

Ethernet to Serial Module



Feature

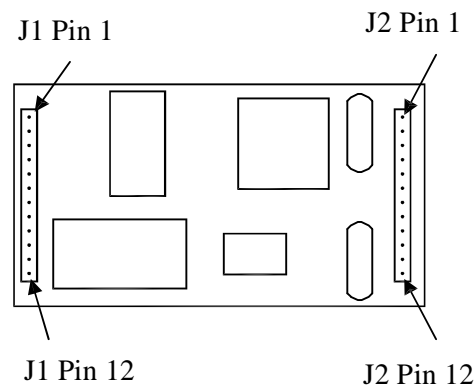
- Engineered for bridging serial communication to the Ethernet network
- Specifically designed for interfacing with microprocessor as web enabled electronic device via serial interface
- I/O pins are TTL and CMOS compatible
- Miniature size of 42 x 88 x 9 mm
- Low power consumption (Typ: 15mA)
- Wide operating temperature range of -10 to +70 degree C

Specification

	min	typ	max	unit
Operating Voltage	4.5	5	5.5	V
Current Consumption	-	15	-	mA
Operating Temperature	-10	25	70	°C
Data Input / Output Voltage Level (TTL)	-	4.9V/0.1V	-	V
Data Rate	300	-	115200	bps

Pins Assignment

Top View



J1 pins description		
Pin 1	Gnd	Ground connection
Pin 2	Rx-	Ethernet Rx- connection
Pin 3	Rx+	Ethernet Rx- connection
Pin 4	Gnd	Ground Connection
Pin 5	Tx-	Ethernet Tx- connection
Pin 6	Tx+	Ethernet Tx+ connection
Pin 7	Gnd	Ground connection
Pin 8	Act	Activate indicator LED connection (see scheamtic)
Pin 9	Link	Link indicator LED Connection (see scheamtic)
Pin 10	NC	No connection
Pin 11	Status	Status indicator LED connection (see scheamtic)
Pin 12	Vcc	5V connection

J2 pins description		
Pin 1	Vcc	5V connection
Pin 2	RST	SPI reset
Pin 3	SCK	SPI clock
Pin 4	MISO	SPI MISO (Master In Slave Out)
Pin 5	MOSI	SPI MOSI (Master Out Slave In)
Pin 6	Gnd	Ground connection
Pin 7	Rxd	TTL/CMOS compatible receive pin
Pin 8	Txd	TTL/CMOS compatible transmit pin
Pin 9	Gnd	Ground connection
Pin 10	CTS	TTL/CMOS compatible CTS pin
Pin 11	RTS	TTL/CMOS compatible RTS pin
Pin 12	Gnd	Ground connection

