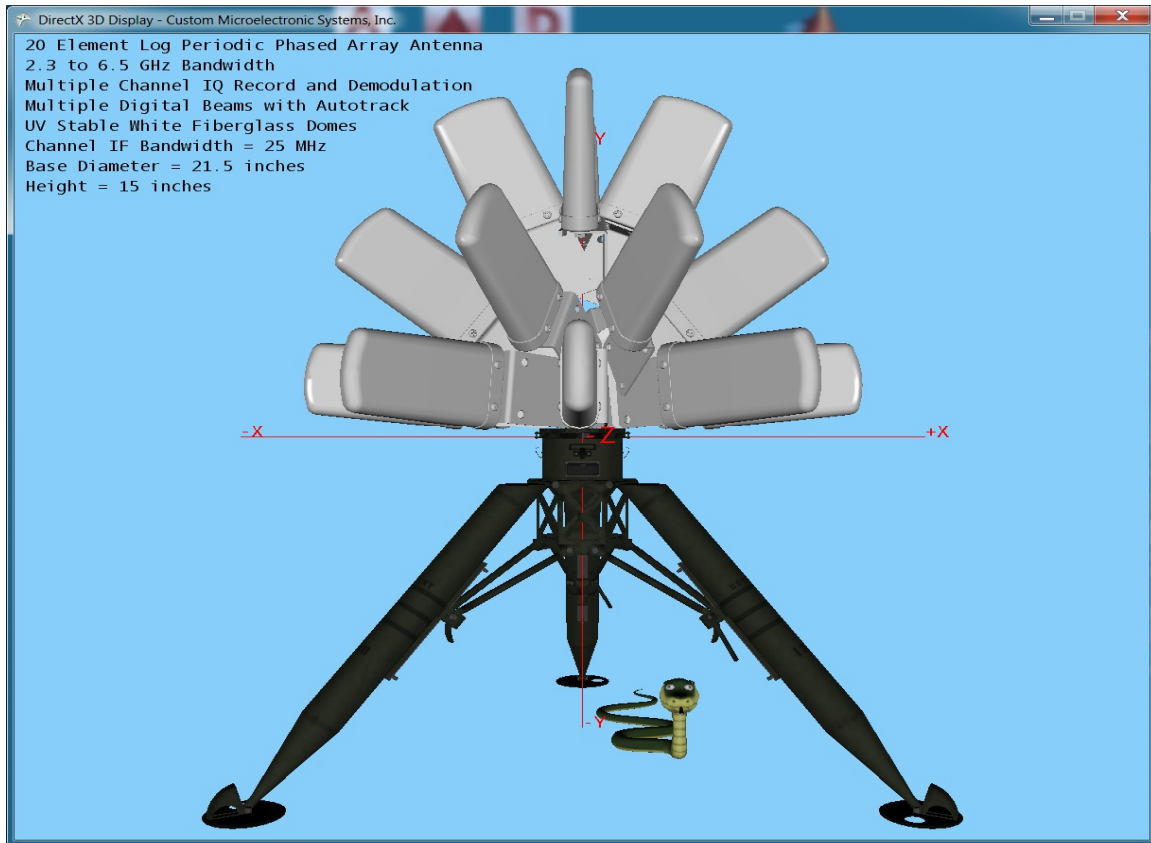


Figure 1. 20 Element Log Periodic Phased Array Antenna (Side View)

Figure 1, 2, and 3, show a 20-element log periodic phased array antenna being designed and built in the lab. The receiver to be attached will consist of two high-end Xilinx development boards and will serve a platform for study of digital beamforming techniques. Custom down-conversion and data acquisition cards will be developed for attachment to the Xilinx development boards. Details of expected performance are listed at the top of the figures. Once completed, a hardened and field deployable version will be built. A grass snake will be included with each antenna array for increased ground awareness.

Figures 4 through 7 show a 20-element patch phased array antenna also being constructed for testing with the receiver. Most components have been ordered and received for the antenna systems and receiver.

