**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 Pin 1   J2 Pin 1

J1 Pin 12   J2 Pin 12
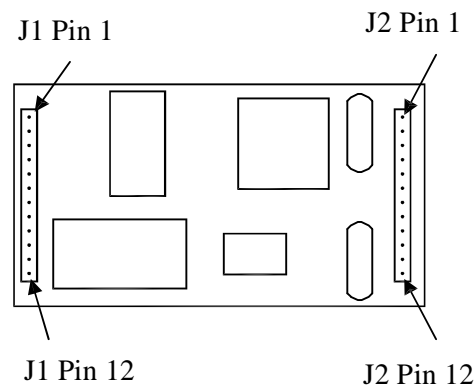
J1 pins description		
Pin 1	Gnd	Ground connection
Pin 2	Rx-	Ethernet Rx- connection
Pin 3	Rx+	Ethernet Rx- connection
Pin 4	Gnd	Ground Connection
Pin 5	Tx-	Ethernet Tx- connection
Pin 6	Tx+	Ethernet Tx+ connection
Pin 7	Gnd	Ground connection
Pin 8	Act	Activate indicator LED connection (see scheamtic)
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
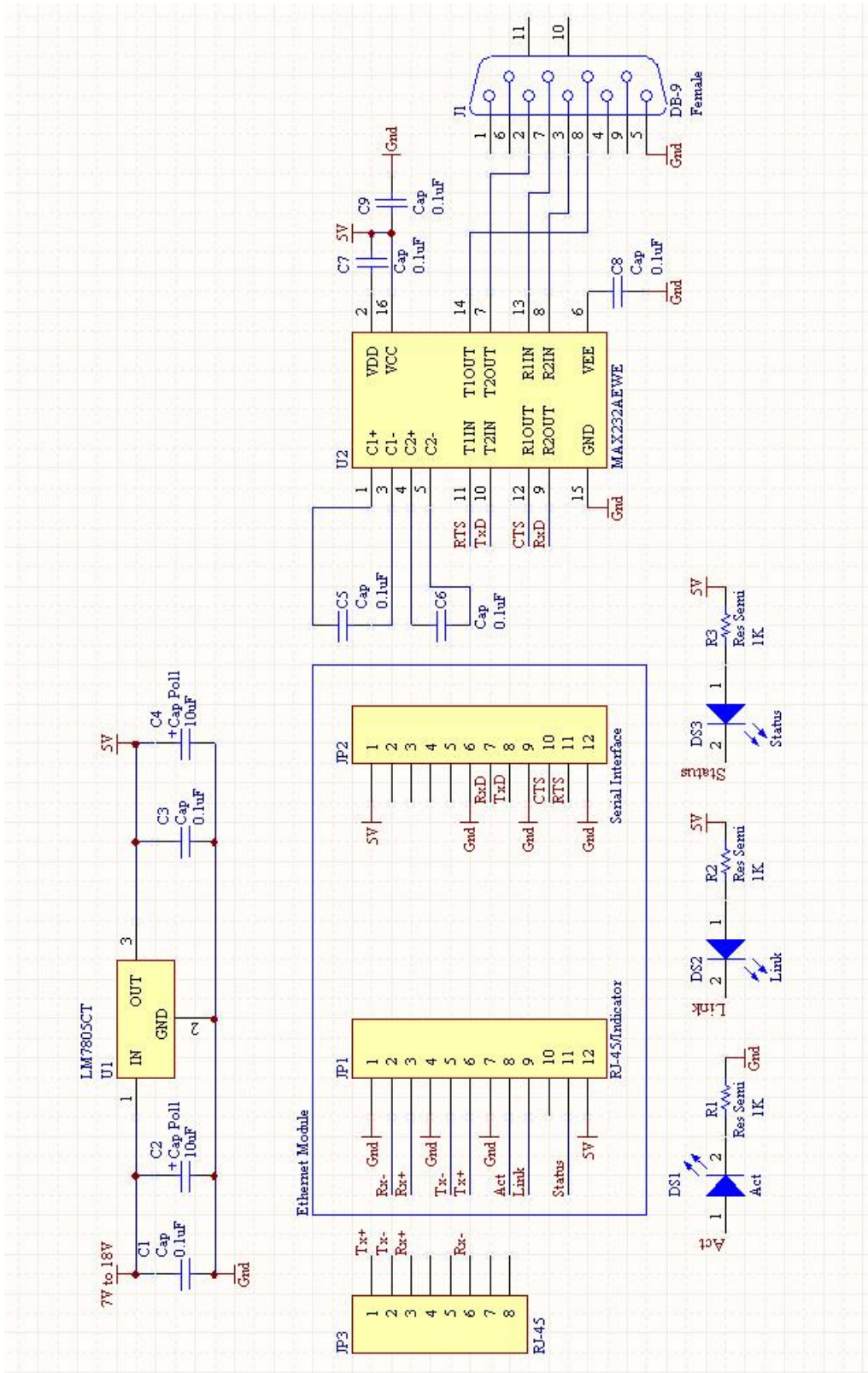
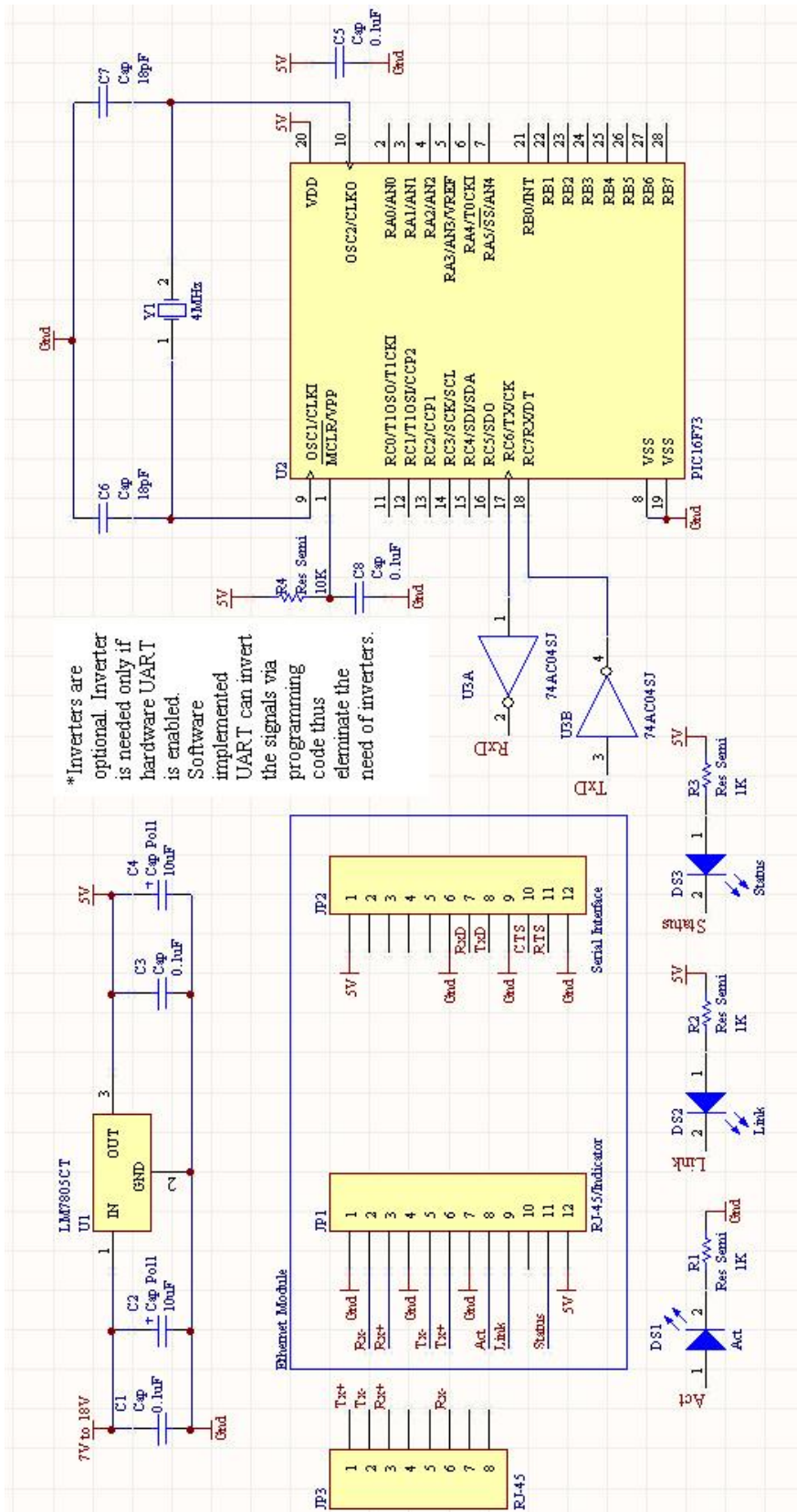Figure 1 - Interfacing Ethernet to serial module with a PC serial port

