

MICROMON™

Microcontroller Monitoring System

MICROMON™ constitutes a supplementary tool for non-realtime and realtime SIMULINK™ models resulting from the Real-Time Workshop™ and running in microcontrollers.

On PCs MICROMON provides you with an easy-to-use user interface combined with an online signal monitoring system. The MICROMON user interface includes a comprehensive online help system and a convenient data management and documentation system.

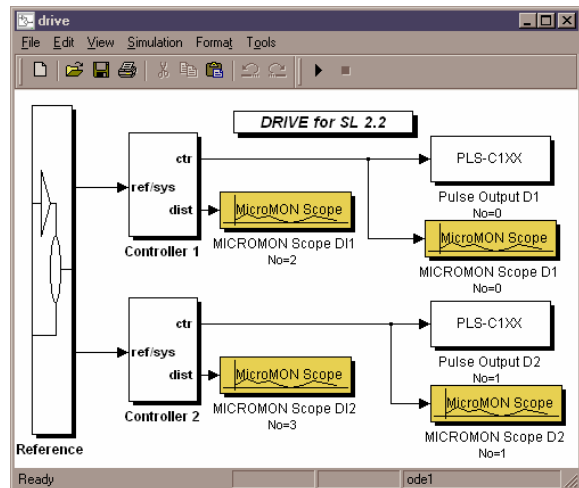
Parameters defined in the SIMULINK simulation model may be modified from inside the MICROMON user interface even during realtime program execution in the microcontroller (version 1.2 and up). The program execution is continued while the parameters are changed from within the MICROMON user interface. After the parameter changes are confirmed the new parameters are used for further program execution.

Within this environment neither MATLAB nor SIMULINK are needed. MICROMON allows you to monitor the software (code generated simulation models) running on a microcontroller target, having direct access to the graphical results of the simulated system. This means that the desired curves are drawn and shown on your screen at every time step available from the microcontroller while the stand-alone non-realtime or realtime program is running inside the microcontroller.

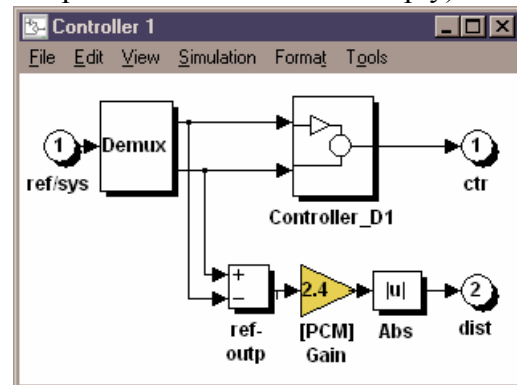
Data exchange

Simulation models that shall be interfaced by MICROMON may be created very easily. The three steps are itemized as follows:

- **Build your model inside Simulink** and
 - (1) connect the desired signals to be monitored and stored to MICROMON Scope blocks.



- (2) mark the parameters that users shall be able to modify from inside the MICROMON user interface. ('[PCM]' has to be part of the block name simply).



- **Apply the Real-Time Workshop** to
 - (1) generate the C-code automatically (realtime or non-real-time).
 - (2) activate automatic compiling and linking to generate the final microcontroller program which shall be monitored by MICROMON.
- **Download the code. - Ready to go.**

Prerequisites

Depending on your goal, different prerequisites will apply:

(1) When looking for a complete solution including generating the Infineon C167 microcontroller code (non-realtime or realtime program) without any customization work, the following software components are needed:

- Microsoft Windows 9x/ME/NT4/2000
- Real-Time Workshop (requires SIMULINK and MATLAB)
- CONTI Tool
- Tasking Compiler for Infineon C166/167
- MICROMON

(2) When looking only for a microcontroller monitoring tool because the whole rest is already available, your microcontroller code needs to comply with the serial line transfer protocol required by MICROMON. It is an extremely easy and open protocol. Therefore adapting your code will not become a serious or time-consuming problem.

MICROMON user interface

MICROMON runs on operating systems such as MS-DOS 5.0, 6.2, 6.22, 7.0. There is also a Windows 9x/ME/NT4/2000 version. To start MICROMON simply enter the corresponding DOS command or activate the corresponding icon.

In any case this means that you can run the stand-alone simulation program on PCs without having MATLAB installed.

MICROMON provides you with an easy-to-use user interface

The MICROMON user interface provides menus for

- the control of program execution
- the definition of necessary inputs for MICROMON on-line graphics, like scaling, labels, markers, colors.

→ the modification of model parameters even during program execution (also via joystick)

→ data management and documentation.

During program execution, the curves of the signals to be monitored are presented on the screen and can be output directly to printer and/or written to file.

Highlights of MICROMON

- easy-to-use interface including data management and documentation capability
- direct graphical access to the signals coming via a microcontroller's serial line for direct realtime signal monitoring
- curves may be output directly to standard printers.
- modification of model parameters from inside the MICROMON user interface while the program execution is continued
- MICROMON is a stand-alone program which can be used on different PCs.

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