

4.7.2 Counter Setup Command Set

Command Syntax	Command Name	Description	I/O Module
\$AAAG	Set Gate Mode	Requests the specified counter/ frequency module to set its gate mode to either high, low or disabled	4080, 4080D
\$AAA	Read Gate Mode	Requests the specified counter/ frequency module to return the status of its gate mode	4080, 4080D
\$AA3N(data)	Set Maximum Counter Value	Sets the maximum value of counter 0 or counter 1 for the specified counter/frequency module	4080, 4080D
\$AA3N	Read Maximum Counter Value	Reads the maximum value of counter 0 or counter 1 of the specified counter/ frequency module	4080, 4080D
\$AA5NS	Start/Stop Counter	The command orders the specified counter/frequency module to start or stop counting	4080, 4080D
\$AA5N	Read Counter Start/Stop Status	The addressed counter frequency module returns its status indicating whether counting is enabled or disabled	4080, 4080D
\$AA6N	Clear Counter	The command clears the counter 0 or counter 1 of the specified counter module	4080, 4080D
\$AA7N	Read Overflow Flag	The addressed module returns the status of the overflow flag of counter 0 or counter 1	4080, 4080D

\$AAAG

Name	Set Gate Mode.
Description	Request the specified counter/frequency module to set its gate to either high, low or disabled.
Syntax	<p>\$AAAG(cr)</p> <p>\$ is a delimiter character.</p> <p>AA (range 00-FF) represents the 2-character hexadecimal address of counter/frequency that you want to interrogate.</p> <p>A identifies the Gate Mode command.</p> <p>G determines the gate mode.</p> <p>G = 0 the gate is low</p> <p>G = 1 the gate is high</p> <p>G = 2 the gate is disabled.</p> <p>(cr) is the terminating character, carriage return (0Dh)</p>
Response	<p>!AA(cr) if the command is valid.</p> <p>There is no response if the module detects a syntax or communication error, or if the specified address does not exist.</p> <p>! is a delimiter character indicating the command was valid.</p> <p>AA (range 00-FF) represents the 2-character hexadecimal address of a counter/frequency module.</p> <p>(cr) is the terminating character, carriage return (0Dh).</p>
Example	<p>command: \$01A1(cr)</p> <p>response: !01(cr)</p> <p>The command requests the counter/frequency module at address 01 to set its gate high. The addressed module replies with its address to indicate that it has executed the command.</p>

\$AAA

Name Read Gate Mode.

Description Request the specified counter/frequency module to return its gate status.

Syntax \$AAA(cr)

\$ is a delimiter character.

AA (range 00-FF) represents the 2-character hexadecimal address of counter/frequency that you want to interrogate.

A identifies the Read Gate Mode command.

(cr) is the terminating character, carriage return (0Dh)

Response !AAG(cr) if the command is valid.

There is no response if the module detects a syntax or communication error, or if the specified address does not exist.

! is a delimiter character indicating the command was valid.

AA (range 00-FF) represents the 2-character hexadecimal address of a counter/frequency module.

G determines the gate mode.

G = 0 the gate is low

G = 1 the gate is high

G = 2 the gate is disabled.

(cr) is the terminating character, carriage return (0Dh).

Example command: \$01A(cr)

response: !011(cr)

The command requests the addressed counter/frequency module to return its gate status. The module at address 01 replies that its gate is high.

\$AA3N(data)

Name Set Maximum Counter Value

Description Set the maximum value of counter 0 or counter 1 for a specified counter/frequency module.

Syntax \$AA3N(data)(cr)

\$ is a delimiter character.

AA(range 00-FF) represents the 2-character hexadecimal address of the counter/frequency module that you want to interrogate.

3 identifies the Set Maximum Counter Value command

N determines the counter for which the maximum counter value is to be set.

N = 0 represents counter 0

N = 1 represents counter 1

(data) is the maximum count value which consists of eight hexadecimal digits. The addressed module will accumulate the input counts until it reaches the maximum value. When counting exceeds the maximum counter value, the counter will stop counting. The programmer should use the command \$AA6N to reset the counter to 1.

(cr) is the terminating character, carriage return (0Dh)

Response !AA(cr) if the command is valid.

?AA(cr) if an invalid operation was entered.

There is no response if the module detects a syntax error or communication error or if the specified address does not exist.

! is a delimiter character indicating the command was valid.

? is a delimiter character indicating the command was invalid.

AA (range 00-FF) represents the 2-character hexadecimal address of a counter input module.

(cr) is the terminating character, carriage return (0Dh).

Example command: \$24300000ffff(cr)

response: !24(cr)

The command requests the counter/frequency module at address 24 to set the maximum counter value for counter 0 to 65535 (0x0000ffff). The module replies that it has executed the command.

\$AA3N

Name Read Maximum Counter Value

Description Read the maximum counter value of the counter 0 or counter 1 for a specified counter/frequency module.

Syntax \$AA3N(cr)

\$ is a delimiter character.

AA (range 00-FF) represents the 2-character hexadecimal address of counter/frequency module that you want to interrogate.

3 identifies the Read Maximum Counter Value command

N determines the counter for which the maximum counter value is to be set.

N = 0 represents counter 0

N = 1 represents counter 1

(cr) is the terminating character, carriage return (0Dh)

Response !AA(data)(cr) if the command is valid.

?AA(cr) if an invalid operation was entered.

There is no response if the module detects a syntax or communication error, or if the specified address does not exist.

! is a delimiter character indicating the command was valid.

? is a delimiter character indicating the command was invalid.