Figure 2 - Interfacing Ethernet to serial module with Microchip microprocessor

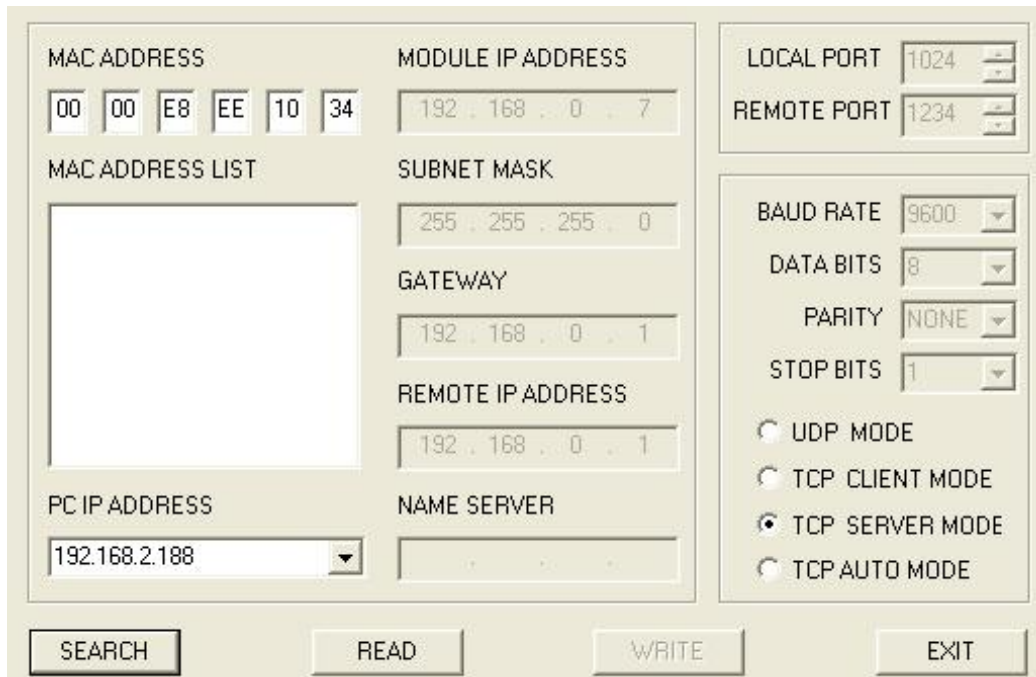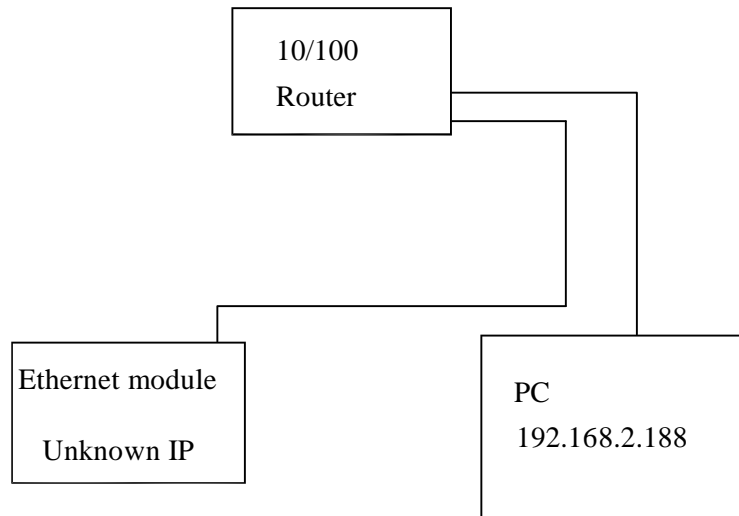**One time configuration procedure for the Ethernet to serial module**

```
                    ┌──────────────┐
                    │  10/100      │
                    │  Router      │
                    └──────────────┘

   ┌──────────────────┐        ┌──────────────────┐
   │ Ethernet module  │        │  PC              │
   │                  │        │  192.168.2.188   │
   │  Unknown IP      │        │                  │
   └──────────────────┘        └──────────────────┘
```

