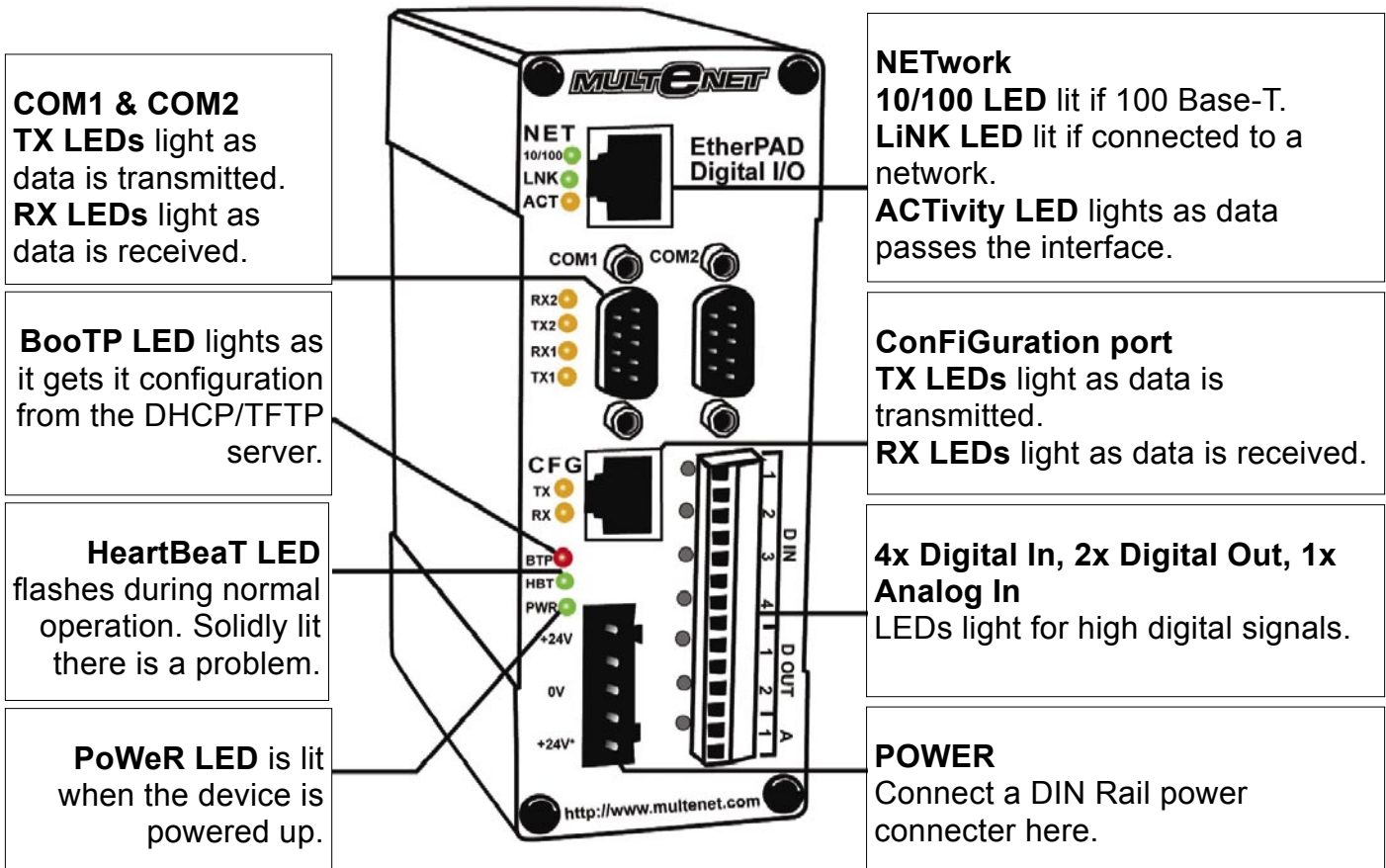


**MULTENET EtherPAD Digital I/O**

RS 232/422/485 to 10/100 Base-T  
 4x Digital In, 2x Digital Out, 1x Analog In  
 Quickstart Guide v1.1 (January 2005)



1. Connect the Serial, Ethernet and Power cables
2. Configure the IP Address and Subnet Mask using EtherPAD Explorer
3. Configure the Serial Port parameters
4. Test communications using two terminal sessions
5. Demo script

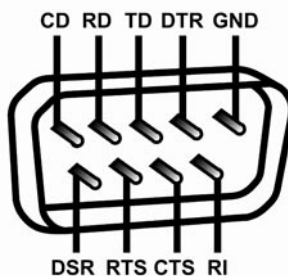
**1. Connect the Serial, Ethernet and Power cables**

**Serial Line Connection**

Check the type of serial device you wish to connect to your EtherPAD. You can connect devices supporting RS232, RS422 and RS485.

