Comtrol Siconfigutil User Guide
(or)
How to use the Command Line Interface to configure a DeviceMaster

The siconfigutil is a CLI (Command Line Interface) version of the GUI (Graphical User Interface) driver properties seen in Windows DeviceManager > Multi-port serial adapters > DeviceMaster. If you are already familiar with the GUI properties pages, then the use of this may be simpler. Any command that may be entered into the GUI is also available from the siconfigutil CLI. This utility was added in order to provide additional flexibility for users that may be more comfortable in a CLI, or for the user that is using a Microsoft server that is not GUI oriented. This utility is only supported in Microsoft Operating System's in either 32bit or 64bit platforms.

Siconfigutil is an executable utility by default located in;
C:\Program Files\Comtrol\DeviceMaster\siconfigutil.exe
A command prompt will need to be opened in this folder as it is not added to the path structure by default. This file may also be moved or copied to another folder of your choice without difficulty.

This document is not meant to provide a complete list of all of the sample commands. Instead it will try to provide some sample commands with the responses in order to familiarize one with the general layout of the command structure.

Commonly used commands will be demonstrated in detail using a single argument in most cases for simplicity and clarity. Multiple arguments may be added to a single command structure in order to reduce the number of commands entered and will occasionally be demonstrated.

Bold italics are user commands entered at the command prompt followed by 'Enter'
Hyperlinks internal to this guide are included as blue underlined items.

All of the commands may be assigned to one of three types.

1.) Enum
- The first command which must be used. This command will discover the installed DeviceMaster and display the "Device ID" or <board device ID> assigned to the DeviceMaster and the <port device index> identifier for the serial port which are required for serial port settings.

2.) Get
- Used to display the current configuration
- All get commands are based on using either the <board device ID> or the <port device index>
    - siconfigutil get <board device ID> [general | network | advisor | status]
        - The <board device ID> gets further divided to general, network or advisor and status categories
    - siconfigutil get <board device ID> port <port device index> is the "00" shown in the example

3.) Set
- Used to modify the current configuration
- All set commands are based on using either the <board device ID> or the <port device index> (both must be indicated for setting serial ports)
    - siconfigutil set <board device ID> [general | network | advisor]
        - The <board device ID> gets further divided to general, network or advisor categories
    - siconfigutil set <board device ID> port <port device index> is the "00" shown in the examples for the first serial port on the individual DeviceMaster units. The <board device ID> and the <port device index> must be used together to modify serial port settings.

All of the commands may be assigned to one of two general categories.

1.) Device level
- General (General driver or hardware options)
- Network (Network communications protocols)
- Advisor (Displays PC and device network statistics)
- Status   (Quick status of driver communications to DeviceMaster)

2.) Port level
- Com ports (serial port configurations and options)

Links to commands:
Help Commands
"Get" Commands
"Set" Commands

Help Commands and Responses

siconfigutil.exe or *siconfigutil* ([return](#) to Help Commands and Responses)
USAGE:
siconfigutil <command> <device> <arg>....
<command>:   The command that you want to execute (see below).
<device>   :   The ID of the device to be managed.
<arg>...   :   The arguments for the command.
To get help on a specific command, type: siconfigutil help <command>.

command:
enum: Enumerate all available DeviceMasters devices.
get: Display the current settings of the board/port.
set: Set device options.
help: Show the help message.

siconfigutil enum ([return](#) to Help Commands and Responses)
===
Device ID : 37
Display Name: DeviceMaster RTS 1 Port
  Comtrol NS Link Port 00   COM3
===
Device ID : 38
Display Name: DeviceMaster RTS 1 Port
  Comtrol NS Link Port 00   COM4
===
Device ID : 39
Display Name: DeviceMaster RTS 4 Port
  Comtrol NS Link Port 00   COM5
  Comtrol NS Link Port 01   COM6
  Comtrol NS Link Port 02   COM7
  Comtrol NS Link Port 03   COM8
===
Device ID : 3a
Display Name: DeviceMaster RTS 4 Port
  Comtrol NS Link Port 00   COM9
  Comtrol NS Link Port 01   COM10
  Comtrol NS Link Port 02   COM11
  Comtrol NS Link Port 03   COM12

