



# DORNERWORKS

*Where Software and Hardware Design Meet*

## DornerWorks - Software and Hardware Design Experts!

DornerWorks is a *premier* provider of electronic engineering services for the aerospace industry. When your project needs experts who can provide seamless integration of embedded software and hardware, updating an existing system or starting a new one — DornerWorks delivers what you need, how you need, and when you need it! Our specialties include:

- Electronic System Architecture
- Electronic Hardware Development
- Embedded Software Development
- FPGA Custom Logic Engineering
- Verification and Validation

Founded in 2000 by David Dorner with one aerospace client, DornerWorks has grown into one of the top 25% embedded team sizes in the U.S.\*. Our portfolio boasts some of the most sought after aerospace projects in the industry today. Much of our success is attributed to the quality of talent we attract. We employ some of the best and brightest in the industry including: Ph.D.'s, multi-degreed engineers, patent holders, and a Six Sigma Black Belt. As part of our ongoing commitment to quality, we plan to be AS9100 certified in Q2 2010.

When you need only the highest level of quality, experience, and the technical expertise, there's really only one call to make – DornerWorks!

For more information how our engineering services can help in your next aerospace project contact:

E-mail: [sales@DornerWorks.com](mailto:sales@DornerWorks.com)  
or visit us at: <http://aerospace.dornerworks.com>



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\*According to a 2006 Venture Development Corporation Study

### Microprocessors

• z80, 180	• ARM	• Atmel AVR
• Intel 8051	• hc08, 11, 12	• DEC PDP-11
• Intel 8088	• Intel x86	• Microchip PIC
• MIPS	• Motorola 68xx	• PowerPC
• Xscale	• Rolm 1666B	• SH4
• SPARC	• ColdFire	• Philips NXP
• TI DM642	• TI MSP430	• Intel 8080
• TI C2000 Series DSP		
• TI C5000 Series DSP		
• TI C6000 Series DSP		
• Rabbit, Rabbit 2000, 3000		

### Hardware

<i>Analog:</i>	EMI, Filters - Signal: IIR, FIR, LED Drivers, opto-isolators, RF Non-audio, Temperature Sensor (Thermocouple etc.), Thermo-electric coolers, antenna >= 1 GHz, antenna < 1 GHz, proximity - hall effect (non-motor), Filters - Power level, proximity - opto
<i>Audio - Video</i>	Amplification / Output Processing, Microphone / Input Processing, Video image sensors, Audio: Encoding, Audio: Decoding, RF audio, Encoding (mp3, ogg, flac, etc..), Decoding, BT.656 Video (TV), NTSC/PAL
<i>Communications</i>	1394, ARINC-429, Ethernet, I2C, SPI, JTAG, LVDS, MIL-STD-1553, PCI, RS-232/422/485, SCSI, USB, 802.11x, ISA, Cardbus, AFDX, IR, IrDA, RF, Bluetooth
<i>Custom Logic</i>	Actel, Altera, VHDL, Xilinx
<i>Design Tools</i>	Altera Quartus, Cadence Orcad, Eagle Layout, Mentor DxDesigner, Mentor PADS, ModelSIM, Pspice, Schematic Capture, Synopsys, Hyperlynx
<i>Display I/O</i>	LCD , Touch panel, VFD
<i>Equipment &amp; Tools</i>	JTAG Debugger, Logic Analyzer, Oscilloscope, Reference Sensors, RF LNA, RF Power Meter, RF Signal Generator, Spectrum Analyzer
<i>I/O</i>	ADC, DAC
<i>Memory</i>	EEPROM, Flash, SDRAM, DDRAM
<i>Modules</i>	Rabbit - Analog, Rabbit - Ethernet
<i>Motor Control</i>	Brush DC, Brushless DC, Hall Effect, Permanent magnet AC motor (PMAC), Stepper, AC induction motor (ACIM)
<i>Power Supplies</i>	Linear <=500W LowVolt 1out, Linear <=500W LowVolt Multi, SMPS buck, SMPS flyback, SMPS <=500W LowVolt 1out, SMPS <=500W LowVolt Multi, SMPS >500W HiVolt, SMPS >500W LowVolt 1out, SMPS >500W LowVolt Multi, SMPS sepic, Linear >500W HiVolt, Linear >500W LowVolt, SMPS <=500W Hi Volt, SMPS boost, SMPS isolation, Linear <=500W HiVolt

### Systems

• Manufacturability	• Verification and Validation	• Reliability
• Quality Assurance	• Requirements Management	• EMC
• ee-DFMEA	• Computer Forensics	• PFMEA

### Software

<i>Industrial Automation</i>	AB PLC, AutoCad , Banner Vision Systems, DeviceBuses (DeviceNet, Eth I/P, etc), Drives, motors, servos, Fanuc Robotics, HMI Design, Industrial sensors (PE's, measurement, encoders, prox switches, temp, etc), Modicon PLC, Motoman Robotics, Panel Layout, SCADA, Epson Robotics, Cognex Vision Systems
<i>Compiler - IDE</i>	Code Warrior, CodeWright, Cosmic, Diab, Dynamic C, Eclipse, GNAT Programming Studio, GNU, IAR, Kiel, LabWindows/CVI, Rational APEX, Visual C/C++/C#, WR Tornado IDE
<i>CMS</i>	Dimensions, MS SourceSafe, RCS, Subversion, WindChill, Git
<i>Data Processing</i>	DSP: Filtering, DSP: Frequency Analysis, Video: Encoding, Video: Decoding
<i>I/O Device Drivers</i>	ARINC429, Camera, DDR SDRAM, DMA, LCD, LVDS, MIL-STD-1553, Motor control, Touchscreen, UART, serial, RF, AFDX, SD Card, IR, IrDA, ISA
<i>Methodologies</i>	Agile, Requirements-Based Test, Software Quality Assurance
<i>Network / Comm Protocols</i>	ARINC-429, ARINC-622 (FANS) , ARINC-724B (ACARS), ARINC-745-2 (ADS), AS-Interface, 1394 / Firewire
<i>OS</i>	DOS, Linux (any distribution), LynxOS, Nucleus Plus, pSOS, QNX, Real-Time Linux, uCOS, Unix, VMS, Windows, WR AE653/PSC, WR VxWorks, IRMX, Windows CE, Windows XP Embedded
<i>Languages</i>	Ada, BASIC, C, C#, C++, FORTRAN, Haskell, HTML, Java, Javascript, Jovial, Lisp, Perl, PHP, PL/1, Python, Ruby, Scheme, shell scripts, TCL, Visual Basic, Prolog, Pascal
<i>Technologies</i>	ActiveX, ASP, Code Generation, COM / DCOM, MPEG, H.264/AVC, SQL, UML
<i>Tools</i>	Boot loader (generic bootloaders) , DOORS, Ethereal/Wireshark, LabVIEW, LabWindows/CVI, Matlab, NI Test Stand, PVCS, Rational ClearCase, Rational Req. Pro, Rational Rose, Simulink, TeamTrack, TeX / LaTeX, CANoe, Quark

### Standards

• ISO 13485		
• IEC 62304		
• 21 CFR § 820.30 Design Control:		
• ISO 14971		
• MIL-STD-461E	• MIL-STD-810F	• MIL-STD-973
• IEC 60601-1	• IEC-6100	• NFPA 70
• 2167A	• CMMi	•
• CE Mark	• MIL-STD-461E	• General CUL
• DO-254	• ISO 13485	• 62304
• AS 9100	• ISO 9001	• DO-160E
• FCC design and verification under 47 CFR Part 15 (Class A/B)		
• Telecom Best Practices		
• FAA/RTCA DO-178B		

