

# Robert M. Blomstrom

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## Senior Printed Circuit Designer and Technical Leader

I am an experienced and proven design expert offering insight and passion for delivering solutions to difficult PCB design challenges. I am driven by an attitude to “do-it-right the first time”. When you coupled that with experience in service-bureau, commercial OEM, MIL subcontractors, bare-board fabrication and contract assembly manufacturing floor environments the result is a very rich cross section of understanding and approaches to the PCB design process that range from low-cost/high volume products to high-reliability/low volume ones.

My goal is to partner my design skills with a company of vision in order to lead the development and evolution of products that define and shape our world.

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## Areas of Expertise

### Design

Cadence Allegro PWB Design  
Cadence Concept HDL Schematic  
High Density Interconnect (HDI)  
RF/Analog, Digital, High-speed, Multilayer,  
Rigid, Rigid-Flex and Flex Designs  
Schematic and Footprint Library Symbols  
OEM Consumer Electronics Design  
High-Reliability MIL Avionic/Space Design  
Cost Reductions  
Documentation and Deliverables

### Leadership

Strong Problem-Solving Skills  
Startup CAD Design and Team Building  
Process and Procedure Development  
Dfx Definition and Development  
Managing Design Services  
Schedule Management  
Supporting Full Product Life Cycle  
Interacting And Qualifying Suppliers  
Operating P & L Center  
System, Network and Software Administration

## Accomplishment Highlights

- Developed “4G” CF-card format and handset wireless devices
- Developed and cost reduced dozens of consumer electronic product lines
- Produced designs for 48-layer backplane and 30-layer rigid-flex products
- Personally shipped 56 designs in one year for OEM R&D activity of multiple product lines
- Built three successful startup design groups
- Authored DFX Guidelines and PWB Fabrication Specifications and Statements of Work
- Managed a 6 person design team that produced \$200K per month revenue
- Built department websites to organize and publish documents, schedules and projects
- Improved time-to-market by creating a process flow to reduce errors and re-spins
- Defined and developed environment with multiple schematic and footprint libraries
- Provided system and network administration tasks to address problems, streamline upgrades and reduce downtime during corporate transition periods

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## Professional Experience

*ITT, Geospatial Systems - Clifton, NJ*

*2007-Present*

### ECAD COORDINATOR

Joined this team to build an in-house ECAD function for this engineering group.

My tasks included the following:

- Define design standards to meet space project requirements
- Develop process and procedures to follow during designs
- Develop multiple schematic and footprint libraries for Cadence products
- Configure software environments
- Design PWB, capture schematics
- Request and approve stackups for proper materials and requirements
- Lead by illustrating design requirements, strategies and techniques in order interface with MCAD and hardware design teams to evaluate ideas and suggest alternatives.
- Recruit, interview and manage staff

*Qualcomm Flarion Technologies, Inc. - Bridgewater, NJ*

*2003-2007*

### SENIOR PCB DESIGN ENGINEER

Joined this team first as a contractor and then became direct in January 2004. Continue to use an extensive amount of HDI techniques to deliver dense and cutting edge designs in the best time possible. Multitask on multiple designs at a time, based on priority, to ensure that schedules are met. Involved with all product lines and support as required. Interact with R&D and manufacturing to solve problems.

*Northrop Grumman – Rolling Meadows, IL*

*2002*

### SENIOR PCB DESIGN ENGINEER – CONTRACTOR

Contract position using Cadence Allegro for high density designs. Refreshed skills needed to design in a military subcontractor environment.

*Manufactures' Services Ltd. (MSL) – Mount Prospect, IL*

*2000-2001*

### DESIGN SERVICES MANAGER

Joined this company to build a design service bureau.

- Identified roles for PCB and Mechanical Design CAD and Assembly CAM functions.
- Researched and drafted ROIC requests.
- Ordered, setup and administered hardware and software.
- Interviewed staff.
- Produced quotes for customers
- Managed schedules and customer requirements.
- Authored ISO documents for design process, DFM, DFA and DFT.

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*U.S. Robotics / 3Com - Rolling Meadows, IL* *1997-2000*

**SENIOR PCB DESIGN ENGINEER, TECHNICAL LEADER and MANAGER**

Recruited by U.S. Robotics, later bought by 3Com, to build and lead a standalone CAD group for the startup Cable Modem division. Promoted to PCB Design Manager in October 1999 following a consolidation of several PCB Design groups within 3Com and supported a variety of OEM product lines.

*Hitachi Chemical / Advanced Interconnection Technologies (AIT) - Tucker, GA* *1993-1997*

**DESIGN SUPERVISOR / PCB DESIGN ENGINEER**

Recruited to this company as a PCB Designer and advanced in 1996 to supervise the design team. Very fast-paced service bureau environment that designed solutions for many high-end leading-edge customers in the commercial, military and aerospace markets. Captive manufacturing floor offered valuable insights for design.

*Circuitech, Inc. - Eatontown, NJ* *1989-1992*

**MULTIWIRE CIRCUIT DESIGNER**

Joined this company while still completing my degree at college. Service bureau environment and manufacturing floor specializing in products for commercial, military and aerospace markets.

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## PCB Skills

### **Cadence Allegro / Concept HDL / Specctra**

- Versions 5.0 through 16.2
- Used continuously since 1993
- Layout, Route and Library Development
- Constraint management

### **AutoCAD**

- Drafting of Fabrication and Assembly Drawings and Mechanical Components

### **Mentor Graphics Boardstation and Pads**

- Used to support customer translations and legacy data

### **Viewers**

- Data checked for accuracy using GCPreview, CadCam, Valor ODB++

### **Design Elements**

- Single, double, and multilayer constructions
- Rigid, Rigid-Flex and Flex constructions
- Thru-hole, blind and buried vias, microvias, HDI
- Standard and exotic materials
- Buried Ohmega resistors / buried capacitance
- High I/O count devices
- Differential pairs, controlled impedance, R/F shielding, high speeds, EMI control
- Mixed signal designs: Digital, Analog, R/F
- Use of form factor standards - PCI, ISA, VME, Compact Flash and company defined
- Best Practices using IPC standards and fabrication feedback - DFM, DFT, DFA
- Understanding of industry specifications such as IPC and MIL

## Additional Skills

### **Computer related background**

- Scripting - Awk, Nawk, SED, Perl
- System Administration – Microsoft Windows (9x, 2K, NT, XP, Vista, 7), Unix
- Network Administration – Setup, management and troubleshooting LAN's, Firewall setup
- Graphic Editing – Adobe Photoshop and Macromedia Fireworks
- Web Design – MS FrontPage and Macromedia Dreamweaver
- Office tools – MS Word, Excel, Access and Publisher; Adobe FrameMaker and Acrobat

## Education and Training

High Speed Design Seminar taught by Dr. Howard Johnson

Cadence CCT Specctra Training

IPC DFM seminar

Mentor Graphics Boardstation Training

PCB Design Conference / Instructional Seminar

Cadence Allegro Interactive Training

Monmouth University - B.S. Mathematics