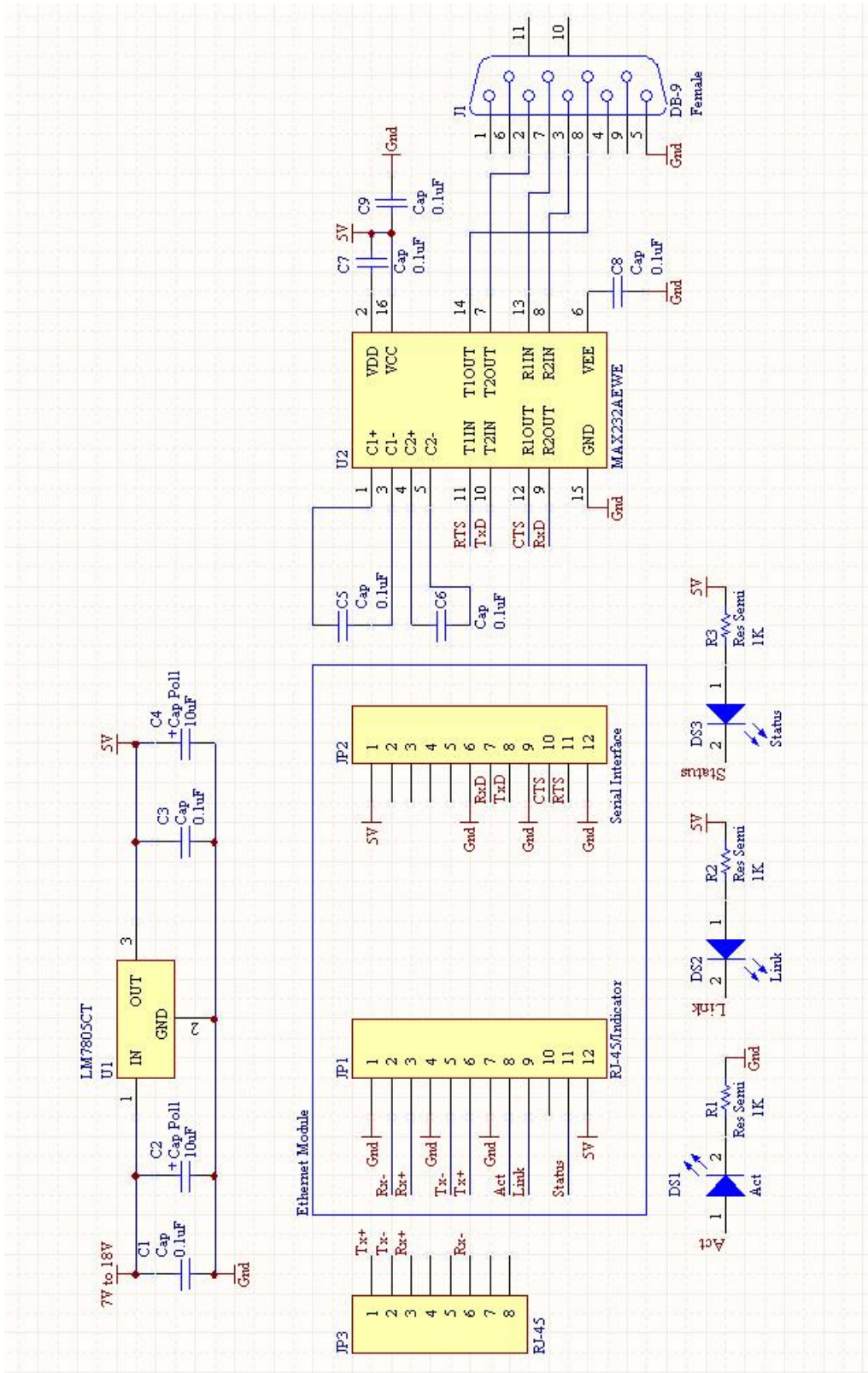


Figure 1 - Interfacing Ethernet to serial module with a PC serial port

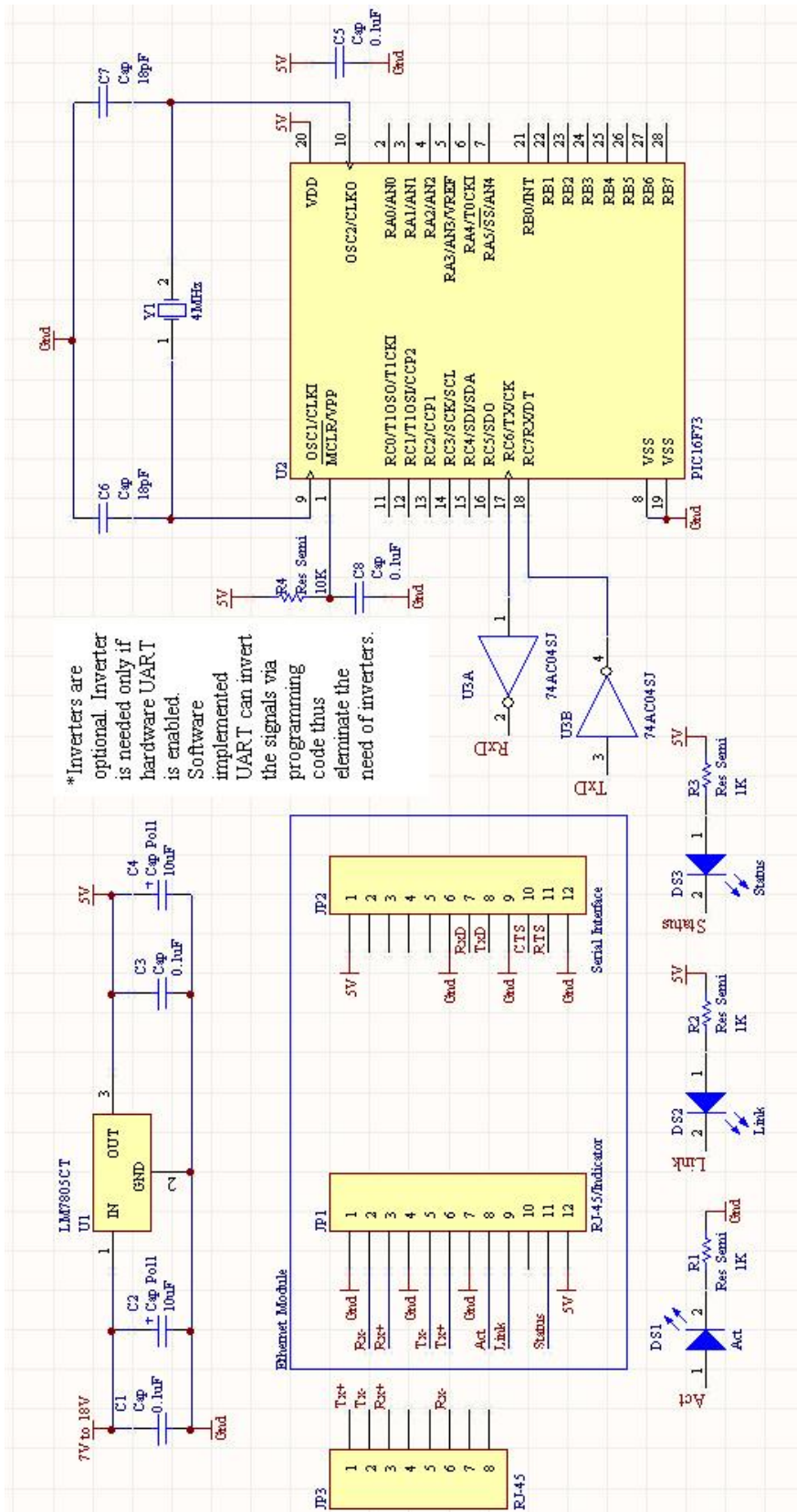


Figure 2 - Interfacing Ethernet to serial module with Microchip microprocessor

One time configuration procedure for the Ethernet to serial module