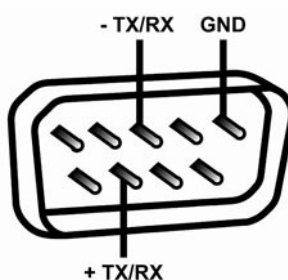
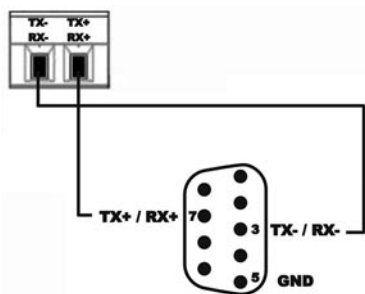
**RS232**

For DCE devices (e.g. modems) you require a straight serial cable, while for DTE devices (e.g. computers) you require a crossed serial cable. Standard off-the-shelf cables can be used (check the user manual for detailed pin outs).



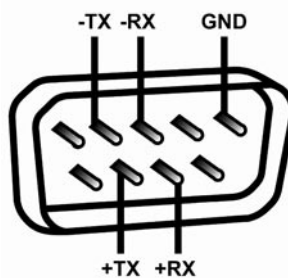
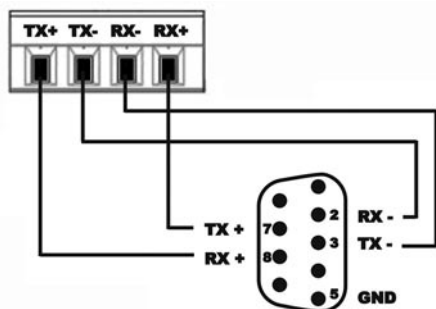
Pin	RS232
1	CD
2	RX
3	TX
4	DTR
5	GND
6	DSR
7	RTS
8	CTS
9	RI

### RS485 (Half Duplex)



Pin	RS485
1	
2	
3	Data -
4	
5	GND
6	
7	Data +
8	
9	

### RS422 (Full Duplex)



Pin	RS422
1	
2	TX -
3	RX -
4	
5	GND
6	
7	TX +
8	RX +
9	

Connect your serial device to the EtherPAD. You may want to test the configuration by connecting the serial line to your PC and checking data transmission via two terminal sessions. This is briefly described at the end of this guide.

COM2 is used to poll the Digital I/O board via a script on the EtherPAD. You can access this COM port via telnet and issue polling commands remotely without a script. A sample script is shipped on the EtherPAD Digital I/O.

### Ethernet Network Connection (RJ45)

Connect your 10 or 100 Base-T Ethernet cable to the EtherPAD. The LNK LED will light up if the connection is good. The 10/100 LED will light if 100 Base-T is available.



If the EtherPAD is connected directly to your PC, use a crossed Ethernet cable. If it is connected via a hub or switch, use a straight Ethernet cable.

