

## MR – Memory Read

**Syntax:** “!SCMR” <address> <CR>

**Reply:** <value>

The MR Command returns the scratchpad memory value within the PSCU from one of the 256 (0-255) memory addresses. A carriage return (\$0D) must follow the command.

The following code can be used to communicate with the PSCU using a BASIC Stamp 2.

```
' {$STAMP BS2}
' {$PBASIC 2.5}

Sdat PIN 15' Serial Data I/O pin
  Baud CON 396' Constant for 2400 baud
buff VAR Byte' temporary variable
Address VAR   Byte

ScratchPAD_Read:      ' Read 1 BYTE from the scratchPAD memory from location 0
DEBUG "Reading from ScratchPAD", CR
Address = 0
SEROUT Sdat, Baud+$8000, ["!SCMR",Address,CR]
SERIN Sdat, Baud, 2000, ScratchPAD_Read, [buff]
DEBUG "ScratchPAD memory value = ", DEC buff(0), CR
```

Within the Debug Terminal you will see the message, “Reading from ScratchPAD”, followed by, “ScratchPAD memory value =” and the value at the Address location specified. If the message “Reading from ScratchPAD” appears more than 3 or 4 times without a reply you should check to make sure all connections are correct and verify your power source. If the PSCU still fails to respond you may press the reset button momentarily. If the PSCU still fails to respond you may contact our Technical Support Department. Contact information is listed toward the end of this documentation.

## MW – Memory Write

**Syntax:** “!SCMW” <address> <value> <CR>

**Reply:** None

The MW Command writes a value to the scratchpad memory within the PSCU to one of the 256 (0-255) memory addresses. A carriage return (\$0D) must follow the command.

The following code can be used to communicate with the PSCU using a BASIC Stamp 2.

```
' {$STAMP BS2}
' {$PBASIC 2.5}

Sdat PIN 15' Serial Data I/O pin
  Baud CON 396' Constant for 2400 baud
buff VAR Byte' temporary variable
Address VAR   Byte

ScratchPAD_Write:      ' Write 1 BYTE to the scratchPAD memory at location 0
DEBUG "Writing to ScratchPAD", CR
Address = 0
buff = 65
SEROUT Sdat, Baud+$8000, ["!SCMW",Address,buff,CR]
```

Within the Debug Terminal you will see the message, “Writing to ScratchPAD”

## MG – Memory Get Block

**Syntax:** “!SCMG” <address> <size> <CR>

**Reply:** <N1,..., Nsize>

The MG Command returns a BLOCK of scratchpad memory values within the PSCU starting at the specified address (0-255). A carriage return (\$0D) must follow the command.

**Note: BLOCK memory will wrap. For example, if you specify a memory address of 255 and indicate a block size of 3 then the locations returned will be at address 255,0, and 1**

The following code can be used to communicate with the PSCU using a BASIC Stamp 2.

```
' {$STAMP BS2}
' {$PBASIC 2.5}

Sdat PIN 15' Serial Data I/O pin
  Baud CON 396' Constant for 2400 baud
buff VAR Byte(5)' temporary variable
Address VAR   Byte

ScratchPAD_GetBlock:      ' Read 5 BYTEs from the scratchPAD memory starting at location 0
DEBUG "Reading Block of 5-Bytes from ScratchPAD", CR
Address = 0
SEROUT Sdat, Baud+$8000, ["!SCMG",Address,5,CR]
'
'
'                               |
'                               | This indicates the Size of the Block you want to read

SERIN Sdat, Baud, 2000, ScratchPAD_GetBlock, [STR buff\5]
DEBUG "ScratchPAD memory values = "
DEBUG DEC buff(0),",",DEC buff(1),",",DEC buff(2),",",DEC buff(3),",",DEC buff(4), CR
```

Within the Debug Terminal you will see the message, “Reading Block of 5-Bytes from ScratchPAD”, followed by, “ScratchPAD memory values =” and the value at the Address locations specified. If the message “Reading Block of 5-Bytes from ScratchPAD” appears more than 3 or 4 times without a reply you should check to make sure all connections are correct and verify your power source. If the PSCU still fails to respond you may press the reset button momentarily. If the PSCU still fails to respond you may contact our Technical Support Department. Contact information is listed toward the end of this documentation.

## MP – Memory Put Block

**Syntax:** “!SCMP” <address> <size> <N1,..., Nsize>

**Reply:** None

The MP Command writes several variables to a BLOCK of scratchpad memory within the PSCU starting at the specified address (0-255).

**Note: BLOCK memory will wrap. For example, if you specify a memory address of 255 and indicate a block size of 3 then the locations written to in the scratchpad will be at address 255,0, and 1**

The following code can be used to communicate with the PSCU using a BASIC Stamp 2.

```
' {$STAMP BS2}
' {$PBASIC 2.5}

Sdat PIN 15' Serial Data I/O pin
  Baud CON 396' Constant for 2400 baud
buff VAR Byte(5)' temporary variable
```

Address VAR    Byte

ScratchPAD\_PutBlock:            ' Write 5 BYTEs to the scratchPAD memory starting at location 0

DEBUG "Writing Block of 5-Bytes to ScratchPAD", CR

Address = 0

buff(0) = 10

buff(1) = 20

buff(2) = 30

buff(3) = 40

buff(4) = 50

SEROUT Sdat, Baud+\$8000, ["!SCMP",Address,5,buff(0),buff(1),buff(2),buff(3),buff(4)]

'

|  
This indicates the Size of the Block you want to write

Within the Debug Terminal you will see the message, "Writing Block of 5-Bytes to ScratchPAD".