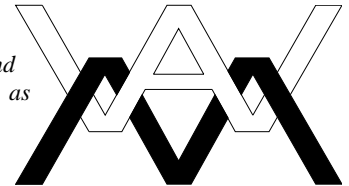


<http://home.comcast.net/~ajawamnet>

E-mail Address: [ajawamnet@comcast.net](mailto:ajawamnet@comcast.net) cell 703-618-2430

As a product designer, I have over 18 years of experience in the use of CAE/EDA tools for PCB, FPGA and product development in addition to experience with CAD and solid modeling software for applications such as mechanical and architectural design. Pictures of my lab and shop area can be found at:

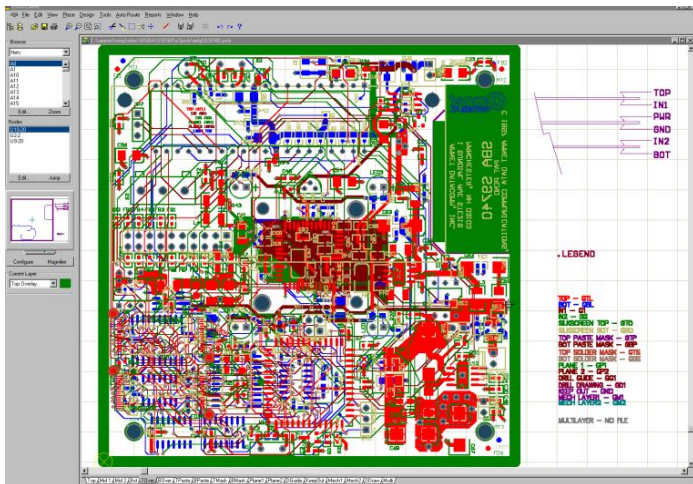
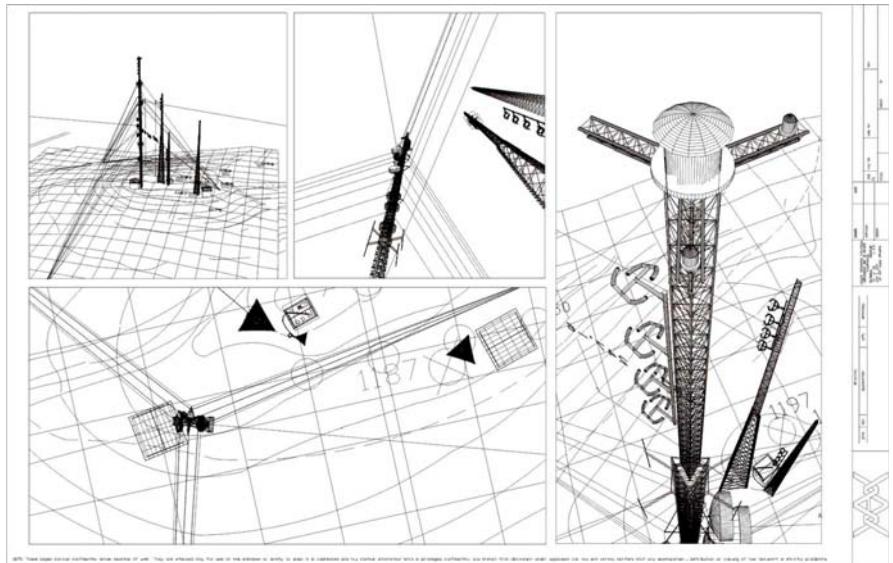


<http://home.comcast.net/~ajawamnet>

Links to more information and some samples of my work can also be found there

As a consultant for more than 20 years, I have provided design and engineering services in the realm of PC-based products, industrial controls, designed large systems for city and county departments, and serviced over 260 clients. I gained extensive experience in many aspects of CAD/CAE, especially with EDA tools and 3D modeling.

I currently support over 20 firms in the Washington DC area supplying design and turnkey solutions for various markets, including those used in homeland security, defense, and civilian government agencies. A work history (typical resume) and references can be made available upon request. In addition, samples of releasable material that exemplifies my capabilities can also be made available via download with any web browser.