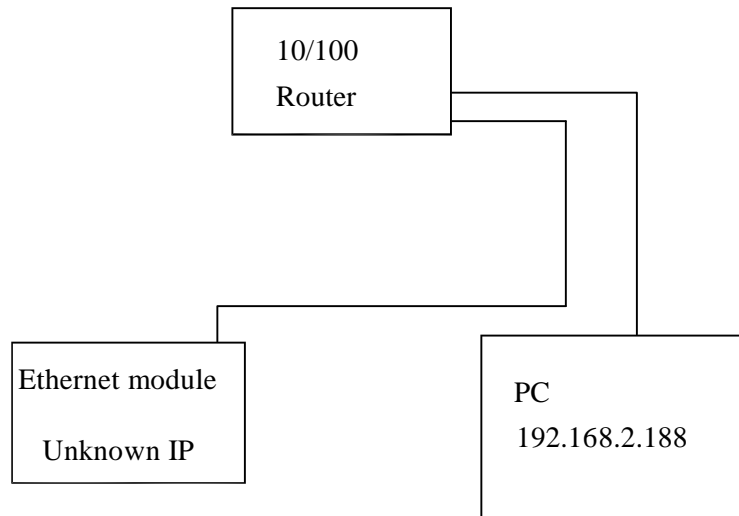
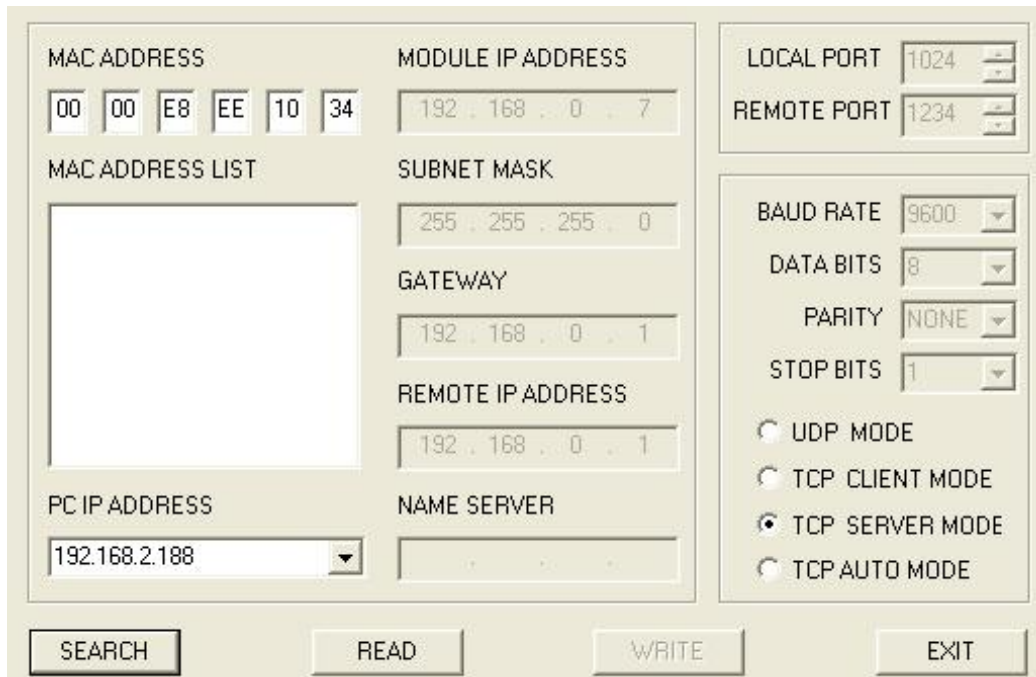


Figure 3 - Connection needed for assigning the IP address for the Ethernet module

- 1) Connect the Ethernet to serial module to a PC via a switch or router.