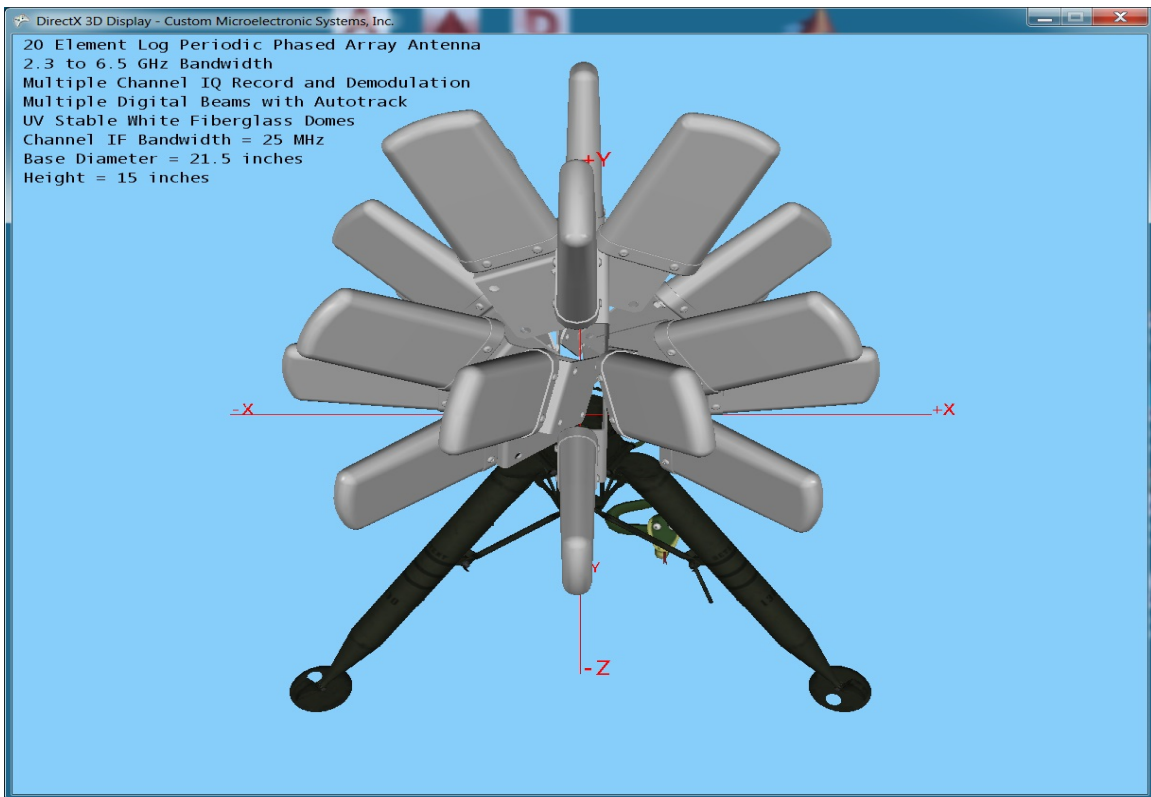


Figure 2. 20 Element Log Periodic Phased Array Antenna (Side/Top View)