Ex:

==

Device ID : 37
Display Name: DeviceMaster RTS 1 Port
  Comtrol NS Link Port 00   COM3

==

Device ID : 37   (Value assigned during installation to identify the specific unit)
Display Name: DeviceMaster RTS 1 Port   (User configurable friendly name)
 Comtrol NS Link Port 00   COM3 (Comtrol NS Link is only a label and can be ignored.
                                   00 is the "port device index" or the system name for the
                                   serial port on this specific Device ID. COM3 is the
                                   system name for the serial port used by applications.)

siconfigutil get (return to Help Commands and Responses)
USAGE:
siconfigutil get <board device ID> [general | network | advisor | status]
siconfigutil get <board device ID> port <port device index>

Display the current settings of the board.
General   Display general info of this board.
network   Display network info of this board.
advisor   Display advisor info related to this board.
status   Display the current status of the device.
Display all info if the type is not specified.

"Get" Commands and Responses (return to Links to Commands)
        siconfigutil get ##
        siconfigutil get ## general
        siconfigutil get ## network
        siconfigutil get ## advisor
        siconfigutil get ## status
        siconfigutil get ## port ##

This DeviceMaster is not configured (all values shown are default)

siconfigutil get 38 return to "Get" Commands and Responses)

General settings:

Display Name	: DeviceMaster RTS 1 Port
Keep Alive Timeout (seconds)	: 120
TCP Timeout Multiplier	: 1
Scan Rate (ms)	: 10
Number Devices to Load at once	: 20
Verbose Event Log	: off
Do NOT Attempt to Load Firmware to Device	: off

Network settings:

Mode	: MAC mode
MAC Mode	: 00 C0 4E # # #
IP Mode	:
MAC Address	: 00 C0 4E # # #

Failed to get the IP info.

An error occurred while communicating with device - 0x3b.

Advisor:
A MAC address has not yet been specified for this device. Please config the MAC address, and restart server.

Device Network Interface:
MAC   : 00 00 00 00 00 00

siconfigutil get 38 general (return to "Get" Commands and Responses)

General settings:

Display Name	: DeviceMaster RTS 1 Port
Keep Alive Timeout (seconds)	: 120
TCP Timeout Multiplier	: 1
Scan Rate (ms)	: 10
Number Devices to Load at once	: 20
Verbose Event Log	: off
Do NOT Attempt to Load Firmware to Device	: off

siconfigutil get 38 network ()
Network settings:
   Mode   : MAC mode
   MAC Mode   : 00 C0 4E # # #
   IP Mode   :

   MAC Address   : 00 C0 4E # # #
Failed to get the IP info.

An error occurred while communicating with device - 0x3b.

siconfigutil get 38 advisor ()
Advisor:
A MAC address has not yet been specified for this device. Please config the MAC address, and restart server.

Device Network Interface:
MAC   : 00 00 00 00 00 00

siconfigutil get 38 status ()
Current status:
A MAC address has not yet been specified for this device. Please config the MAC address, and restart server.

siconfigutil get 38 port 00 ()

COM name	: COM20
RS mode	: 232
Override and lock baud rate to	: None
Timeout on transmit data on port close	: 0 sec
Map 2 stop bits to 1	: off
Wait on physical transmission before completing write	: off
Emulate modem hardware RING signal	: off
Allow parity conflict (DeviceMaster 1 port only)	: off
Block Plug-N-Play search for attached serial device	: off

DeviceMaster configured where only the MAC address has been installed using a set command. *siconfigutil get 37* by itself returns the General, Network and Advisor information. The commands of 'siconfigutil get 37 general' would return only the general settings. The same is true for the 'network', 'advisor' and 'status' options.

