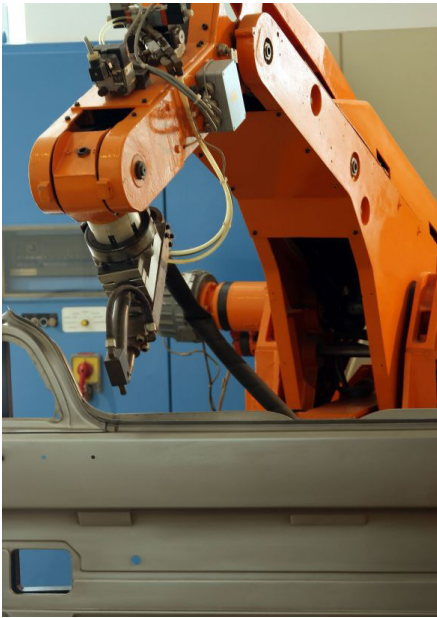# Precision Robotic Arm Motion Controller   Design Note #71
ARM Cortex-M3 and M4 Computing Platforms

High-speed robotic arm control requires precision DC motor control electronics. Design from Orchid Technologies leads the way.

Robot Arm Motion Control

Robot arm motion control makes use of high current DC motors. These compact and powerful motors require low-cost precision-drive electronics. Orchid Technologies combined high-current drive electronics with powerful microprocessor technology to produce a cost effective motion control design.

Cortex-M3 / M4 Processor Power

Orchid's newest motion controller design is based on ARM Cortex M3 and Cortex M4 processors. These low-cost, low-power 32-bit processors are revolutionizing the embedded computer world. Running at high speed, Cortex M3 and Cortex M4 processors are capable of performing both general computing tasks while simultaneously running the millions of floating point calculations needed to perform line sensing algorithms. Once exclusively performed by specialty DSPs, Cortex-M3 and Cortex-M4-based devices allow high-tech sensor design at low-end price points.

Rapid Re-Design Cycle

Orchid was called to redesign our client's old 8051-based motion controller. With ten thousand new robot arms ready to ship, our client could no longer build motion controllers. Orchid's role was to design a modern form-fit-function replacement for the old controller. Within six weeks we rapidly redesigned the controller's hardware and implemented interface-level software that recognized the original control system command set. Orchid delivered initial working units in six weeks and first production units in ten.
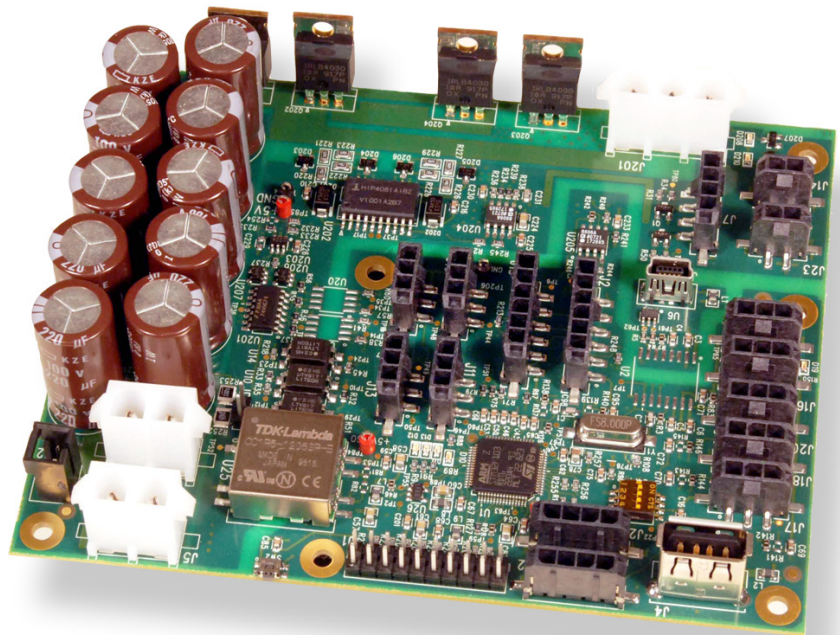
Orchid Technologies: Custom Motion Control

The development of custom electronic products for our OEM clients is Orchid's entire business. The design of custom motion control hardware and software with rapid design cycles, demanding technical requirements, and unforgiving schedules sets us apart. Call Orchid Technologies today!

"Our high current motors require well designed drive circuitry. Orchid found that perfect balance between cost and functionality."

- Operations Manager

**ORCHID TECHNOLOGIES
ENGINEERING & CONSULTING, INC.**

Custom Engineering From Concept to Production

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