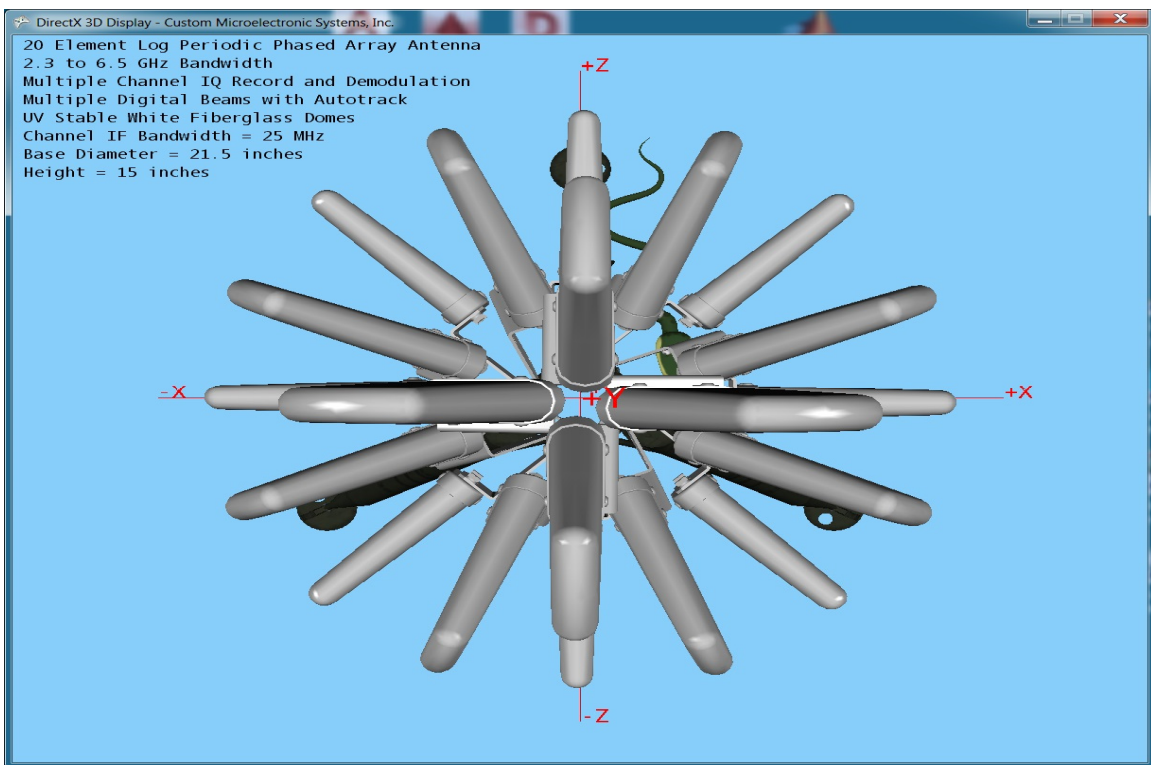


Figure 3. 20 Element Log Periodic Phased Array Antenna (Top View)

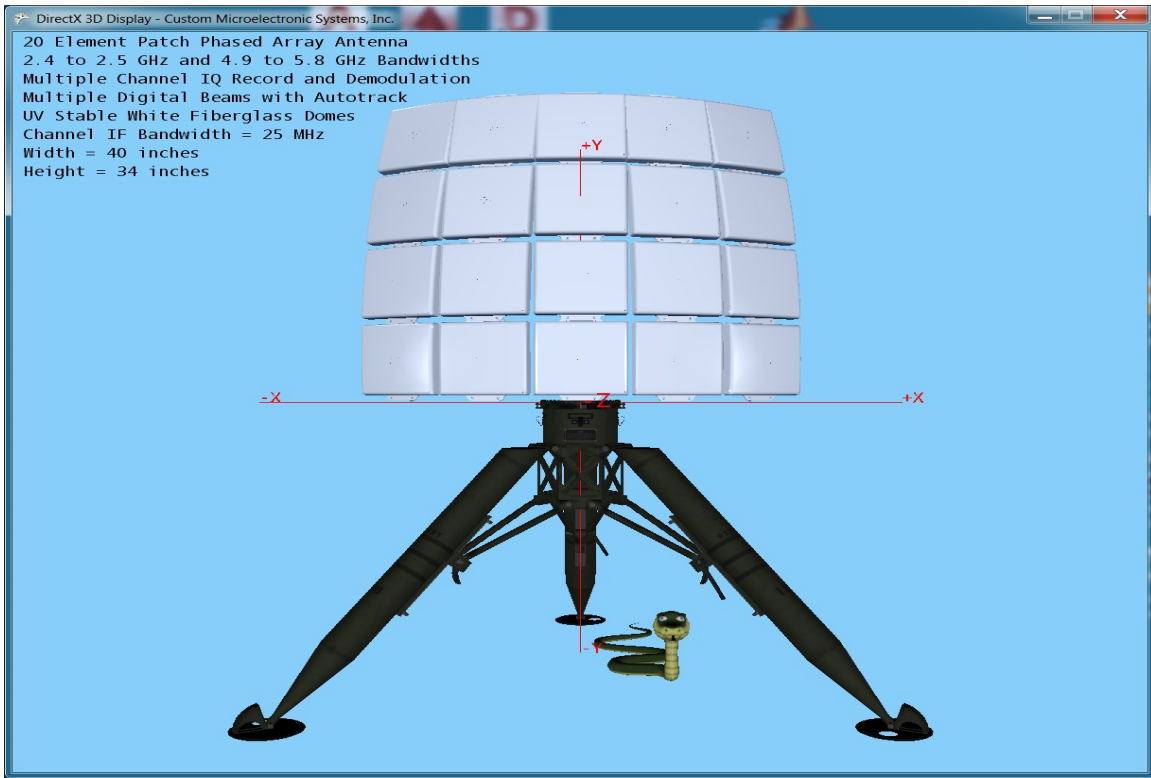


Figure 4. 20 Element Patch Phased Array Antenna (Top View)