General settings:

Display Name	: DeviceMaster RTS 1 Port
Keep Alive Timeout (seconds)	: 120
TCP Timeout Multiplier	: 1
Scan Rate (ms)	: 10
Number Devices to Load at once	: 20
Verbose Event Log	: off
Do NOT Attempt to Load Firmware to Device	: on

Network settings:

Mode	: MAC mode
MAC Mode	: 00 C0 4E 15 09 93
IP Mode	:
MAC Address	: 00 C0 4E 15 09 93
IP Address	: 192.168.2.13
Mask	: 255.255.0.0
Gateway	: 192.168.0.254

Advisor:
Device is active and OK.
PC Network Interface:

MAC	: 00 00 39 95 D1 D8
Frames Out	: 3444
Frames Accepted	: 144032

Adapter 1 ID String: \DEVICE\{5C9F8B22-5D13-460D-BDAC-3787657B01F9}
Frames Passed On   : 1826

Device Network Interface:

MAC	: 00 C0 4E 15 09 93
Packets To	: 658
Packets From	: 541
Retransmitted/% all Sent	: 0 / 0%
Reported State	: Active
Devices Detected/Available	: 58 / 0
Out Of Sequence/% all Rcvd	: 0 / 0%
Max - Average Buffer Usage *	: 11% - 0%
Buffer Allocation Failures *	: 0

(*) Ignore the reported data if the driver version is lower than 8.03!

Status:
siconfigutil get 38 status
Current status:
Device is active and OK.

"Set" Commands
There is only one help screen for the 'set' commands but there are two different types of set commands. The <board device ID> and the port <port device index>
siconfigutil set <board device ID>
  The <board device ID> is broken down to two categories, general and network
  siconfigutil set <board device ID> general
  siconfigutil set <board device ID> network
siconfigutil set <board device ID> port <port device id>

Sample set commands and exercises
  Minimum commands required for operation
    Obtain the <board device ID>
    Set the MAC and/or IP address
    Set the communications 'mode'
  Exercise 1:
    Configure the second DeviceMaster (Device ID 38)
    Set the MAC address and configure the DeviceMaster to use MAC mode
  Exercise 2:
    Change the default name of the DeviceMaster to something more descriptive
  Exercise 3:
    Change the com number from com4 (shown in the ENUM results) to com20
    Set the RS mode to RS422
  Exercise 4:
    Reverse the ports on the two dm 4 port units
    Rename the two DeviceMaster RTS 4 Port units
      Both 4 port units have the same default name of "DeviceMaster RTS 4 Port"
      Rename the first unit with Device ID 39 to be "Bar Code Scanners"
      Rename the second unit with Device ID 3a to be "IR Scanners"

siconfigutil set

USAGE: siconfigutil set <board device ID> <general | network>
        Set a board device: (

  siconfigutil set   <board device ID> general {[-name][-keepalive][-multiplier]
                    [-scan][-number][-verbose][-donotload][-allboard] [-default]}
  -name   Board display name.
                      e.g. -name="DeviceMaster RTS 4 Port".
  -keepalive   Keep alive timeout (seconds).
                      e.g. -keepalive=120.
  -multiplier   TCP timeout multiplier.
                      e.g. -multiplier=1.
  -scan={1 | 2 | 4 | 10 | 20}   Scan Rate (ms).
  -number   Number of devices to load at once.
                      e.g. -number=20.
  -verbose={on | off}   Verbose event log.
  -donotload={on | off}   Do NOT attempt to load firmware to device.
  -allboard   Using with -donotload to set this setting to all board devices.
  -default   Reset all general settings of the board to default values
                      (keepalive=120, multiplier=1, scan=10, number=20,
                      donotload=off).
  siconfigutil set   <board device ID> network {[-mode][-mac][-ip] [-ipv6]
                      [-ssl][-sslclient][-sslserver]
                      [-retrieve][-program][-reset]}
                      (
  -mode={mac | ip | ipv6}Set device work mode.
          -mac   MAC mode (MAC address must be xx:xx:xx:xx:xx:xx).
                      e.g. -mac="00:c0:4e:07:32:82".
          -ip   IP mode.
                      e.g. -ip=192.168.98.254
          -ipv6   IPv6 mode.
                      e.g. -ipv6=1080::8:800:200C:417A/16.
  -ssl={on|off}   Enable/Disable secure data mode.
  -sslclient   Client authentication name.
                      e.g. -sslclient=Client_Certificate_Name.
                      Use -sslclient= to disable client certificate.
  -sslserver   Server certificate name.
                       e.g. -sslserver=Server_Certificate_Name.
                      Use -sslserver= to disable server certificate.
  -program={dhcp | disable | ipaddress}   Program address into device.
                  e.g. -program=dhcp. -program=192.168.0.11;255.255.255.0;192.168.0.1 .
  -retrieve   Retrieve network address form the device.
  -reset   Reset device.