AA (range 00-FF) represents the 2-character hexadecimal address of a counter input module.

(data) is the maximum counter value which consists of eight hexadecimal digitals.

(cr) is the terminating character, carriage return (0Dh).

Example command: \$2430(cr)

response: !240000ffff(cr)

The command requests the counter/frequency module at address 24 to the maximum count number of counter 0. The addressed module replies that the maximum count number of channel 0 is 65535 (0000ffff)

\$AA5NS

Name	Start/Stop Counter
Description	Request the addressed counter/frequency module to start or stop the counting for a counter 0 or counter 1.
Syntax	<p>\$AA5NS(cr)</p> <p>\$ is a delimiter character.</p> <p>AA (range 00-FF) represents the 2-character hexadecimal address of counter/frequency module that you want to interrogate.</p> <p>5 identifies the Start/Stop Counter command</p> <p>N determines the counter that should be enabled or disabled.</p> <p>N = 0 represents counter 0</p> <p>N = 1 represents counter 1</p> <p>S represents the counter status.</p> <p>S = 0 stops counting</p> <p>S = 1 starts counting</p> <p>(cr) is the terminating character, carriage return (0Dh)</p>
Response	<p>!AA(cr) if the command is valid. There is no response if the module detects a syntax or communication error, or if the specified address does not exist.</p> <p>! is a delimiter character indicating the command was valid.</p> <p>AA (range 00-FF) represents the 2-character hexadecimal address of a counter input module.</p> <p>(cr) is the terminating character, carriage return (0Dh).</p>
Example	<p>command: \$06501(cr)</p> <p>response: !06(cr)</p> <p>The command requests the counter/frequency module at address 06 to start counter 0. The addressed module replies with its address to indicate the command has been executed and counter 0 has started.</p>

\$AA5N

Name Read Counter Start/Stop Status

Description Requests the addressed counter/frequency module to indicate whether counter 0 or counter 1 is active.

Syntax \$AA5N(cr)

\$ is a delimiter character.

AA (range 00-FF) represents the 2-character hexadecimal address of counter/frequency module that you want to interrogate.

N determines the counter for which the status should be returned.

N = 0 represents counter 0

N = 1 represents counter 1

(cr) is the terminating character, carriage return (0Dh)

Response !AAS(cr) if the command is valid.

There is no response if the module detects a syntax or communication error, or if the specified address does not exist.

! is a delimiter character indicating the command was valid.

AA (range 00-FF) represents the 2-character hexadecimal address of a counter input module.

S represents the counter status.

S = 0 indicates counting

S = 1 indicates not counting

(cr) is the terminating character, carriage return (0Dh).

Example command: \$0650(cr)

response: !061(cr)

The command requests the counter/frequency module at address 06 to return the status of counter 0. The addressed module replies that counter 0 is counting

\$AA6N

Name	Clear Counter
Description	Clears the counter 0 or counter 1 of the specified counter/frequency module.
Syntax	<p>\$AA6N(cr)</p> <p>\$ is a delimiter character.</p> <p>AA (range 00-FF) represents the 2-character hexadecimal address of counter/frequency module that you want to interrogate.</p> <p>6 the Clear Counter command.</p> <p>N determines the counter which should be cleared.</p> <p>N = 0 represents counter 0</p> <p>N = 1 represents counter 1</p> <p>(cr) is the terminating character, carriage return (0Dh)</p>
Response	<p>!AA(cr) if the command is valid.</p> <p>There is no response if the module detects a syntax error or communication error or if the specified address does not exist.</p> <p>! is a delimiter character indicating the command was valid.</p> <p>AA (range 00-FF) represents the 2-character hexadecimal address of a counter input module.</p> <p>(cr) is the terminating character, carriage return (0Dh).</p>
Example	<p>command: \$1361(cr)</p> <p>response: !13(cr)</p> <p>The command requests the counter/frequency module at address 13 to clear counter 1. The addressed module replies with its address to indicate the counter has been cleared.</p>

\$AA7N

Name	Read/Clear Overflow Flag.
Description	The command requests the addressed module to return the status the overflow flag of counter 0 or counter 1 and clear the flag afterwards.
Syntax	<p>\$AA7N(cr)</p> <p>\$ is a delimiter character.</p> <p>AA (range 00-FF) represents the 2-character hexadecimal address of counter/frequency module that you want to interrogate.</p> <p>7 identifies the Read/Clear Overflow Flag command</p> <p>N determines the channel which overflow flag status should be read and cleared. N = 0 represents counter 0 and N = 1 represents counter 1</p> <p>(cr) is the terminating character, carriage return (0Dh)</p>
Response	<p>!AAV(cr) if the command is valid.</p> <p>?AA(cr) if an invalid operation was entered.</p> <p>There is no response if the module detects a syntax or communication error, or if the specified address does not exist.</p> <p>! is a delimiter character indicating the command was valid.</p> <p>? is a delimiter character indicating the command was invalid.</p> <p>AA (range 00-FF) represents the 2-character hexadecimal address of a counter input module.</p> <p>V represents the status of the Nth channel's overflow flag.</p> <p>V = 1 means that the overflow flag has been set because the counting has exceeded the maximum count. V = 0 means that the overflow flag has not been set.</p> <p>(cr) is the terminating character, carriage return (0Dh).</p>
Example	<p>command: \$1371(cr)</p> <p>response: !131(cr)</p> <p>The command requests the counter/frequency module at address 13 to return the status of the overflow flag of counter 1 and reset it. The addressed module replies that the overflow flag for counter 1 indicated overflow and was reset.</p>

