



REDUNDANT SERIAL DEVICE MONITORING

A basic single serial device monitored by two PCs - only one PC at a time responding or controlling the serial device

The DeviceMaster serial port receives the data from the serial device and sends this data via UDP to port #2 on each of the DeviceMaster 2-port units.

In this diagram, the PCs are shown as individual systems; however, the same is true when these are virtual machines.

IP address 192.168.2.5



IP address 192.168.2.6



Serial Device



DeviceMaster RTS 1-Port
Part Number: 99440-0



RocketLinx ES8108 8-port unmanaged switch
Part Number: 32055-5

All DeviceMaster units and PCs will communicate using Ethernet.

The location of the RocketLinx switches, DeviceMaster units, and PCs are irrelevant as long as there is an Ethernet TCP/UDP route to each.

Each DeviceMaster has its IP address, and each serial port has a socket address.

IP address 192.168.2.21



DeviceMaster RTS 2-Port
Part Number: 99550-0



IP address 192.168.2.22

Ethernet Cable

Null Modem Cable

PC controls DeviceMaster

Each PC will have the DeviceMaster Driver installed to create a COM port that the application opens. In this case it will most probably be com3.

These PCs must not respond to the data at the same time - it will be intermingled at the serial device, as there is no control to determine which PC transmitted the data.

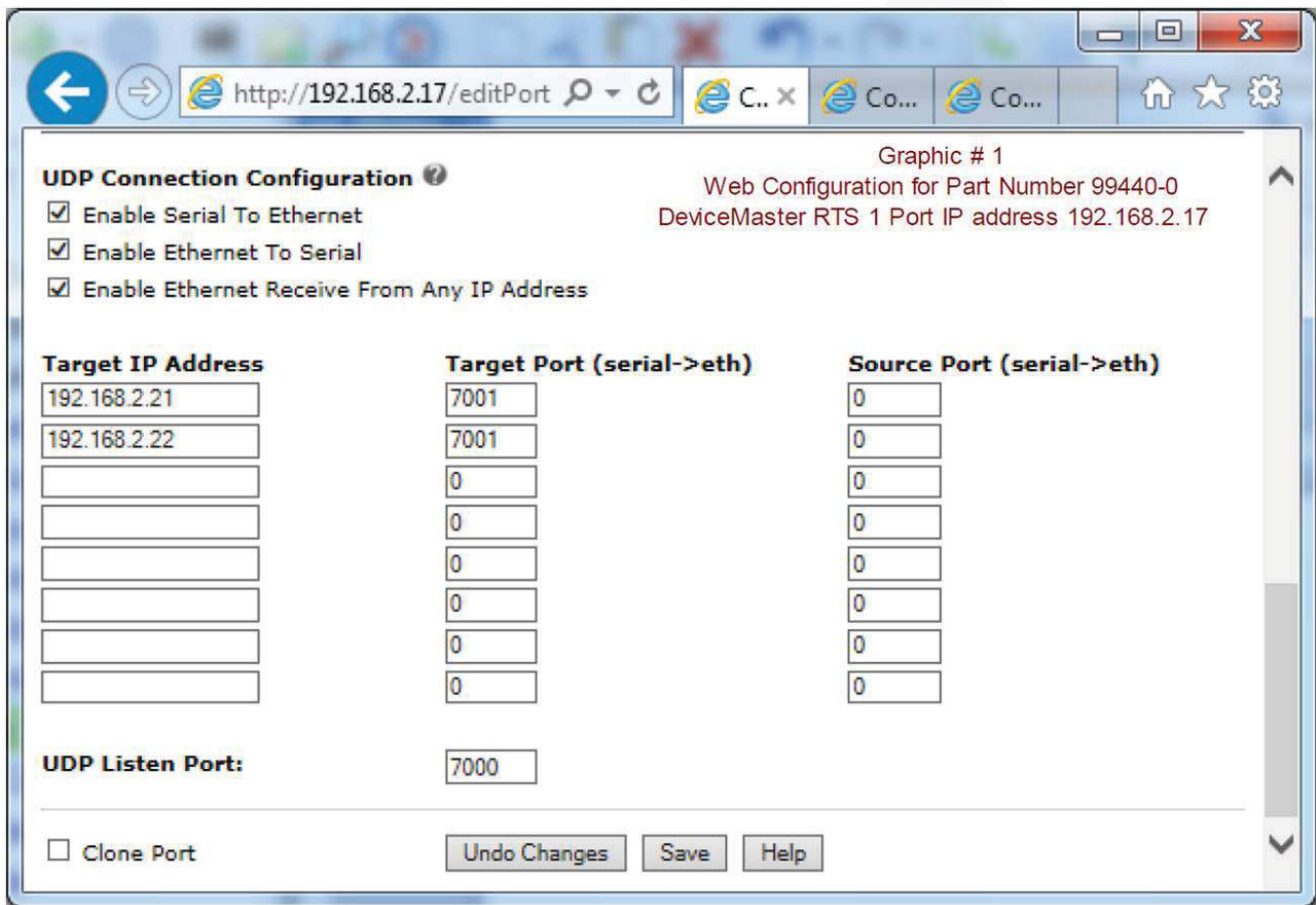
Either PC may respond as long as only one of them at a time responds (or controls) the serial device.