### Power Supply Connection

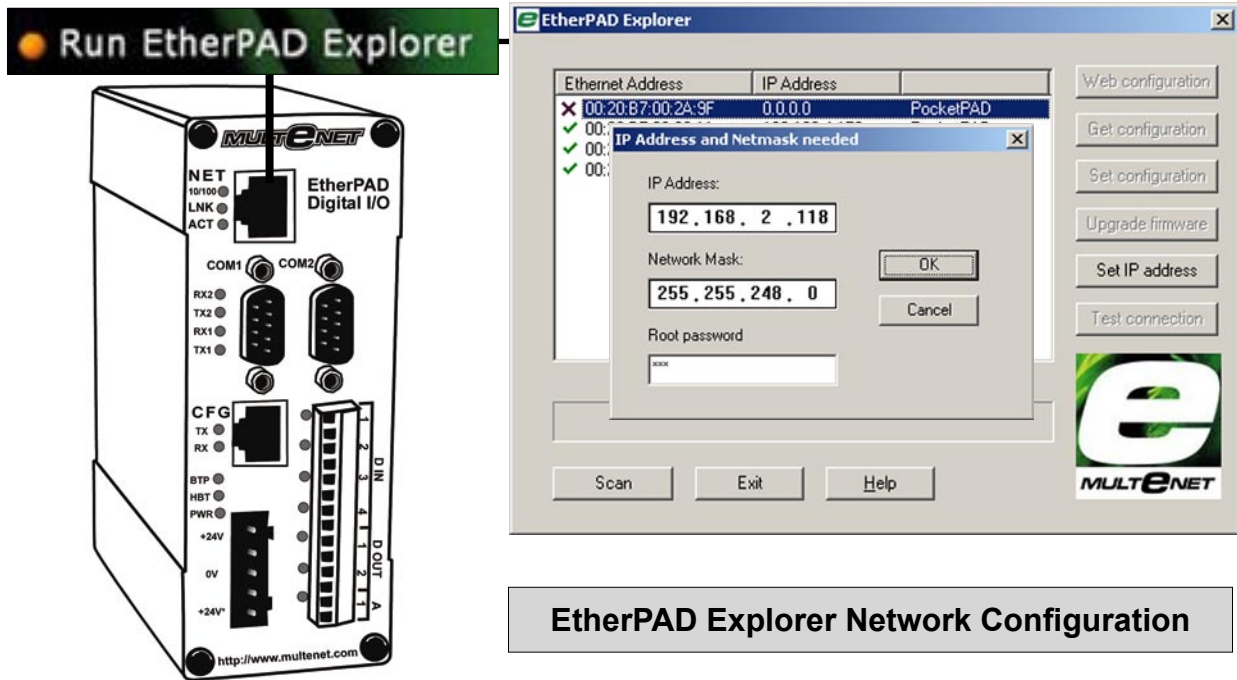
Connect your power supply. 10V-30V DC or 10V-20V AC (5W) is required. A Power connector on front is available for DIN Rail PSU connections.



## 2. Configure the IP Address and Subnet Mask using EtherPAD Explorer

Launch EtherPAD Explorer to quickly find all Multenet units on the local segment. EtherPAD Explorer can be run from the CD, or installed onto your PC.

Configure the EtherPAD's IP Address and Subnet Mask by highlighting the new device and clicking 'Set IP Address'. After setting the IP Address and Network Mask, you can configure the EtherPAD by clicking 'Web Configuration'. The 'Set IP Address' window will appear while the unit is rebooting or if your network parameters are incorrect.



**EtherPAD Explorer Network Configuration**

### Web Configuration

Should your web browser launch but fail to download a web page, there may be a problem related to your browser proxy configuration. Disable the proxy and restart the browser. Another common problem is that of duplicate IP Addresses. The IP Address you inserted may belong to another host. The user manual has more info on faultfinding these issues.

The following login screen should appear if the network parameters are good.

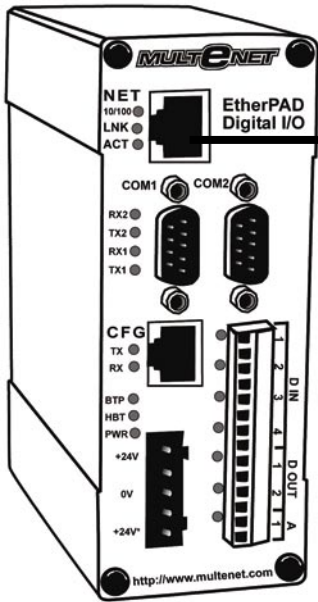


### EtherPAD Duo

System Name: Stellenbosch  
 Location: Office  
 Contact: techsupport@sanpeople.com

[Enter Configuration](#)

To get your EtherPAD configured for basic serial to ethernet communications you need to configure the EtherPAD's IP Address and Network Mask (for other networked devices to contact it). If you have already "Set IP address" via EtherPAD Explorer and you do not wish to use a Gateway IP Address, you can skip to the next figure.