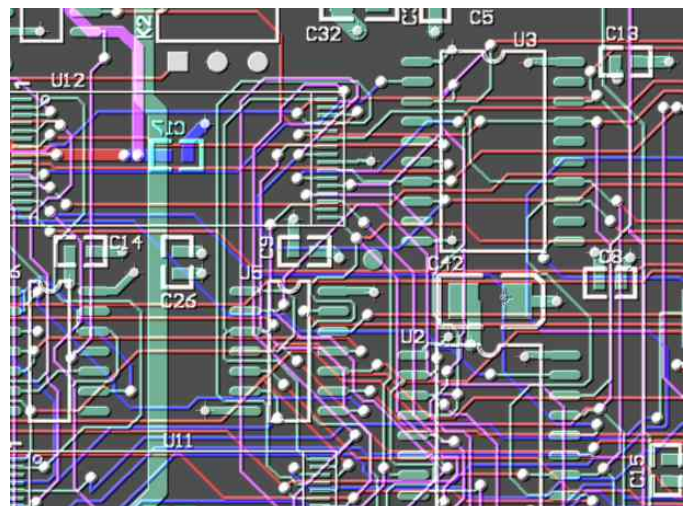


In a typical year, I complete over 130 design projects

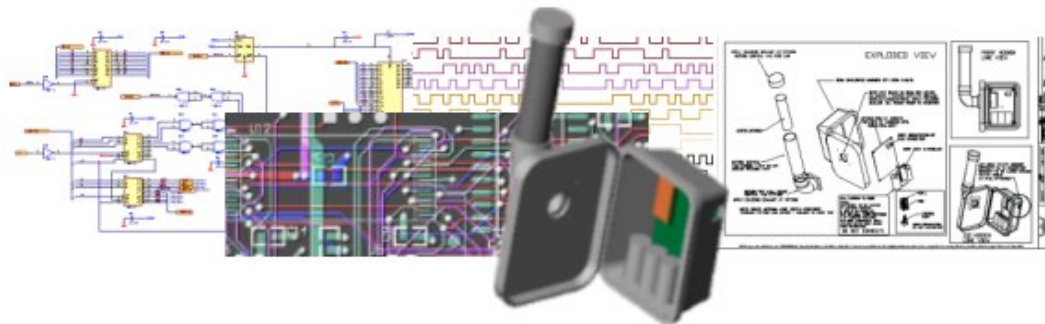
### **Electronic Hardware and Prototypes**

I own a full shop and can turn jobs quickly and accurately including hand-builds. The EDA tools I own support full mixed mode simulation (Verilog and PSPICE) as well as PLD/FPGA programming in addition to schematic capture and PCB layout/autorouting. Office and documentation applications I have include CorelDraw, PageMaker, Microsoft Office Professional (with customized MS Access databases), and Adobe Acrobat. Computer equipment includes 10-networked PC's; scanners and laser/photo-quality ink-jet printers and plotters.

My hardware design experience includes microcontrollers, microprocessors, DSP, wired and wireless chipsets, FPGA/PLD, imaging (CCD and CMOS/APS). I also specialize in the design of precision analog circuitry including instrumentation/control, RF integration, and telecommunication solutions. I deliver tight engineering packages for use by contract manufacturers, PCB fabrication houses and certification agencies and will assist with the specification of components and formulation of AVL's and cost reduction through DFM. I am experienced in the coordination of concurrent software/hardware design and ECO's to fit the product needs and market. I also can provide cost-effective solutions for custom electronics such as limited run or one-time applications.



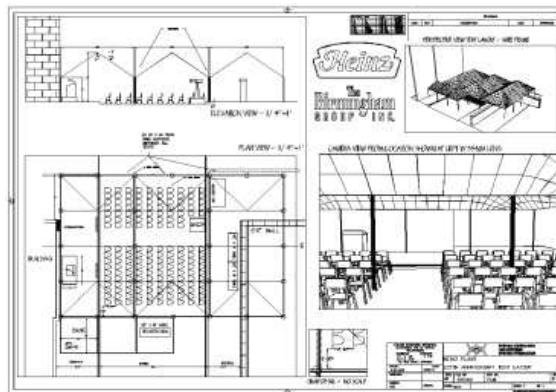
One of my strengths lies in the area of product development from concept to working prototypes and enclosures. I especially enjoy hardware design and development including hand building of PCB's (including SMT), rework, verification and testing of new products.



