

Appendix

A3

USING THE STRUCTURED ASSEMBLER WITH THE MPLAB IDE

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*The MPLAB IDE is not required to generate assembled programs files (.hex) with SASM. However, SASM does require MPASMWIN.EXE and P18F452.INC, which are available on the www.picbook.com website, to work properly without the MPLAB IDE. At a command prompt, type **SASM <filename>** to pre-process and assemble the file specified by <filename>. SASM will append the default file extension “.asm” to <filename> if no extension is provided.*

A3.1 INSTALLING SASM WITH THE MPLAB IDE

To install the MPLAB IDE or SASM on a Windows NT based machines (NT, Windows 2000, or Windows XP) requires administrator rights. Be sure you are installing these programs using an administrator account or they may not function properly. Download the latest version of the MPLAB IDE from Microchip’s website, www.microchip.com, and install. From the www.picbook.com website, download the self-extracting zip file MPLAB_SASM.EXE. Run this file and UNZIP the files into the MPLAB IDE install directory. If you used the default installation

directory for MPLAB, the MPLAB_SASM unzip dialog will be pointing to the correct install directory by default. Be sure to leave the option boxes checked while unzipping. One of these options creates several registry keys which are required by the MPLAB IDE to call SASM.EXE.

Once these files have been installed, there is a final configuration step to perform before using SASM. Start the MPLAB IDE by finding its icon on the start menu. From the menu bar, select **Project => Set Language Tool Locations...** and find the SASM tool suite in the dialog box list. Expand the tree for the SASM tool suite by clicking on the + symbol beside **SASM** and again beside the **Executables** branch. There should now be two items under the Executables branch, MPLINK and SASM. Click on MPLINK and press the Browse... button in the bottom right corner of the dialog box. Locate and select the **MPLINK.EXE** file, which should be in the **C:\Program Files\MPLAB IDE\MCHIP_Tools** directory. Now click on SASM and Browse for the **SASM.EXE** file in the **C:\Program Files\MPLAB IDE\SASM** directory. Press **OK** to save these file locations and close the dialog box.

A3.2 CREATING A SASM PROJECT IN THE MPLAB IDE

Download the P1.ASM file from the www.picbook.com website. Start MPLAB if it is not already open. Select **Project => Project Wizard...** from the menu bar. Click **Next >** to advance past the wizard's welcome screen. From the device drop down list, select **PIC18F452** and click **Next >**. Under the Active Toolsuite drop down list, select **SASM** and click **Next >**. Enter **P1** for the Project Name, and for the Project Directory, Browse for the directory to which the P1.ASM file was downloaded. Click **Next >** and select **P1.ASM** from the directory listing by double clicking on it. Click **Next >** and then **Finish** to create the new project and workspace. To assemble the project and create the P1.HEX file, select **Project => Build All** from the menu bar.