[Networking](#)    [Ethernet Parameters](#)

MAC Address: 00:20:B7:00:20:AA  
 IP Address:   
 Network Mask:   
 Default Gateway:   
 Link Operation:

**Web Network Configuration**

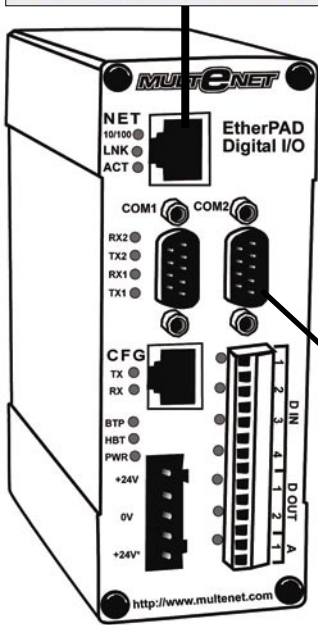
### 3. Configure the Serial Port parameters

Next, configure the Serial Port and a Network Application. Check your serial device parameters. The parameters below sets your EtherPAD to accept TCP/IP connections on port 5000 (Passive mode), with serial data communication configured for 19200:8:N:1:N. These are default values.

Should you want the EtherPAD to connect to your server on startup, consult the user manual for more info regarding Active mode.

Save and Reboot the EtherPAD, saving your new settings.

[Serial Application](#)    Add:    



Application Name: Default  
 Serial Interface: com1  
 Connection Type:   
 Local TCP Port:   
 Remote Host / IP Address:   
 Remote TCP Port:   
 Application Protocol:

[Serial Application](#)    [Change Serial Parameters](#)