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.

Figure 4 - Configuration utility start-up screen

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

Figure 5 - Ethernet device found by the configuration utility

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

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
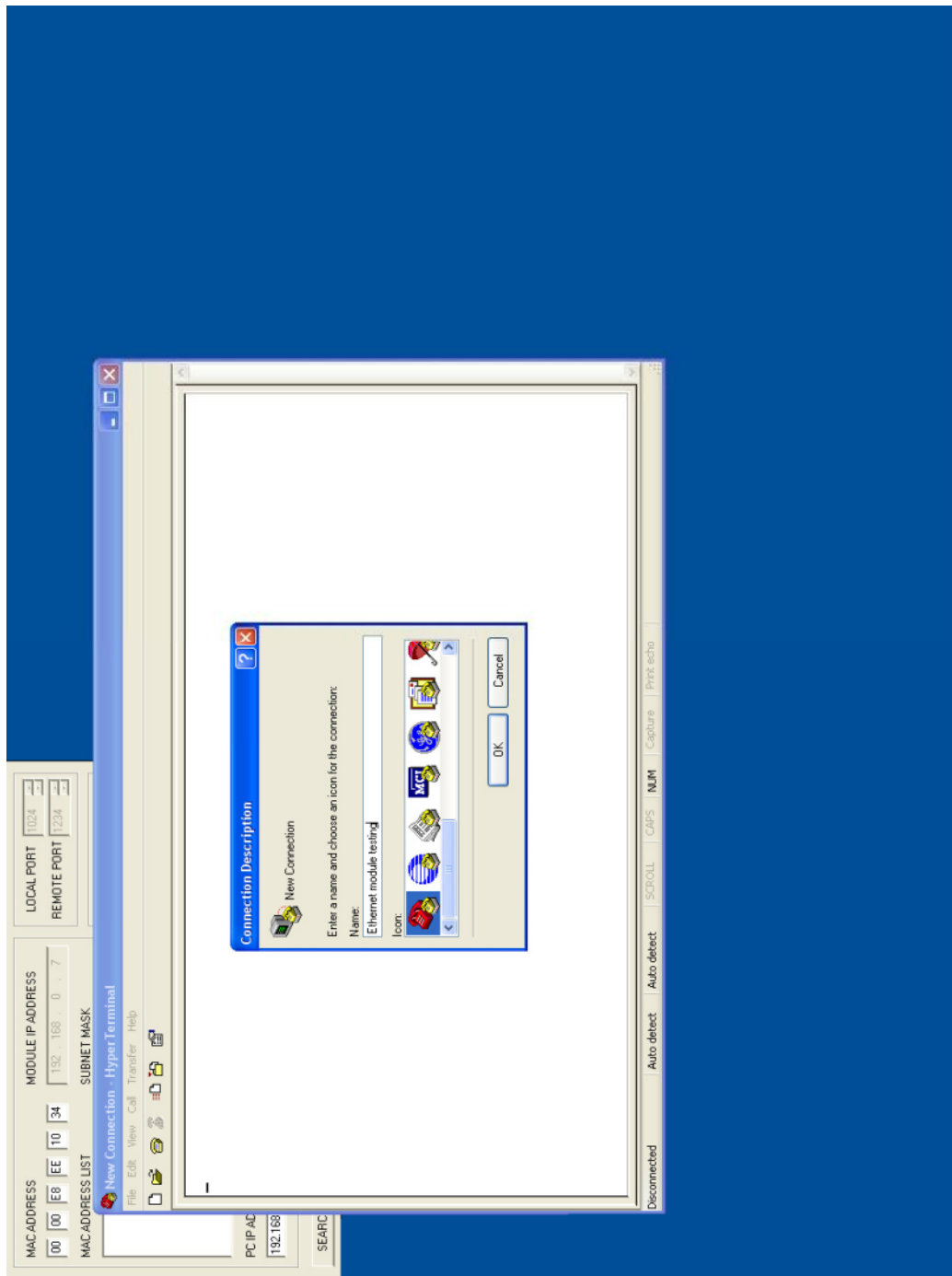
(Refer to schematic on Figure 1)