The image shows a configuration utility start-up screen with the following fields and controls:

- MAC ADDRESS:** 00 00 E8 EE 10 34
- MODULE IP ADDRESS:** 192 . 168 . 0 . 7
- LOCAL PORT:** 1024
- REMOTE PORT:** 1234
- MAC ADDRESS LIST:** (Empty list box)
- SUBNET MASK:** 255 . 255 . 255 . 0
- GATEWAY:** 192 . 168 . 0 . 1
- REMOTE IP ADDRESS:** 192 . 168 . 0 . 1
- PC IP ADDRESS:** 192.168.2.188
- NAME SERVER:** (Empty field)
- BAUD RATE:** 9600
- DATA BITS:** 8
- PARITY:** NONE
- STOP BITS:** 1
- Mode Selection:**
 - UDP MODE
 - TCP CLIENT MODE
 - TCP SERVER MODE
 - TCP AUTO MODE

Buttons at the bottom: SEARCH, READ, WRITE, EXIT.

Figure 4 - Configuration utility start-up screen

- 2) Download and open the configuration utility.
- 3) Click SEARCH to find the Ethernet to serial module.

MAC ADDRESS		MODULE IP ADDRESS		LOCAL PORT	1024						
00	00	E8	EE	10	34	192 . 168 . 0 . 7		REMOTE PORT	1234		
MAC ADDRESS LIST		SUBNET MASK		BAUD RATE		9600		DATA BITS		8	
00-00-05-62-23-36		255 . 255 . 255 . 0		PARITY		NONE		STOP BITS		1	
PC IP ADDRESS		GATEWAY		UDP MODE		<input type="radio"/>		TCP CLIENT MODE		<input type="radio"/>	
192.168.2.188		192 . 168 . 0 . 1		TCP SERVER MODE		<input checked="" type="radio"/>		TCP AUTO MODE		<input type="radio"/>	
NAME SERVER		REMOTE IP ADDRESS		SEARCH		READ		WRITE		EXIT	
		192 . 168 . 0 . 1									

Figure 5 - Ethernet device found by the configuration utility

- 4) Highlight the MAC address found for the Ethernet to serial module.

MAC ADDRESS <input type="text" value="00"/> <input type="text" value="00"/> <input type="text" value="05"/> <input type="text" value="62"/> <input type="text" value="23"/> <input type="text" value="36"/>		MODULE IP ADDRESS <input type="text" value="192"/> . <input type="text" value="168"/> . <input type="text" value="2"/> . <input type="text" value="7"/>		LOCAL PORT <input type="text" value="1024"/>	
MAC ADDRESS LIST <input type="text" value="00-00-05-62-23-36"/>		SUBNET MASK <input type="text" value="255"/> . <input type="text" value="255"/> . <input type="text" value="255"/> . <input type="text" value="0"/>		REMOTE PORT <input type="text" value="1024"/>	
PC IP ADDRESS <input type="text" value="192.168.2.188"/>		GATEWAY <input type="text" value="192"/> . <input type="text" value="168"/> . <input type="text" value="2"/> . <input type="text" value="1"/>		BAUD RATE <input type="text" value="9600"/>	
		REMOTE IP ADDRESS <input type="text" value="192"/> . <input type="text" value="168"/> . <input type="text" value="2"/> . <input type="text" value="126"/>		DATA BITS <input type="text" value="8"/>	
		NAME SERVER <input type="text" value=""/>		PARITY <input type="text" value="NONE"/>	
				STOP BITS <input type="text" value="1"/>	
				<input type="radio"/> UDP MODE <input type="radio"/> TCP CLIENT MODE <input type="radio"/> TCP SERVER MODE <input checked="" type="radio"/> TCP AUTO MODE	
<input type="button" value="SEARCH"/>		<input type="button" value="READ"/>		<input type="button" value="WRITE"/>	
				<input type="button" value="EXIT"/>	

Figure 6 - Store and Verify the settings with the configuration utility

- 5) Enter the Ethernet module IP address and set the various parameters required.
- 6) Click WRITE to store the configuration to the Ethernet module.
- 7) Click READ and verify the settings stored.

Verify the functionality of the Ethernet to serial module
(Refer to schematic on Figure 1)