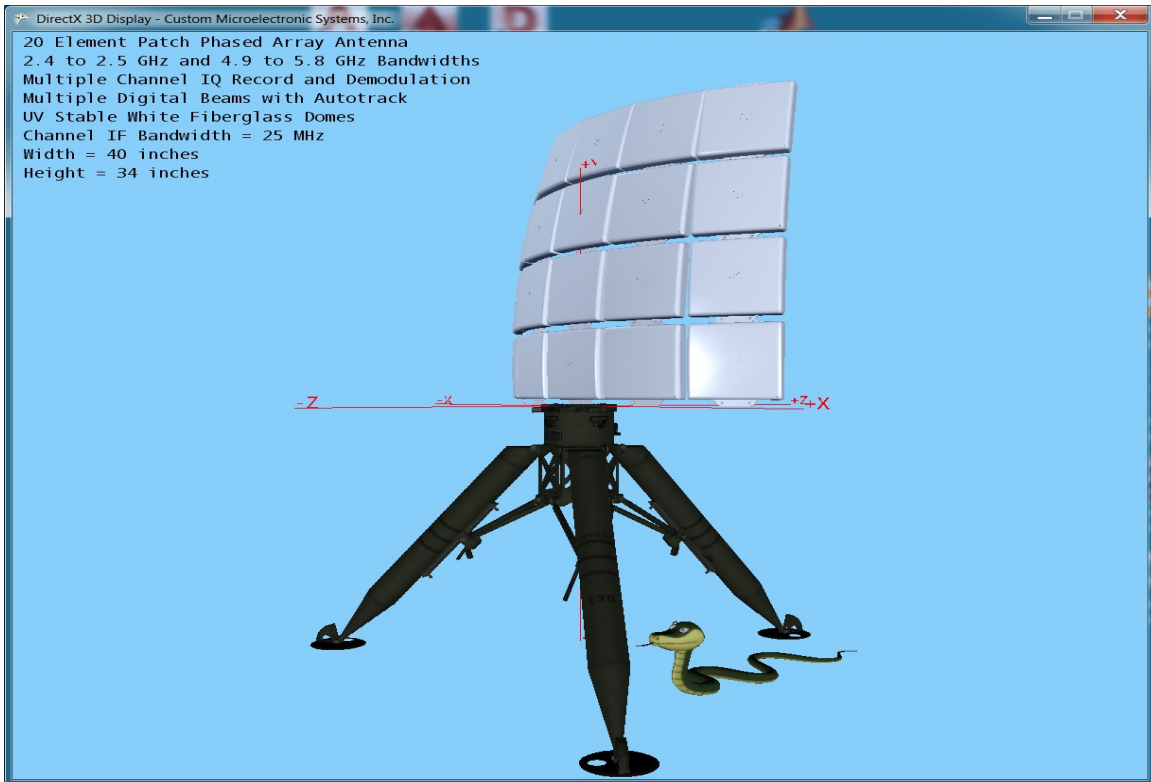


Figure 5. 20 Element Patch Phased Array Antenna (Side View)

