

### Using the D-Bug12 Monitor Commands

Student's name & ID: \_\_\_\_\_

Partner's name(s) & ID(s): \_\_\_\_\_

Your Section number & TA's name \_\_\_\_\_

#### Notes:

You must work on this assignment with your partner.

Hand in a printer copy of your software listings for the team.

Hand in a neat copy of your circuit schematics for the team.

These will be returned to you so that they may be used for reference.

----- do not write below this line -----

Grade for performance verification (50% max.)

Grade for answers to TA's questions (20% max.)

Grade for documentation and appearance (30% max.)

POINTS	TA init.

Grader's signature: \_\_\_\_\_

Date: \_\_\_\_\_

# Using the D-Bug12 Monitor Commands

## GOAL

By doing this lab assignment, you will learn:

1. To use the D-Bug12 monitor commands on the M68HC12.
2. Exercise the 6812 CPU registers and built-in hardware functions (ports, timers, A/D converters, etc.).

## PREPARATION

- Read Sections 5.1 to 5.5 from *Software and Hardware Engineering* by Cady & Sibigtroth.
- Review the M68HC12 hardware features.
- References: 68HC12 EVB User's Manual, pp. 3-4, 3-5, 4-17, & 4-18

## D-BUG12 COMMANDS ON THE MC6812

### 1. Monitor Commands

Become familiar with the commands for observing and changing the values of the CPU registers and memory, including the hardware control and status registers (the first 512 memory locations). The EVB uses the 6812's ports A through D for expanded mode access to 64k of external memory. This leaves only ports G, H, and J available for general use (see Figure 2-1 in text).

### 2. Tasks

Use the monitor command and the Cady & Sibigtroth text (Chapter 5, 7, and 12 examples) to:

- Check and change register values
- change the terminal BAUD rate (remember you will need to adjust your HyperTerminal settings to continue communicating with the EVB)
- set output port bits (use LEDs or a voltmeter to verify values)
- input logic levels set on ports (use 0 V (ground) for a logic low and +5 V through a 1 k resistor for a logic high)
- attempt to read in a voltage on an analog to digital converter port (this may be difficult since the setting necessary for this aren't covered until later in the course)