Set a port device:

```
siconfigutil set <board device ID> port <port device index>
                        {{[-portname][-renumber]}{{[-RSmode]
                        [-baudrate][-timeout][-toggle][-low]
                        [-stopbits][-wait][-ring][-blockpnp]
                        [-conflict]} | -default}[-allports]}
```

-portname	Change port name.
	e.g. -portname="COM#".
	The value must be less than COM4097.
-renumber	Renumber all subsequent ports relative to this port.

-RSmode={232 | 422 | 485_2W | 485_4WM | 485_4WS}   Set RS mode
The following options are only available for RSmode={485_2W | 485_4WM | 485_4WS}

-toggle={on	off}	Override and lock to RS-485 toggle mode.
-low={on	off}	RS-485 toggle RTS low.

-baudrate={None | Enter any valid baud rate} Override and lock baud rate to the fixed value.
-timeout={0 | 1 | 6 | 30 | 60 | 240}   Timeout on transmit data on port close (sec).

-stopbits={on	off}	Map 2 stop bits to 1.
-wait={on	off}	Wait on physical transmission before completing write.
-ring={on	off}	Emulate modem hardware RING signal.
-conflict={on	off}	Allow parity conflict (DeviceMaster 1 port only).
-blockpnp={on	off}	Block PnP search for attached serial device.
-default	Reset all settings of the port to default values
	(RSmode=232, baudrate=None, timeout=0, conflict=off,
	stopbits=off, wait=off, ring=off, blockpnp=off,
	toggle=off, low=off).
	This option (-default) cannot be accompanied with any other option that is listed above.
-allports	Apply all the settings to all ports.

Minimum Commands required for driver operation

siconfigutil enum To obtain the Board Device ID for use in the 'set' commands and the Port Index for (serial or com) port identification for optional port settings.

siconfigutil set ## network –mac=00:c0:4e:#:#:# -mode=mac to configure the MAC address and set the mode of operation to MAC mode.

Or, **siconfigutil set ## network –ip=192.168.250.250 -mode=ip** to configure the IP address and set the mode of operation to IP mode. All other commands are optional, but either a MAC address or IP address must be assigned to the DeviceMaster driver in order for the driver and hardware to communicate. It is recommended that when the IP mode will be selected that the MAC address also be supplied. That command can be accomplished in a single line like this:

siconfigutil set ## network –mac=00:c0:4e:15:00:00 –ip=192.168.250.250 -mode=ip

Exercise 1:
Configure the second DeviceMaster (Device ID 38)
Set the MAC address and configure the DeviceMaster to use MAC mode
As two separate commands enter:
siconfigutil set 38 network -mac=00:c0:4e:15:25:7e
siconfigutil set 38 network -mode=mac

Or, as a single line command enter:
siconfigutil set 38 network -mac=00:c0:4e:15:25:7e -mode=mac
Setting is changed.

