

# HARDWARE TARGET MODULES PSIM



## One-stop solution from simulation to hardware implementation

PSIM's Hardware Target Modules, combined with the SimCoder Module, provide the capability to automatically generate C code that is ready to run on specific target DSP hardware.

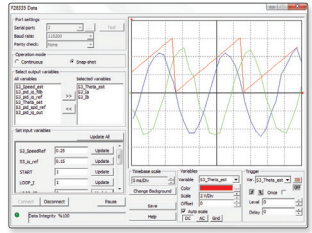
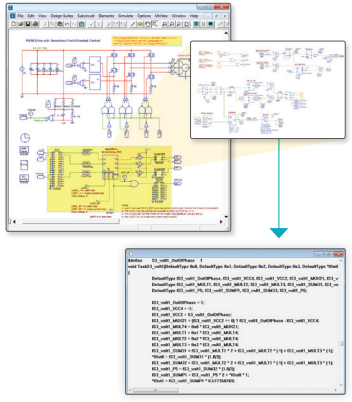
Digital control implementation in a microcontroller/DSP is a time consuming process as there is a steep learning curve to write hardware control code. Also, debugging the control code is not easy as intermediate control computations inside the processor are not readily available externally. This often results in long development time, high development cost, and designer frustration.

With the Hardware Target Modules one can simulate a system in PSIM at the schematic level, then generate the hardware code from the control circuit

automatically. This offers significant advantages over manual code writing in that the control algorithm can be validated thoroughly in simulation. Also, engineers can concentrate on control algorithm development and performance enhancement rather than on learning the details of the microcontroller/DSP.

Automatic hardware code generation offers additional benefits. For example, issues such as scaling and overflow which are difficult to deal with in fixed-point code, can be easily handled in simulation.

In addition, PSIM offers the DSP Oscilloscope function that allows DSP waveforms and parameters to be displayed and changed in real time. This makes it very easy for code testing and debugging.



Above: **DSP Oscilloscope** for real-time DSP waveform display.

Left: **PMSM drive system** with auto generated code.

## FEATURES & BENEFITS

- ◆ Hardware code generation directly from control schematic
- ◆ Support of both floating-point and fixed-point DSP
- ◆ Support of peak current mode control for digital power supplies
- ◆ DSP Oscilloscope for real-time control and waveform display

## HARDWARE TARGETS CURRENTLY OFFERED

- ◆ **F2833x / F2803x / F2802x / F2806x / F2837x / F28004x Targets:** For TI F2833x / F2803x / F2802x / F2806x / F2837x / F28004x series DSP
- ◆ **PE-Expert4 Target:** For Myway PE-Expert4 hardware