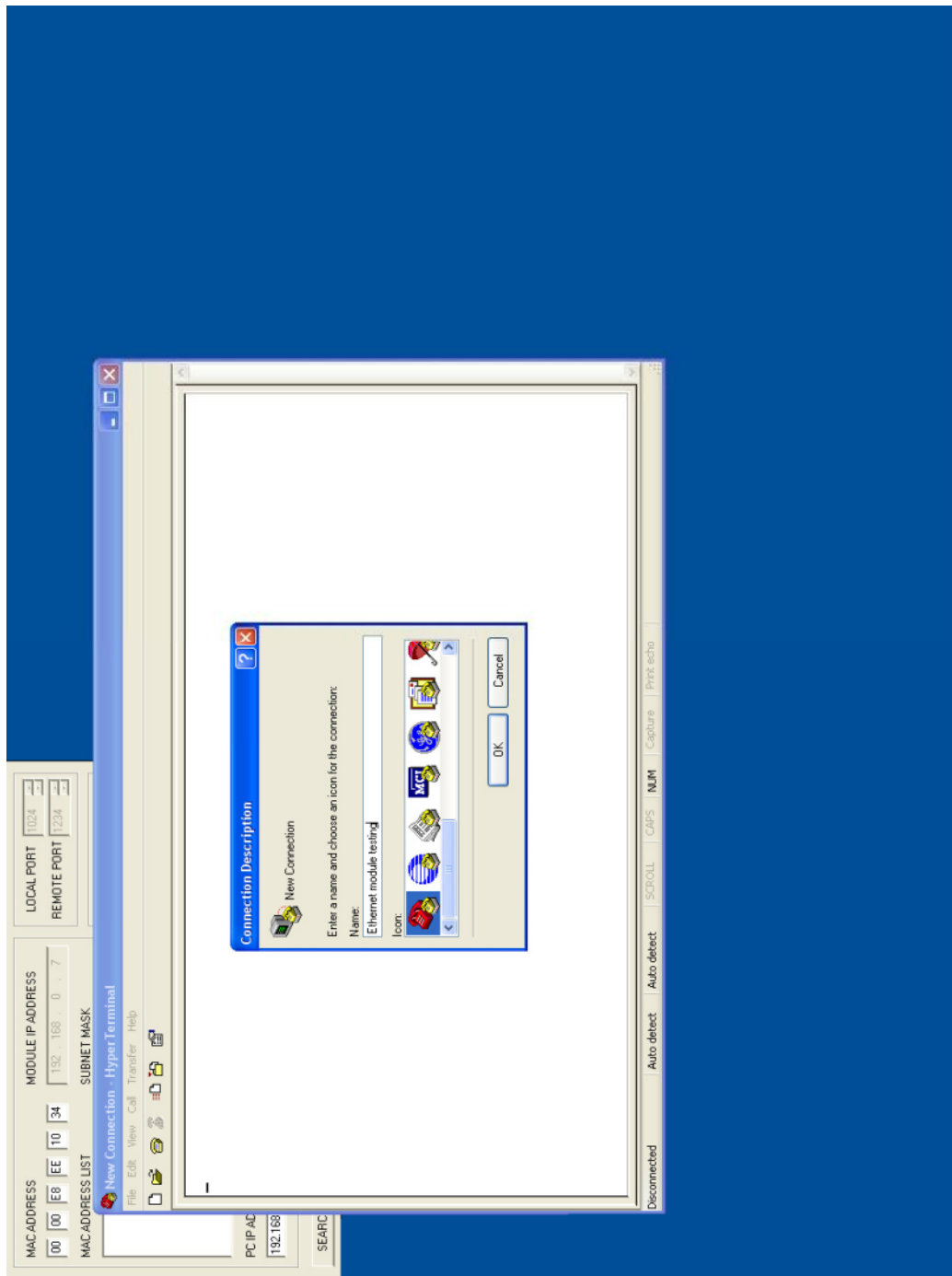


Figure 7 - Setting up Hyper Terminal for testing the Ethernet to serial module

8) Open the Hyper Terminal program and enter a title for the Ethernet to serial module terminal.

