

# Networked Objects

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*Spring 2006*

*WiPort Session - March 4<sup>th</sup>*

## Configuring the WiPort

The WiPort is an 802.11b client that allows us to connect serially to a WiFi access point using a micro-controller. The WiPort can function as a drop in replacement for the XPort or Cobox network co-processors, so long as we correctly configure the WiPort.

Unlike the XPort, where we only need to configure an IP address to allow connection to the network, we also need to set an Access Point that the WiPort is associated with. At ITP we can make use of Tom Igoe's Sandbox access point.

### Setting up the Board

Most of our WiPorts are mounted on a board that allows easy placement of the device on a solderless bread board. We'll be using a simple board setup to connect serially to the WiPort from a desktop computer. The parts we need are:

- Solderless bread board
- Hex Inverter (SN7404)
- Power Regulator (7805)
- Serial Cable with header pins

We connect our serial cable to the hex inverter, and the hex inverter to the TX0 and RX0 pins of our bread board.

### Serial Configuration

The serial configuration of the WiPort is much the same as with the XPort. To get the WiPort up and running initially we need to change settings in the Server and WLAN configuration sections. Just like the XPort, we can connect serially to the WiPort using ZTerm or Hyperterm.

### Configuration Menu

Change Setup:

- 0 Server
  - 1 Channel 1
  - 2 Channel 2
  - 3 E-mail
  - 4 WLAN
  - 5 Expert
  - 6 Security
  - 7 Factory defaults
  - 8 Exit without save
  - 9 Save and exit
- Your choice ? 0

### Server Settings

IP Address : (xxx) .(xxx) .(xxx) .(xxx)  
Set Gateway IP Address (Y) ?  
Gateway IP addr (xxx) .(xxx) .(xxx) .(xxx)  
Netmask: Number of Bits for Host Part (0=default) (8)  
Change telnet config password (N) ?

### WLAN Settings

Enable WLAN (Y) ?  
Find network name (LTRX\_IBSS) ? <Access Point Name>  
Enable Ad Hoc network creation (Y) ? N  
Security 0=none, 1=WEP (0) ? 0  
Data rate, Only : 0=1, 1=2, 2=5.5, 3=11 Mbps or  
Up to: 4=2, 5=5.5, 6=11 Mbps (6) ?  
Enable power management (N) ?

### Telnet Configuration

Once we've successfully configured the WiPort through a serial connection we can access the configuration through telnet, by opening a connection to our IP address at port 9999.

### Web Configuration

Like the XPort the WiPort has a web-based configuration page that can be accessed by opening your WiPort IP address in a browser.

### Resources

- Serial Cable setup
  - [http://www.tigoe.net/pcomp/code/archives/picbasic\\_pro/000293.shtml](http://www.tigoe.net/pcomp/code/archives/picbasic_pro/000293.shtml)
- Hex Inverter setup
  - <http://www.tigoe.net/pcomp/cobox/xport.shtml>