I can usually turn a job in a very short time and provide you with working hardware (including packaging) under the typical intense pressure that results from time-to-market considerations or when the sales force "needs it tomorrow" for conventions, client demos, etc... In addition, I am privileged to be in the company of some incredible software/firmware developers that also contract, which allows me to offer and provide turnkey solutions quickly and professionally. I'm also interested in developing new relationships with other companies and helping them with whatever services they may require.

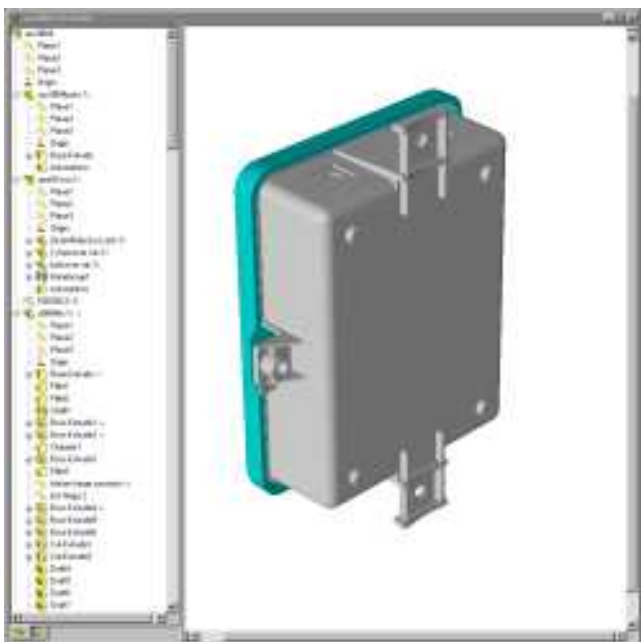
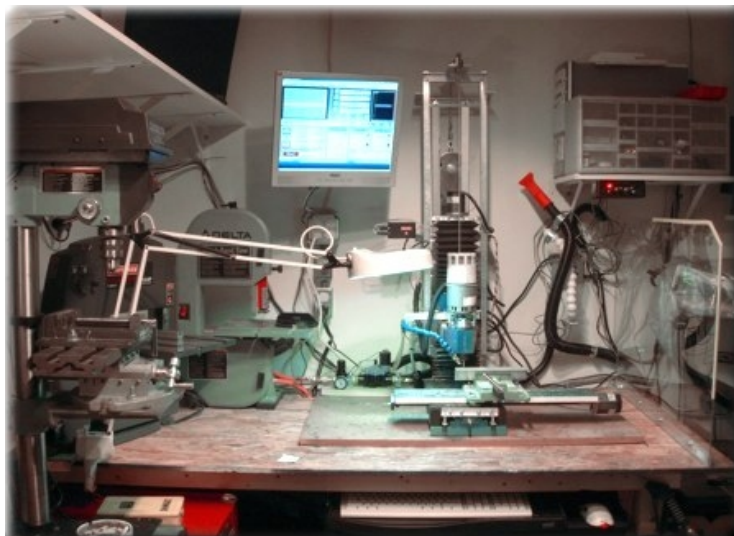
## **CAD and Graphics**

I provide various computer-aided drafting services for mechanical, architectural and the electronic industries. I have over 10 years experience in 3D drafting and modeling including mechanical design, site planning, commercial/residential real-estate, industrial planning, and most other areas of CAD/solid/surface modeling. I am proficient in the generation of 2D documentation of 3D design files. I own and use both AutoCAD and Solidworks.



## **Enclosure Design and Prototypes**

Enclosure/mechanical design experience includes project management and design from concept to release for tooling of injection molded, cast and sheet metal enclosures. I also perform conversion of 2D shop drawings to CAM-ready production models. I provide mechanical data in IGES, ACIS, Pro-E, and other industry-standard formats. This includes fast turn-around of SLA/FDM models, usually within a few days with complete assembly drawings for use in product development, beta and early adopter programs.



I also own a mid-sized CNC machine for use in fabrication of custom enclosures and mechanical parts. This includes modification of COT's enclosures for short runs, "one-offs", and prototypes

I provide full documentation including Acrobat documents for electronic distribution.

If you're looking for an affordable design service, whether it's a portion of a project or a full turn-key solution please feel free to contact me.

Wayne Mitzen – AJAWAM