        **Serial Interface Settings**        

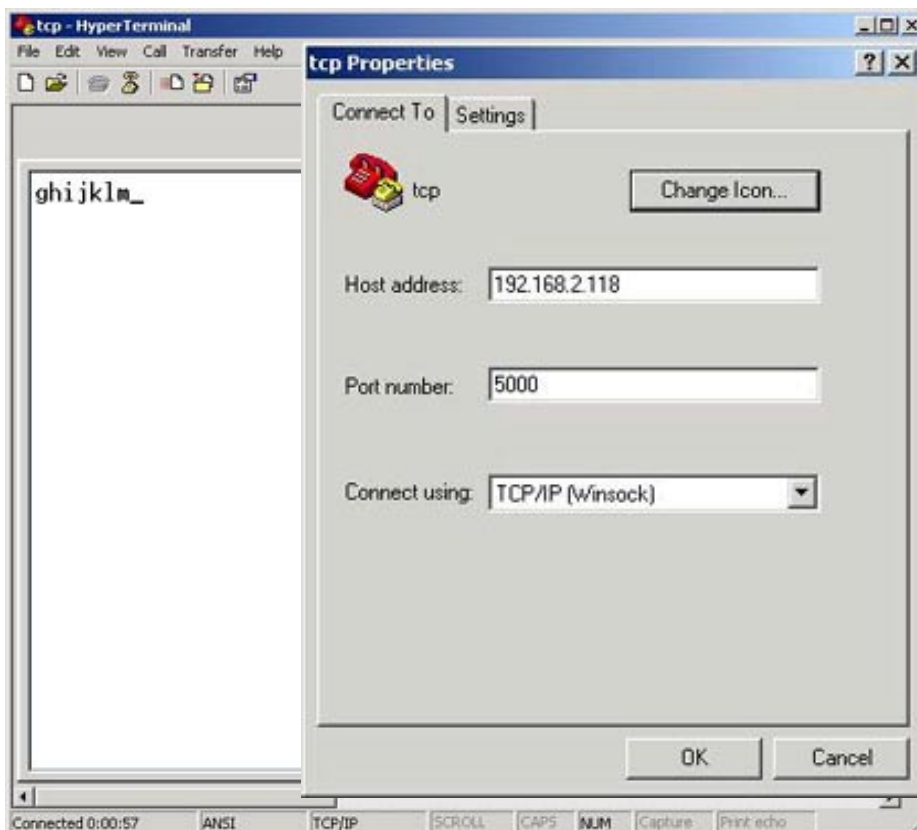
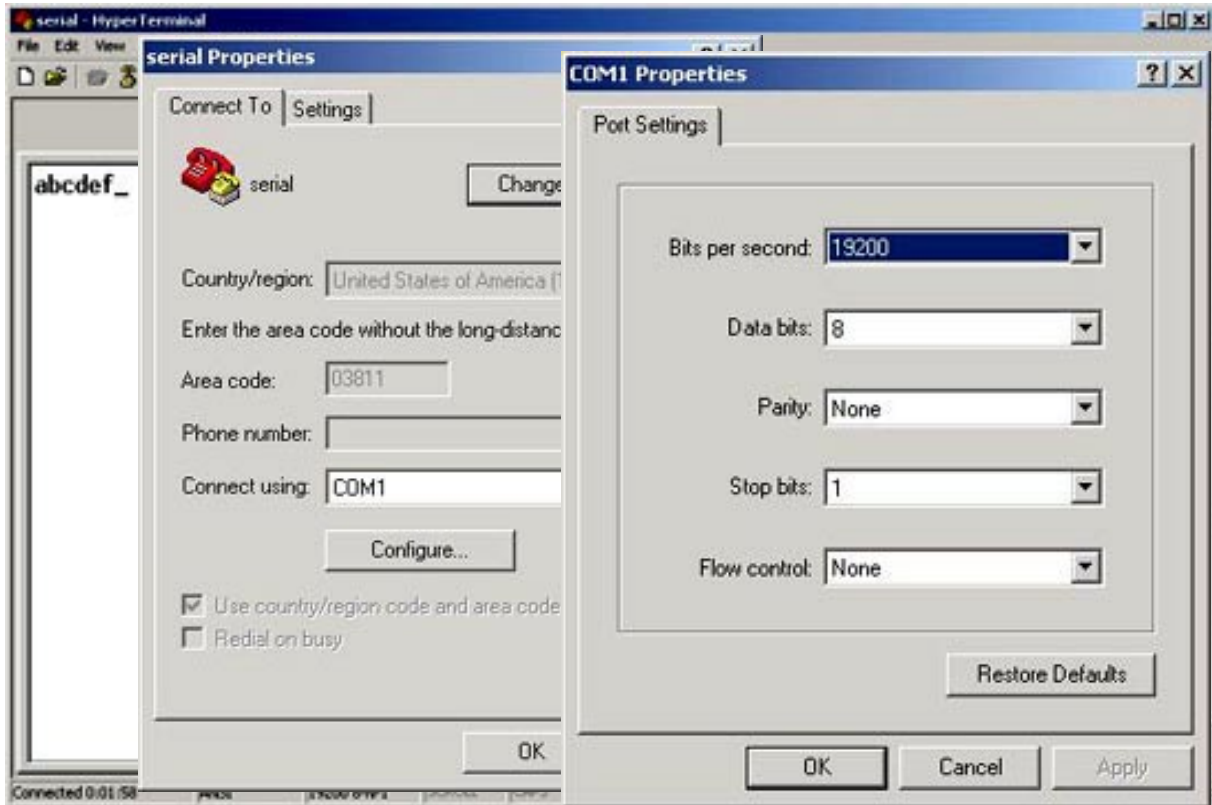
Serial Interface: com1  
 Data Bits:  5    6    7    8  
 Stop Bits:  1    2  
 Parity:  None    Odd    Even    Mark    Space  
 Speed (baud rate):   
 Flow Control:   
 Connection Type:  RS232    RS422    RS485    Modem  
 Protocol:

**Web Serial Application Configuration**

#### 4. Test communications using two terminal sessions

Launch two terminal sessions to your EtherPAD. One session connects to the Serial interface (COM1 port) and the other to the TCP port via the network (port 5000). Characters typed in one session should be seen in the other (and vice versa).

**NOTE:** If you see garbage, check your Serial port session parameters. They should match the settings of your EtherPAD.



## 5. Demo script

A sample script is shipped with the EtherPAD Digital I/O. Edit the script using SANscript for a customized solution.

Setup your EtherPAD Digital I/O via the settings. `san` webpage. Set email warnings should you wish to be informed of alerts. You can also enable log uploads to a remote FTP server.

You will need to set the Analog Input (4mA to 20mA). This can be done via the `analog.san` webpage. The unit will reboot. Insert 4mA and set the lower limit. Insert 20mA and set the higher limit. Be careful not to insert more than 20mA as this will damage the unit. The system reboots after the limits are set. The configuration page allows you to

`Display.san` shows the status of the I/O. Click the Digital Output indicators to change its state.

`Historyfile.san` shows the history of I/O activity.