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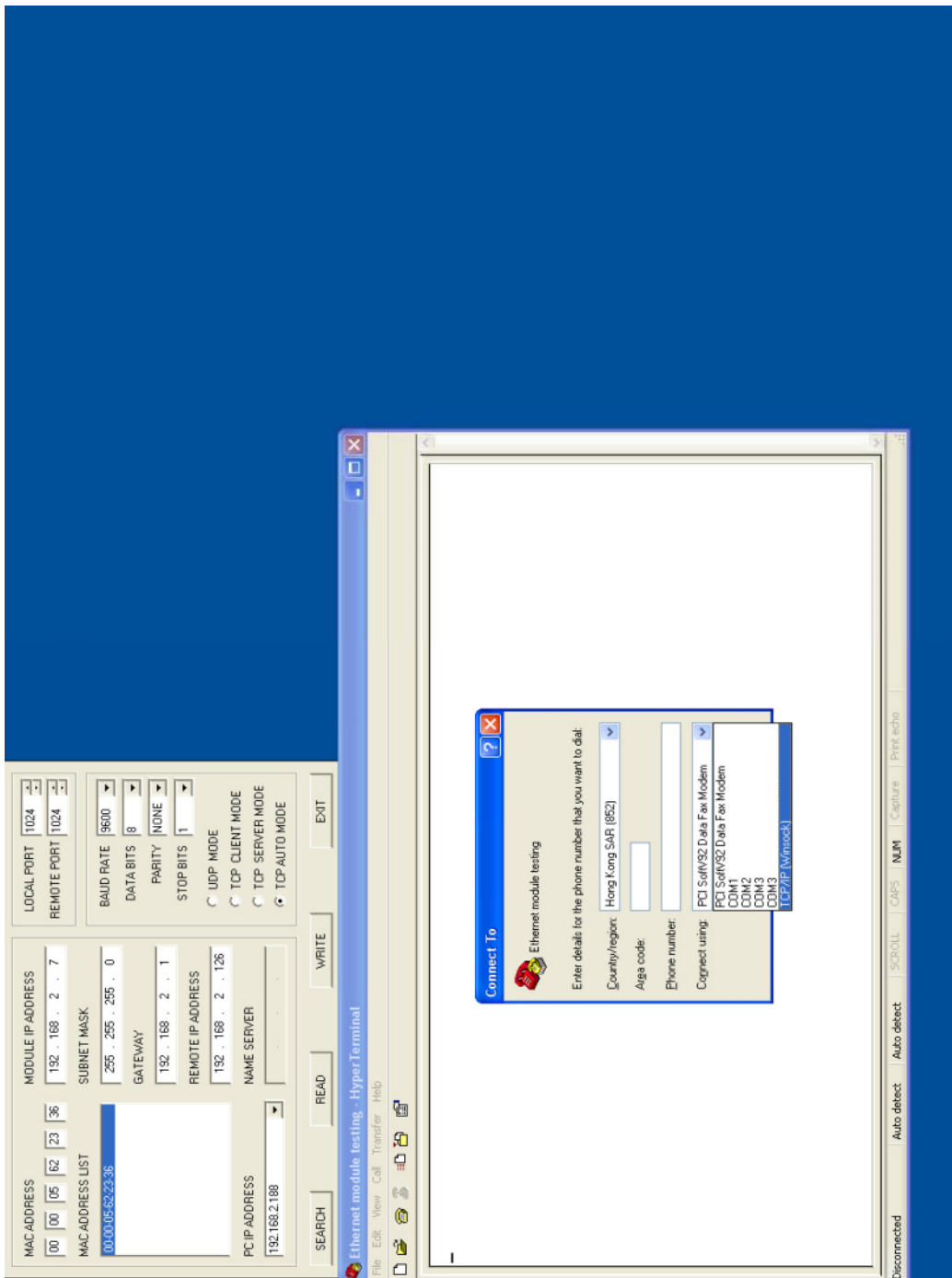
Figure 8 - Choosing the TCP/IP Winsock in Hyper Terminal