Port #2 receives the data as Ethernet UDP and converts it back to serial data and sends it out the physical serial port #2.

Port #2 is connected to physical serial port #1 using a null modem cable.

Serial port #1 is the port that will have a COM# association that the PC will communicate with to collect the data.

DeviceMaster units with higher densities may be used in place of the 1-Port and 2-Port units. A DeviceMaster 32-Port would use five serial ports to do the same function as this example shows.



Each DeviceMaster has a unique IP address.

To set the UDP configuration, open the web page of the DeviceMaster Part Number 99440-4 (graphic #1). Click the Port number that is to be set. The UDP options are at the bottom of the page. Remember to always click "Save" after making your changes.

Each serial port on the DeviceMaster has a unique "UDP Listen Port" assigned. In all DeviceMaster models, the first "UDP Listen Port" value is 7000 with each serial port incrementing by 1. For example, serial port 1 uses UDP Listen Port 7000, serial port 2 uses UDP Listen Port 7001, etc. The serial port 32 on a DeviceMaster 32-Port uses UDP Listen Port 7031. There is always an offset of 1 as the sockets start with 7000 not 7001.

The "Target IP Address" is the IP address of the other DeviceMaster unit(s). The "Target Port (serial -> Eth)" listed is the "UDP Listen Port" of the DeviceMaster IP address shown to the left. This is also known as the destination IP and socket.

The "Enable Serial to Ethernet" and the "Enable Ethernet to Serial" determine which direction data will be allowed to travel when checked.

The IP address of this DeviceMaster RTS 1-Port is 192. 168.2.17 and may be seen in graphic #1, above.

This DeviceMaster only has a single serial port and is configured to send data to two different DeviceMaster RTS 2-Port units via UDP protocol.

On the next page (see graphic #2 and graphic #3) are the configurations used in the DeviceMaster RTS 2-Port units.

Both DeviceMaster RTS 2-Port units are configured the same for the "Target IP Address" and "Target Port (serial ->Eth)" address as both DeviceMasters will be able to reply to the DeviceMaster RTS 1-Port unit.

Note that 192. 168.2.22 (graphic #3) does NOT have the "Enable Serial to Ethernet" checkbox selected. This will prevent PC #2 from sending data back down the channel to the serial device. The DeviceMaster will block it at that point. The PC #2 will receive data from the serial device but be unable to send responses back.

Successful configuration will support data being received by both of the PCs with one PC responding and controlling the serial device.

http://192.168.2.21/editPort

Graphic # 2
Web Configuration for Part Number 99550-0
DeviceMaster RTS 2 Port IP address 192.168.2.21

UDP Connection Configuration

- Enable Serial To Ethernet
- Enable Ethernet To Serial
- Enable Ethernet Receive From Any IP Address

Target IP Address	Target Port (serial->eth)	Source Port (serial->eth)
192.168.2.17	7000	0
	0	0
	0	0
	0	0
	0	0
	0	0
	0	0
	0	0
	0	0

UDP Listen Port: 7001

Clone Port

http://192.168.2.22/editPort

Graphic # 3
Web Configuration for Part Number 99550-0
DeviceMaster RTS 2 Port IP address 192.168.2.22

UDP Connection Configuration

- Enable Serial To Ethernet
- Enable Ethernet To Serial
- Enable Ethernet Receive From Any IP Address

Target IP Address	Target Port (serial->eth)	Source Port (serial->eth)
192.168.2.17	7000	0
	0	0
	0	0
	0	0
	0	0
	0	0
	0	0
	0	0
	0	0

UDP Listen Port: 7001

Clone Port

For additional information you may download the SocketServer Help file using this link:
ftp://ftp.comtrol.com/dev_mstr/rts/software/socketserver/help/ssvr.chm

You may look at the **Control Forum**: forum.comtrol.com

You may also contact **Control Technical Support** at 763.957.6000