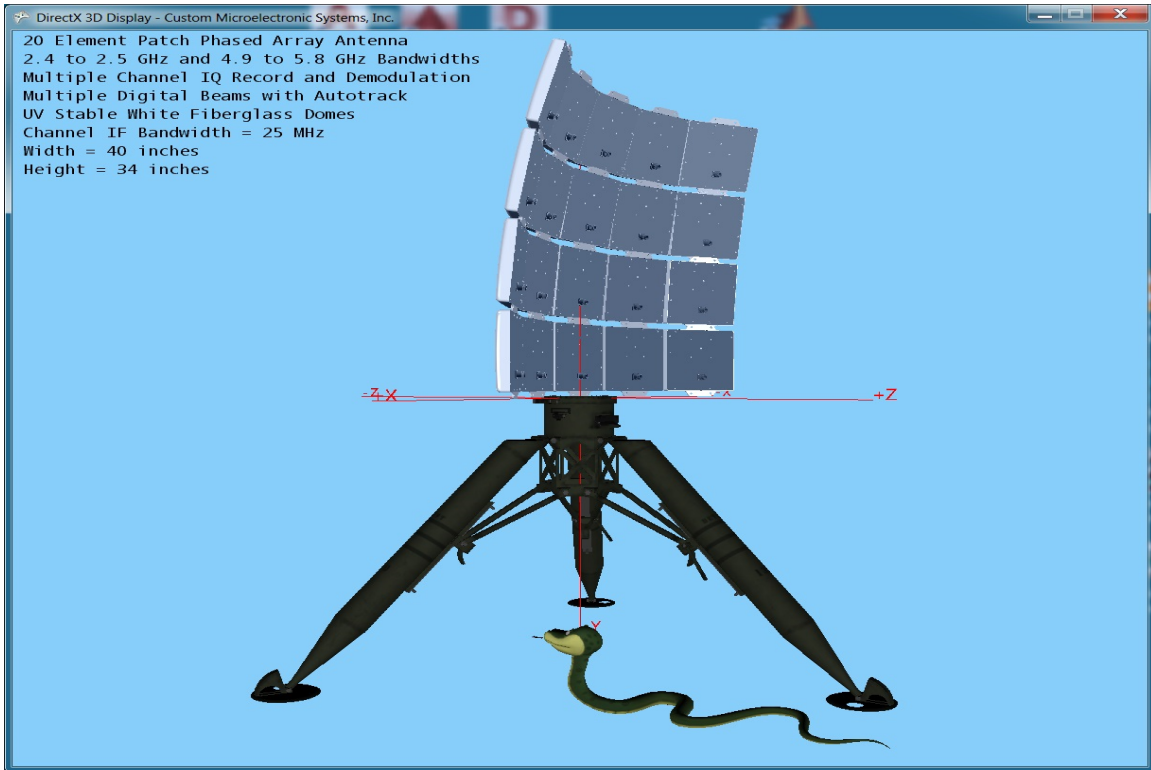


Figure 6. 20 Element Patch Phased Array Antenna (Back View)

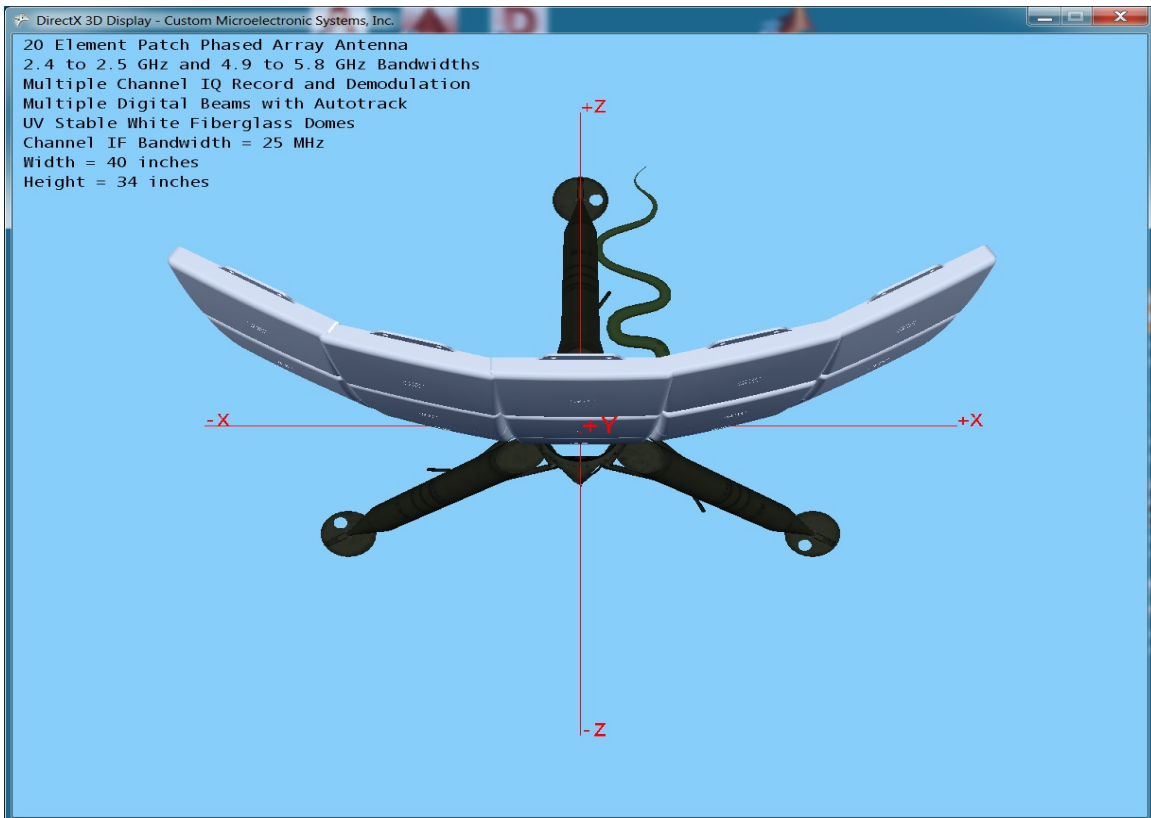


Figure 7. 20 Element Patch Phased Array Antenna (Top View)