Find Your Niche

RF Design

Digital Hardware Design

Software Design

Digital Communications Theory

Join Our Engineering Team

Want to join a team of knowledgeable, experienced leaders in wireless digital technology? Interested in working with modem technology, microprocessor architectures, field programmable gate arrays, VHDL development, networking, and RF technology? MDS is looking for people like you!

Technology

Since its formation in 1985, MDS has deployed more than 400,000 wireless devices, all in mission critical applications. Employees have the opportunity to work with cutting edge, spectrally efficient, digital radio technology, with involvement at the system and component levels. State-of-the art resources, such as the best test equipment and software tools, are at the engineers' disposal.

Engineers at MDS utilize a blend of industry standards and proprietary technology to produce leading wireless products. Through the help of experienced staff and high-tech tools, employees are encouraged and empowered to envision new and creative ways to design and deploy wireless networking technology.

Teamwork, Growth, and Challenge

MDS' products include an exceptional combination of digital, analog, RF, signal processing, software, and mechanical design. This offers engineers the unique opportunity to broaden their knowledge from the start, gaining expertise in a wide array of disciplines. Experienced and informed staff provides training and mentoring, yet all employees are strongly encouraged to share their ideas and enthusiasm. The team-oriented environment at MDS is informal and relaxed, allowing engineers to have fun while they work. Every effort is made to allow employees to work on projects and designs of their choice. Additionally, MDS employs ISO-9000 certified quality systems, enabling engineers to design and develop products in a structured way.

Since the company produces its products onsite, engineers have the rare ability to follow development from concept to completion, even watching their design come off the production line.

With about 225 employees, the company is large enough and profitable enough to provide a high-tech, professional work environment, yet small enough for employees to see and feel the difference they make.

To encourage continuing education and development of its employees, MDS offers tuition reimbursement. Employees have local access to renowned technical education programs at Rochester Institute of Technology and the University of Rochester.

Proven Success and Stability

MDS is an established market leader in industrial networking technology. Profitable for its last 11 years, the company has enjoyed growth of more than 25 percent per year, and it is still going strong.

RF Design

Are you interested in analytical and hands-on engineering, coupled with real responsibility for complete radio designs? Would you like to design active microstrip circuits and complex, digitally modulated frequency synthesizers? Your mission, should you choose to accept it, is to design high-tech, tangible radio products, balancing features and specifications with cost and time-to-market.

RF Design Engineers have access to state-of-the-art tools to assist them during the design process. The test environment includes screen rooms, high-end network analyzers, noise figure meters, power meters, signal generators, and spectrum analyzers. Circuit analysis and design are accomplished with the help of software packages such as Mathcad, Genesys v8.0, ADS 2001, and Sonnet. These tools help enhance the connection between analysis and evaluation, strengthening the overall design process.

MDS relies upon the talents of its engineers to design critical components such as power amplifiers and VCOs, helping to maximize product performance and reliability at the lowest possible cost. You will have the opportunity to work with and design printed microwave filters, LC and distributed VCOs, high performance frequency synthesizers, high linearity amplifiers for QAM and OFDM, and high dynamic range receivers. If a certain technology or type of work interests you, there's a good chance you'll be able to pursue it. Additionally, you will be involved in all aspects of the design process, from requirements to seeing your product roll off the production line.

MDS is known for its robust, reliable radio products, as well as its ability to continue to employ cutting edge digital and networking technologies within its radios. The company has successfully deployed many point-to-point, and point-to-multipoint products in licensed and unlicensed frequency bands worldwide. With its diverse product line, you will have the ability to work on a variety of projects at frequencies to 6 GHz.

The MDS engineering community is very friendly and supportive. Experienced staff mentors and guides new employees, encouraging self-sufficiency and the open exchange of ideas.

Teamwork and technology go hand in hand at MDS.

Digital Hardware Design

Would you like to embrace modern modem technology using forward error correction, adaptive equalization, symbol timing acquisition, phase derotation, and interleaving to develop VHDL-based modems and MAC circuitry? Your mission, should you choose to accept it, is to develop modems, controllers, and interfaces for radios operating in frequency bands to 6 GHz.