9) Choose the TCP/IP Winsock so that the Hyper Terminal can send and receive data to the Ethernet to serial module.
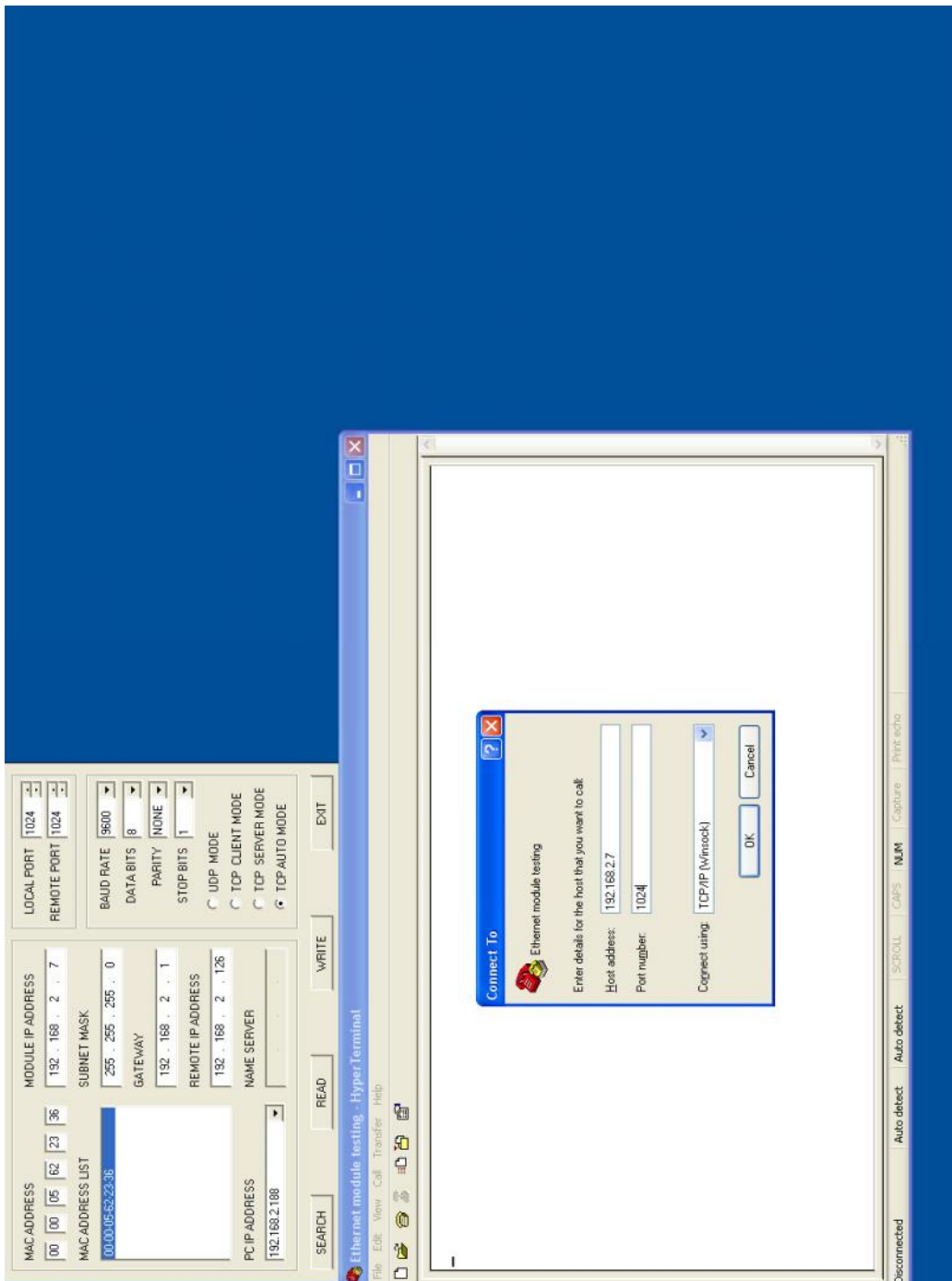
Figure 9 - Setting the correct IP address and port for the TCP/IP Winsock