Use the 'get' option to confirm the changes have been applied.
siconfigutil get 38 network
Network settings:
   Mode   : MAC mode
   MAC Mode   : 00 C0 4E 15 25 7E
   IP Mode   :

   MAC Address : 00 C0 4E 15 25 7E
   IP Address   : 192.168.2.14
   Mask   : 255.255.0.0
   Gateway   : 192.168.0.254

Once the MAC address is configured and the DeviceMaster is on the local LAN, we can use the status switch to see if the DeviceMaster is ready for use.

siconfigutil get 38 status
Current status:
Device is active and OK.

The DeviceMaster is now ready for use. All other settings from this point are optional.

Exercise 2: (to Sample set commands and exercises)
Change the default name of the DeviceMaster to something more descriptive
siconfigutil set 38 -name="Weigh Scale"
Setting is changed.
Use the 'get' option to confirm the changes have been applied.
siconfigutil get 38 general
General settings:

Display Name	: Weigh Scale
Keep Alive Timeout (seconds)	: 120
TCP Timeout Multiplier	: 1
Scan Rate (ms)	: 10
Number Devices to Load at once	: 20
Verbose Event Log	: off
Do NOT Attempt to Load Firmware to Device	: off

Exercise 3: (to Sample set commands and exercises)
Change the com number from com4 to com20 and set the RS mode to RS422

begin by showing the current settings using the 'get' command
siconfigutil get 38 port 00

COM name	: COM4
RS mode	: 232
Override and lock baud rate to	: None
Timeout on transmit data on port close	: 0 sec
Map 2 stop bits to 1	: off
Wait on physical transmission before completing write	: off
Emulate modem hardware RING signal	: off
Allow parity conflict (DeviceMaster 1 port only)	: off
Block Plug-N-Play search for attached serial device	: off

siconfigutil set 38 port 00 -portname=com20 -rsmode=422
Setting is changed.

Use the 'get' option to confirm the changes have been applied.
siconfigutil get 38 port 00

COM name	: COM20
RS mode	: 422
Override and lock baud rate to	: None
Timeout on transmit data on port close	: 0 sec
Map 2 stop bits to 1	: off
Wait on physical transmission before completing write	: off
Emulate modem hardware RING signal	: off
Allow parity conflict (DeviceMaster 1 port only)	: off
Block Plug-N-Play search for attached serial device	: off

Exercise 4: (to Sample set commands and exercises)
Reverse the ports on the two dm 4 port units
Device ID 39 is currently com5 thru com8 (as shown in the ENUM results)
Device ID 3a is currently com9 thru com12 (as shown in the ENUM results)
Change so that:
        Device ID 3a uses com5 thru com8
        Device ID 39 uses com9 thru com12
Rename the two DeviceMaster RTS 4 Port units
Both 4 port units have the same default name of "DeviceMaster RTS 4 Port"
Rename the first unit with Device ID 39 to be "Bar Code Scanners"
Rename the second unit with Device ID 3a to be "IR Scanners"

Use the 'enum' option to confirm the current/beginning settings:
siconfigutil enum
===
Device ID : 37
Display Name: DeviceMaster RTS 1 Port
  Comtrol NS Link Port 00   COM3

===
Device ID : 38
Display Name: Weigh Scale
  Comtrol NS Link Port 00   COM20

===
Device ID : 39
Display Name: DeviceMaster RTS 4 Port
  Comtrol NS Link Port 00   COM5
  Comtrol NS Link Port 01   COM6
  Comtrol NS Link Port 02   COM7
  Comtrol NS Link Port 03   COM8

===
Device ID : 3a
Display Name: DeviceMaster RTS 4 Port
  Comtrol NS Link Port 00   COM9
  Comtrol NS Link Port 01   COM10
  Comtrol NS Link Port 02   COM11
  Comtrol NS Link Port 03   COM12

Rename the two DeviceMaster RTS 4 Port units one at a time:

siconfigutil set 39 general -name="Bar Code Scanners"
Setting is changed.

siconfigutil set 3a general -name="IR Scanners"
Setting is changed.

