



# Memory Expansion Using MICTOOL-FLASH

## Introduction

Before expanding the memory configuration of a microcontroller board, confirm the amount of physical memory presently installed on the board. During a power-on cycle, you will need to monitor the microcontroller LED display. The Micro/5-PX and Micro/5-PXN CPU board LEDs DS1, DS2, DS3, and DS4 are used for displaying memory codes.

1. Reset the micro.
2. Count the number of times the LEDs blink.
3. Use Table 1 to determine the amount of memory already installed in the microcontroller board.

**Table 1: Megabytes of RAM Memory Installed on the Microcontroller Board**

Number of LED Blinks	Installed Memory	Comments
4 Blinks	2 megabytes	Standard/Default on PX
8 Blinks	4 megabytes	Standard/Default on PXN
16 Blinks	8 megabytes	

## Installing the Memory Board

1. Remove the microcontroller board that is to receive the new memory board.
2. Snap the memory board into place in the appropriate socket of the microcontroller board, matching the key to the key slot, ensuring proper positioning.
3. Replace the microboard into the microcontroller cabinet.

## Configuring Additional Memory

1. Connect an RS-232 cable from the comm port on a PC to the primary port, J3 (upstream) port, on the micro.
2. At a PC, access the MICTOOL - FLASH utility Version 1.13 or later; the FLASH tool will identify the micro to which you are connected.

**Result:** The *PARAMETERS* button is now enabled.

3. Click the *PARAMETERS* button, then select the **General** tab.

- At the keyboard, press and hold **Ctrl**, while you press the letter **P**.

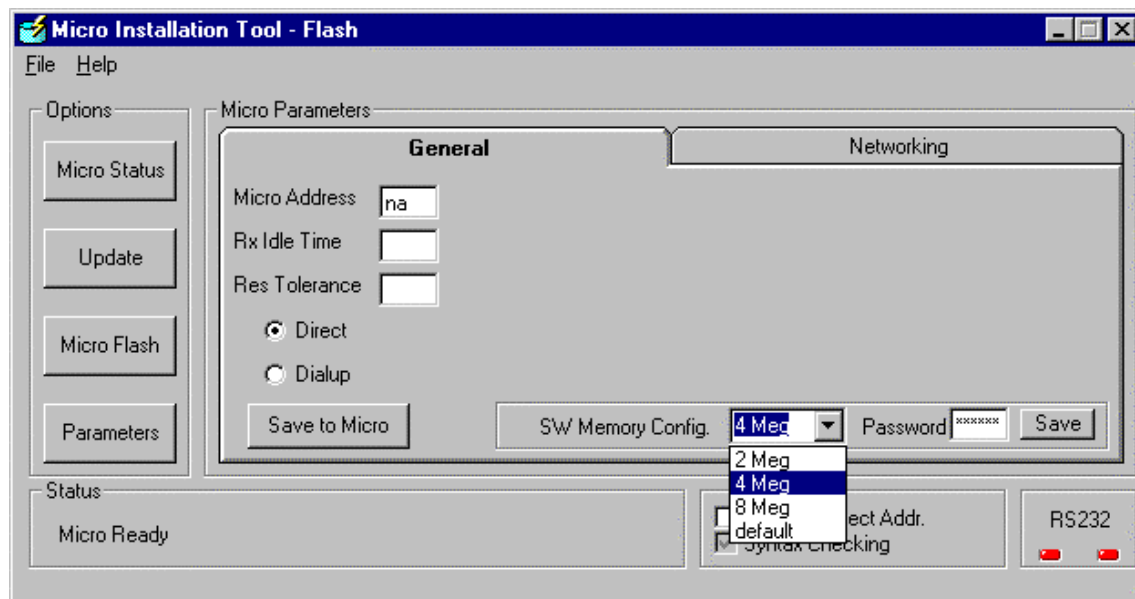
**Result:** The **Password** box will be displayed.

- Type **Trigger** as the password, in initial caps.

**NOTE:** The password is case-sensitive.

**Result:** The *SW MEMORY CONFIG* control and *SAVE* buttons are now enabled.

- Select the additional memory configuration from the *SW MEMORY CONFIG* picklist by clicking on the down arrow. Refer to Figure 1.



**Figure 1: MICTOOL - FLASH Micro Parameters**

**NOTE 1:** Exercise caution when changing the memory configuration. The memory configuration should not exceed what is physically on the micro board.

**NOTE 2:** Micro/5-PXN boards require a minimum of 4 megabytes.

- Click *SAVE*.
- Exit the MICTOOL - FLASH utility.