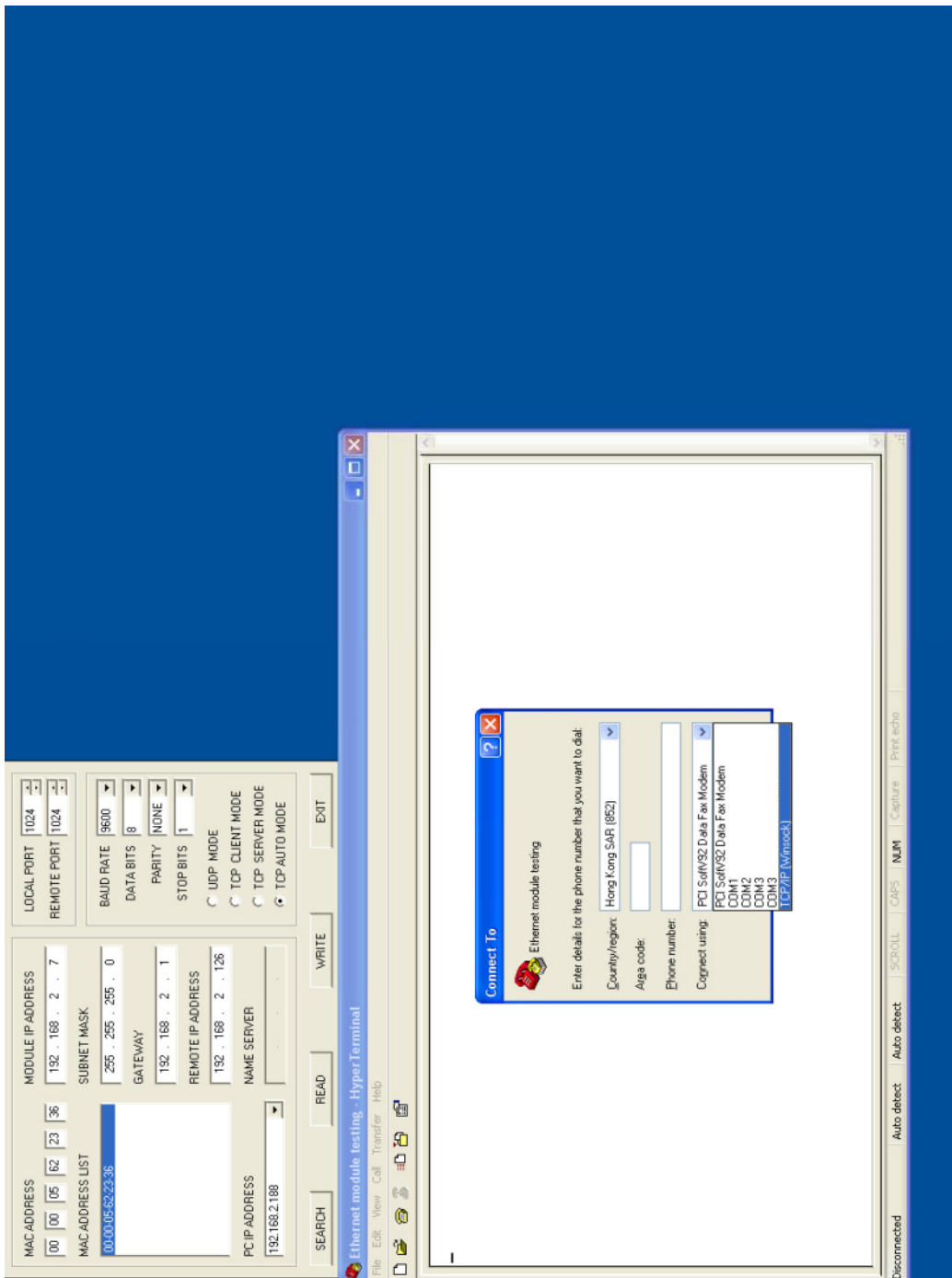


Figure 8 - Choosing the TCP/IP Winsock in Hyper Terminal

- 9) Choose the TCP/IP Winsock so that the Hyper Terminal can send and receive data to the Ethernet to serial module.