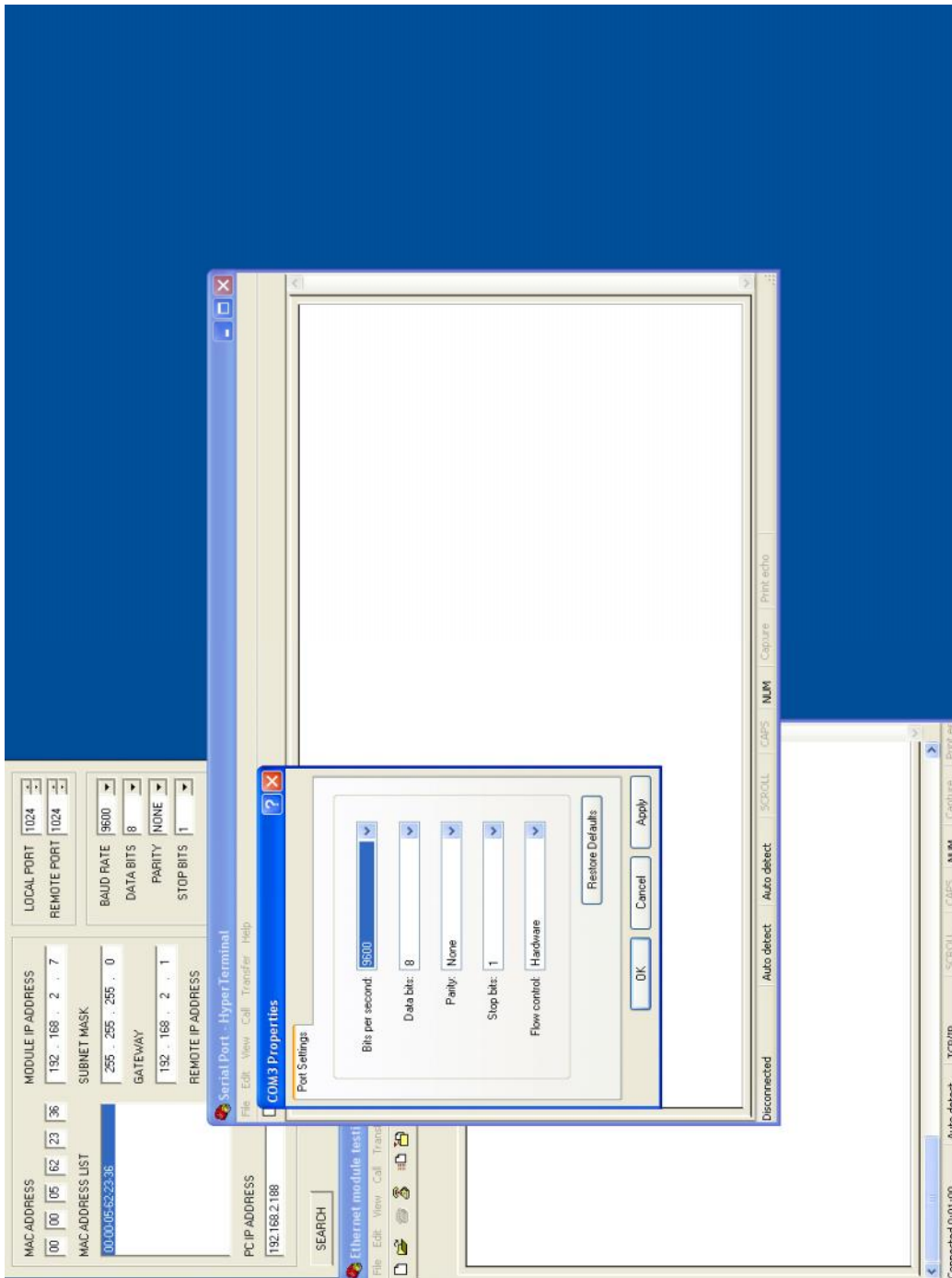10) Enter the IP address of the Ethernet to serial module.