Reverse the com assignments on Board Device ID 39 and Board Device ID 3a.
Set Device ID 39 to have com9 thru com12.
Set Device ID 3a to have com5 thru com9.

siconfigutil set 39 port 00 -portname=com9 -renumber
Setting is changed.

Use the 'enum' option to confirm the changes have been applied.

siconfigutil enum
==
Device ID : 37
Display Name: DeviceMaster RTS 1 Port
  Comtrol NS Link Port 00   COM3

==
Device ID : 38
Display Name: Weigh Scale
  Comtrol NS Link Port 00   COM20

==
Device ID : 39
Display Name: Bar Code Scanners
  Comtrol NS Link Port 00   COM9
  Comtrol NS Link Port 01   COM10
  Comtrol NS Link Port 02   COM11
  Comtrol NS Link Port 03   COM12

==
Device ID : 3a
Display Name: IR Scanners
  Comtrol NS Link Port 00   COM9
  Comtrol NS Link Port 01   COM10
  Comtrol NS Link Port 02   COM11
  Comtrol NS Link Port 03   COM12

Note the duplicate com names at this point on the two 4 port units.
If this were left as is, none of the com9 thru com12 ports would work.

Renumber the com port numbers on Device ID 3a:
siconfigutil set 3a port 00 -portname=com5 -renumber
Setting is changed.

Use the 'enum' option to confirm the changes have been applied.
siconfigutil enum
===
Device ID : 37
Display Name: DeviceMaster RTS 1 Port
  Comtrol NS Link Port 00   COM3

===
Device ID : 38
Display Name: Weigh Scale
  Comtrol NS Link Port 00   COM20

===
Device ID : 39
Display Name: Bar Code Scanners
  Comtrol NS Link Port 00   COM9
  Comtrol NS Link Port 01   COM10
  Comtrol NS Link Port 02   COM11
  Comtrol NS Link Port 03   COM12

===
Device ID : 3a
Display Name: IR Scanners
  Comtrol NS Link Port 00   COM5
  Comtrol NS Link Port 01   COM6
  Comtrol NS Link Port 02   COM7
  Comtrol NS Link Port 03   COM8

Listing now confirms the desired settings.

Added IPv6 support to siconfigutil showing IPv6 settings

siconfigutil get 3c
General settings:
    Display Name   : 03 - NXP DeviceMaster RTS, 1 Port
    Keep Alive Timeout (seconds)   : 12
    TCP Timeout Multiplier   : 1
    Scan Rate (ms)   : 4
    Verbose Event Log   : off

Network settings:
    Mode   : IPv6 mode
    MAC Mode   : 00 C0 4E 42 FF F9
    IP Mode   : 192.168.2.19
    IPv6 Mode   : 1922::42:ff:f9
    Secure Data   : Disabled

    MAC Address   : 00 C0 4E 42 FF F9
    IP Address   : 192.168.2.19
    Mask   : 255.255.0.0
    Gateway   : 192.168.0.253
    IPv6 Address   : 1922:0000:0000:0000:0000:0042:00FF:00F9
    IPv6 Gateway   : 0000:0000:0000:0000:0000:0000:0000:0000

Advisor:
Device is active and OK.
PC Network Interface:
MAC   : 00 21 70 7B 75 4C
Frames Out   : 30
Frames Accepted   : 646
Adapter 1 ID String   : \DEVICE\{1AB06C27-2374-4049-84D8-4B1FCD5663C9}
Frames Passed On   : 154414

Device Network Interface:
MAC   : 00 C0 4E 42 FF F9
Packets To   : 0
Packets From   : 0
Retransmitted/% all Sent   : 0 / 0%
Reported State   : Active
Devices Detected/Available   : 45 / 0
Out Of Sequence/% all Rcvd : 0 / 0%
Max - Average Buffer Usage *: 12% - 0%
Buffer Allocation Failures   *: 0
(*) Ignore the reported data if the driver version is lower than 8.03!