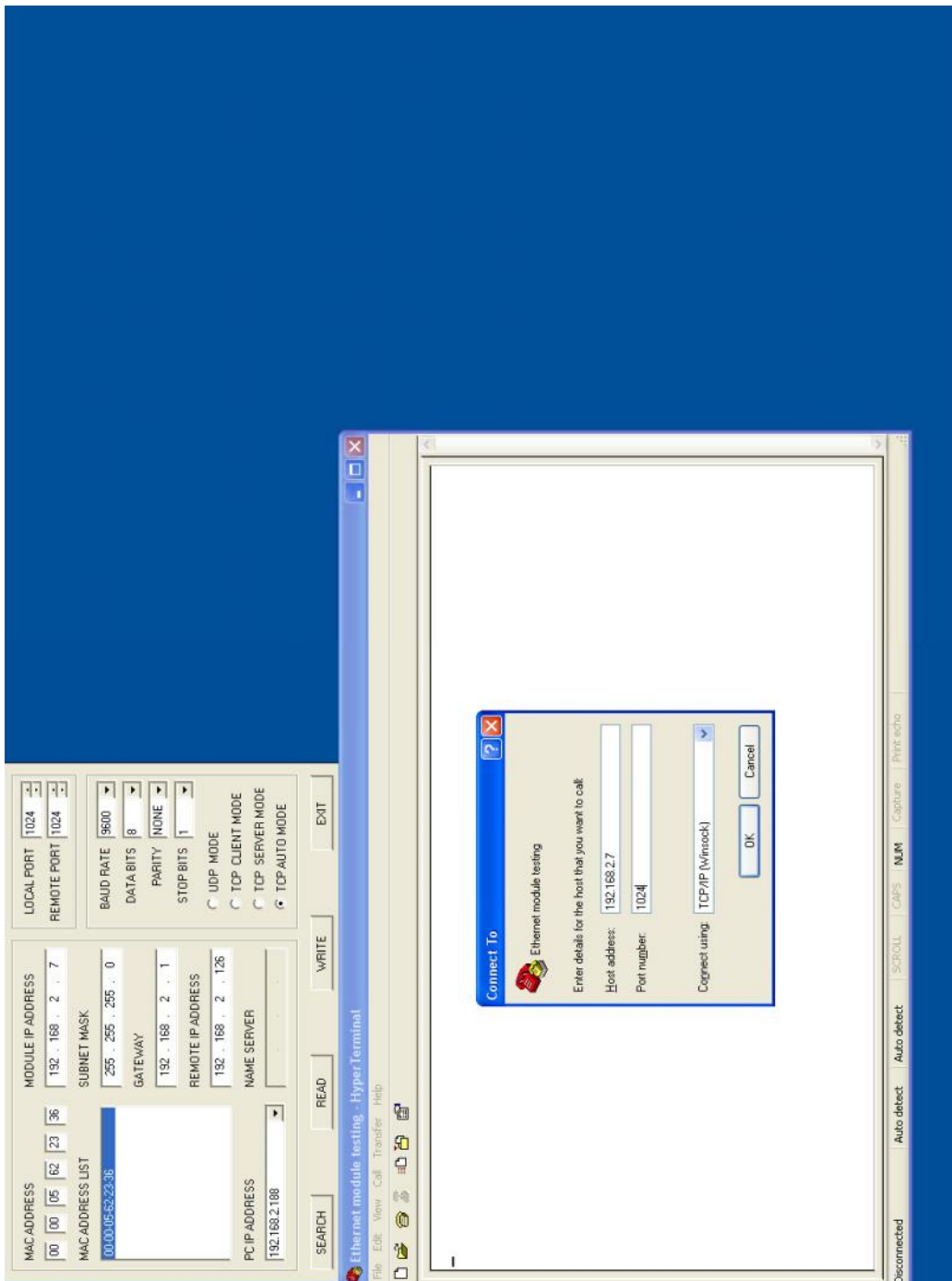


Figure 9 - Setting the correct IP address and port for the TCP/IP Winsock

10) Enter the IP address of the Ethernet to serial module.

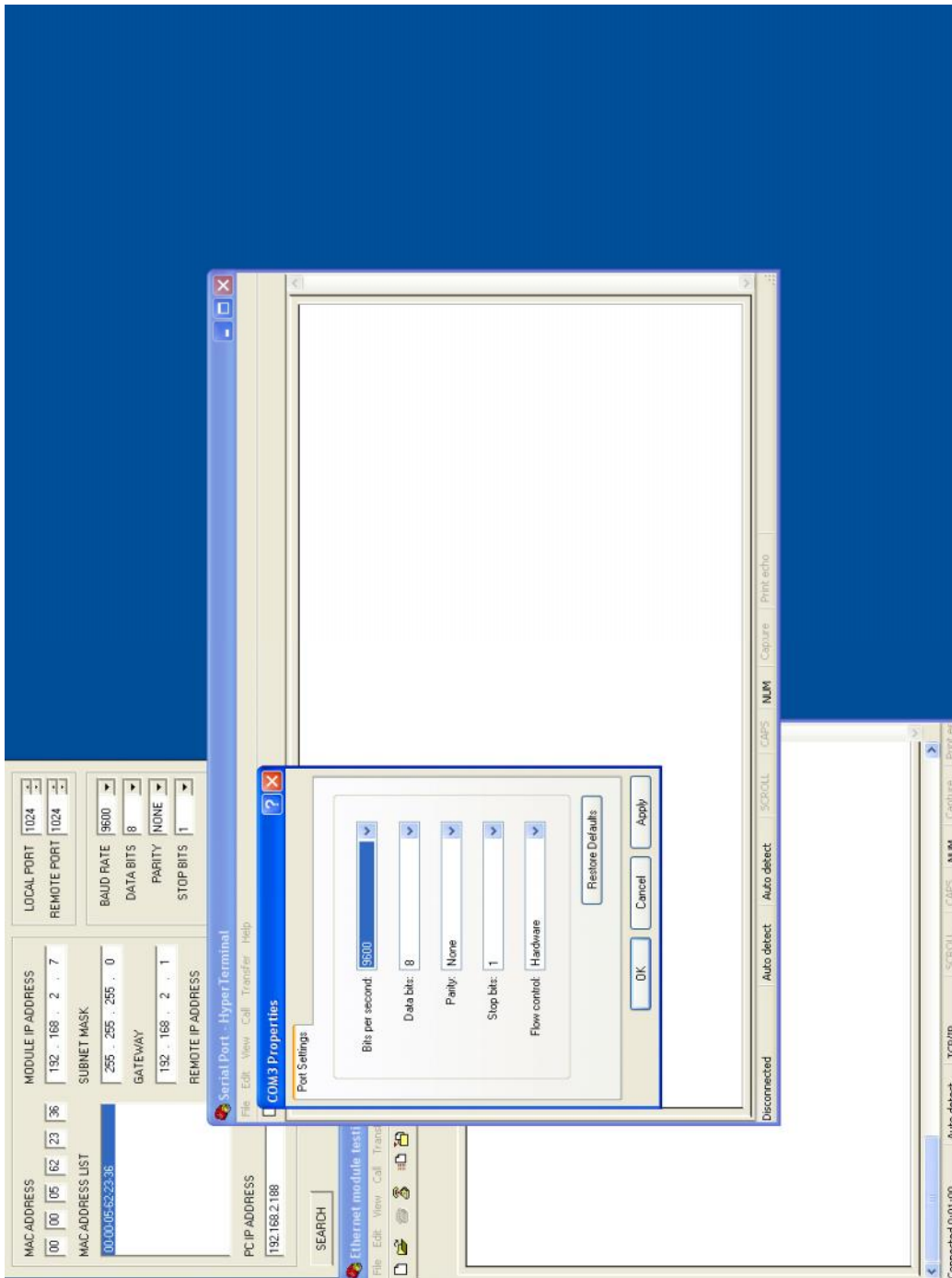


Figure 10 - Setting the correct speed for the serial port in a new Hyper Terminal Window