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

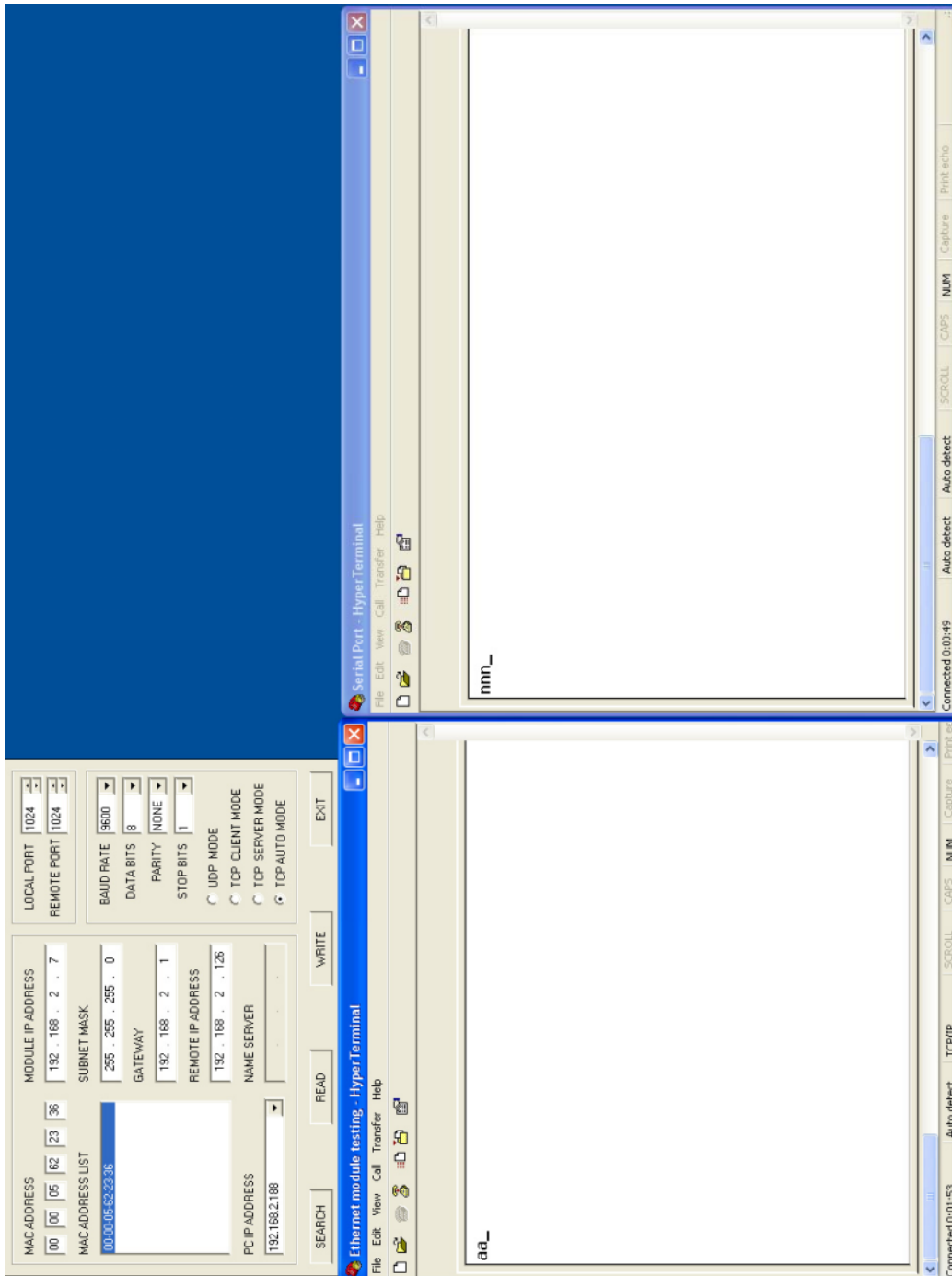11) Open a new Hyper Terminal and set the correct serial port parameters.

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.