As a Hardware Design Engineer at MDS, your daily activities may take you through the development of an Ethernet interface, or a configurable FPGA-based modem. You will work on the development of projects of your choice, including a variety of embedded microprocessor/DSP/FPGA-based products for deployment to the data networking and telecommunications markets. These products incorporate highly efficient modems, such as QAM, and high-speed subscriber interfaces, such as Ethernet and T1/E1.

At MDS, the development cycle for programmable logic design encompasses VHDL design entry using the Aldec environment. This includes functional and timing simulation with Aldec, design synthesis using Synplicity, and Place and Route via Xilinx's Alliance toolset. MDS engineers have access to state-of-the-art resources in the lab, including high-end logic analyzers such as the HP 1670D and HP 16700 models.

In-house manufacturing and production allows engineers to see first hand the products they have helped to create. Engineers are integral parts of the entire design cycle, from requirements to a product rolling off the production line.

As a member of the Hardware Engineering team, you will work with a seasoned and knowledgeable group of people. Experienced staff acts as mentors, helping new employees assimilate and embrace their new positions.

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Software Design

Are you C savvy? Is embedded Linux and proprietary real-time systems design right up your alley? Your mission, should you choose to accept it, is to develop and optimize software for deeply embedded wireless communications applications.

Product design varies from low-level device drivers to high-level applications software. You are free to innovate and create, devising ways to integrate product sources with industry standard operating systems, including Linux and pSOS. MDS' products are network capable, allowing software engineers to employ TCP/IP programming skills, such as SNMP, PPP, embedded web servers, and Java-scripting.

You will implement modem and customer interface functions with 8, 16, and 32-bit DSPs or microprocessors, including FPGA and OEM solutions. Engineers have a full complement of microcontrollers, microprocessors, and DSPs at their disposal, from a variety of leading manufacturers. Using 32-bit RISC machines, engineers run these microprocessors up to 80 MHz and employ synchronous DRAM and flash memory technologies. These high-speed microprocessors allow MDS to successfully leverage the Linux operating system in a variety of industrial applications.

The software team at MDS is involved in diverse product development, using a wide array of technology. This gives team members the luxury to specialize in a particular field, such as IP networking or RF hardware control. However, the group is small enough to require cross-training, allowing team members to work on various aspects of the same project, or on pieces of more than one project at a time. Each team member brings different skills to the table that are vital to the team's success. Through specialization and cross functionality, engineers are able to gain expertise in certain disciplines, as well as continue to grow and develop new skills.

Experienced, knowledgeable staff acts as mentors, assisting new employees in their transition. Wide-open idea sharing is encouraged, helping new employees embrace their work and become self-sufficient.

Teamwork and technology go hand in hand at MDS.

Digital Communications Theory

Are you interested in working with modeling and analysis for wireless channels, communications systems, modems, wireless MACs, traffic models, communications protocols, and queuing theory? Your mission, should you choose to accept it, is to design and develop equipment for wireless digital communications systems.

MDS products are developed for licensed and unlicensed applications, including standards-based and proprietary systems. Applications include private and public networks for all types of traffic: data, voice, and video. Engineers are involved in all aspects of the design cycle, from requirements through manufacturing. With in-house production, you can see firsthand the products that are the end results of your efforts. Juggling the aspects of communications systems design, including theoretical performance estimation, design tradeoffs, and architectural design, keeps the workday fast-paced and challenging.

MDS works with the latest modulation techniques, including OFDM, QAM, QPSK, and CPFSK. Unlicensed products utilize direct sequence and frequency hopping spread spectrum, in both TDMA and FDMA configurations. These designs make extensive use of digital signal processing algorithms, state machines, and analysis. Engineers leverage a variety of wireless standards, as applicable, adding robustness and reliability to embedded applications. State-of-the-art data communications technologies are employed, such as Ethernet, TCP/IP, DOCSIS, and various serial protocols, as well as telecommunications technologies stretching from TI/EI to frame relay.

Experienced staff members mentor and assist new employees in their transition, encouraging them to share ideas and become self-sufficient. Communications Systems Engineers at MDS gain expertise in wireless communications systems, digital signal processing, error-correction coding, information theory, communications protocols and networks, and traffic and network modeling.

Teamwork and technology go hand in hand at MDS.