11) Open a new Hyper Terminal and set the correct serial port parameters.

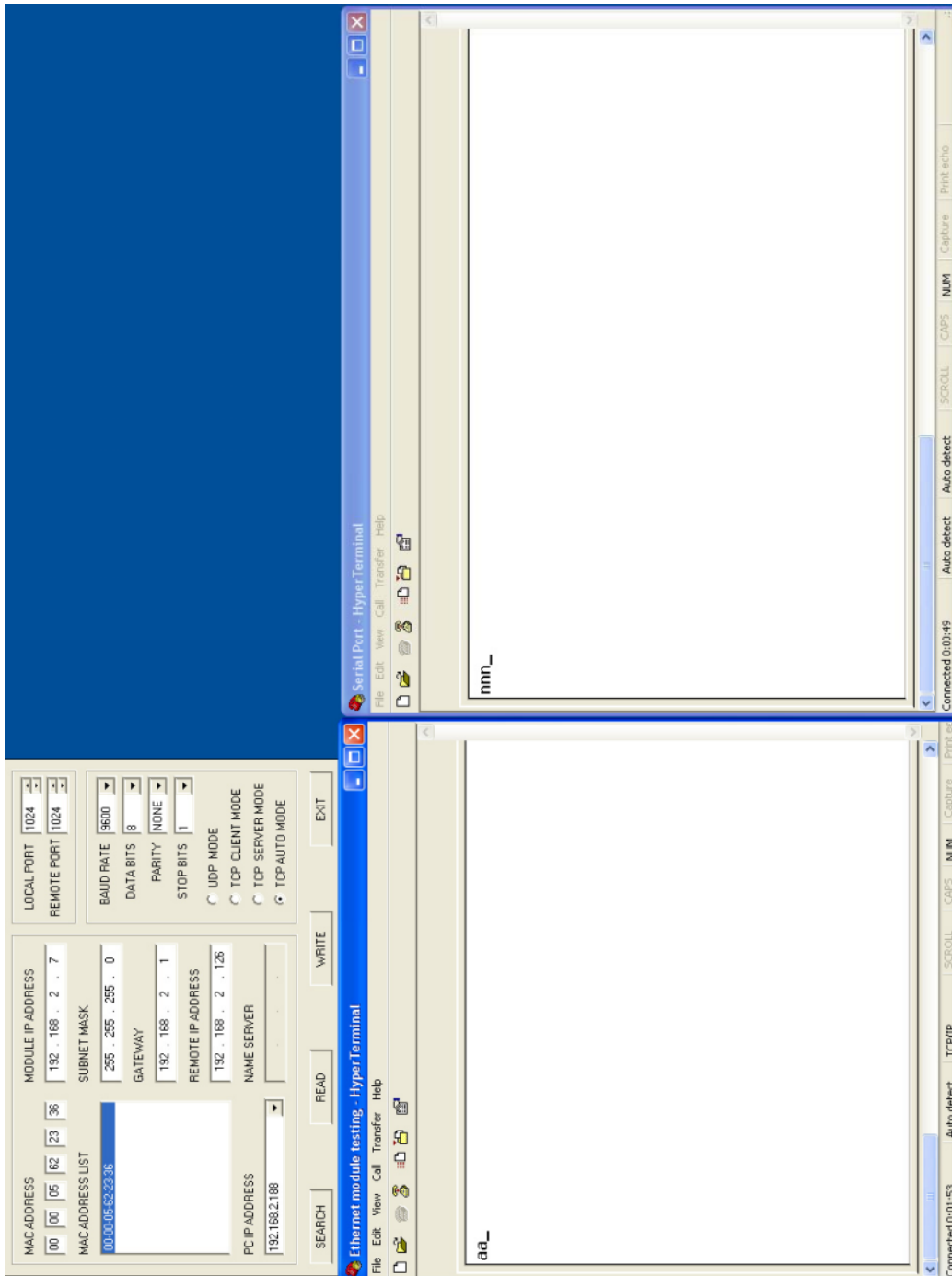


Figure 11 - Two Hyper Terminals showing successful connection

- 12) The Serial Port Terminal should display the character typed on the Ethernet module testing terminal, vice versa.