

Establishing IP Connectivity to the Ez400

The Ez400 can be connected to a computer network, or an individual computer, via its IP (Internet Protocol) address. Once the IP connectivity is established, you can update the Ez400 software, or setup/monitor the Ez400 settings and operation with any Web Browser (i.e. Internet Explorer, Safari, Firefox, etc.).

There are two ways to establish IP connectivity to the Ez400:

A. Connect the Ez400 Ethernet port directly to a network router (your typical home wireless router/gateway, etc.)

This is the preferred method, as it allows the Ez400 to be permanently part of your home network, and then the Ez400 can be accessed from any computer smart phone, etc that is on the same network.

B. Directly connect the Ez400 ethernet port to a single PC.

This method is useful for temporary or intermittent use of the Ez400 networking functions, such as to perform a software update or do the initial setup from a PC, where the Ez400 is not permanently part of the network.

Method "A", Home Network Connection

This method is the easiest method. Simply plug an Ethernet network cable (available from your local electronic store, etc.) from the Ez400 network port, to one of the empty Ethernet ports on your home router/gateway. Power up or power-cycle the Ez400 after the cable connection is made, and the Ez400 will automatically obtain an IP address from the home gateway/router.

Step1: Verify Ez400 IP Address Mode is set to "Automatic"

This is the default, so if you did not change this, you are good to go!

Setup Controller -> Setup Network -> IP Address Mode Automatic

Step2: Connect the Ez400 to the router and power it up

Connect the Ethernet cable from the Ez400 to a spare port on your home router/gateway. After the cable is in place, power up or power-cycle the Ez400, and the Ez400 will automatically obtain an IP address from the home gateway/router.

Make sure to power up AFTER the Ethernet cable is connected!

If there are no available Ethernet ports on your home router/gateway, you can expand the number of available ports with a small Ethernet switch, available from your electronics store.

If your Ez400 is not located nearby the home router, and you use a wireless network in your home, you can use a wireless Gaming Adapter, or Wireless Bridge, to connect the Ez400 to the wireless network instead of using an Ethernet cable. These devices are available in most Electronics SuperStores. In the wireless bridge/gaming adapter case, the Ez400 will connect directly to the wireless gaming adapter / wireless bridge device instead of the home router, but other than that, everything else is the same. To setup a wireless gaming adapter / wireless bridge, in your home, please refer to the instructions that came with that unit.

Step3: Verify the Ez400 IP Address

After power-up your Ez400 will be assigned an IP address by the router it is plugged into. View this router-assigned IP address on the Ez400 display, and use that to access the unit via any web browser.



You should see something like the example, but your specific Ez400 IP address may differ.

Note:

If the Ez400 is unable to locate a router, it will use the “default” IP address of either 192.168.1.100 or 192.168.1.200.

Either of these IP addresses displayed is a likely indication that the router cannot be reached, and that network connectivity to the Ez400 is NOT established!

If you see the Ez400 default IP, check the Ethernet cable connection to the router and power cycle the Ez400.

Step4: Verify Network Connectivity

To verify your Ez400 Vivarium Controller is connected and reachable on the network, open a web browser (internet explorer, Firefox, etc.), and type the Ez400 IP address into the address bar.

If the Ez400 is on the network, you should see something like this:

Ez400 Vivarium Controller - Windows Internet Explorer

Info: 192.168.1.152

File Edit View Favorites Tools Help

Bookmarks Registered Sites Web Site Safety

Ez400 Vivarium Controller

EcoZone Vivarium
EZ-400 Vivarium Controller

Status

- Controller Status
- Device Data Log

Configuration

- EcoZone
- Units Data
- Etanks
- AC Line Modes
- AC Line Settings
- EC Line Modes
- EC Output Settings
- EC Input Settings
- Alarms
- Networking
- Unit MISC
- Water Inlet Alert Info

Control

- Set Etank Output
- Software Update
- Mobile Device

EcoZone Vivarium - Controller Status

Click to update status info
Refresh

Note: Display will update automatically every 60 seconds

DATE/TIME

| | |
|--------------|------------|
| Current Date | 5/9/2010 |
| Current Time | 8:57:35 pm |

UNIT

| | | | |
|------------------|------------------|-------------------------|----------------|
| Vivarium Name | Spiral's House | Unit Type | Ez400 Vivarium |
| EcoZone | Desert | HW Revision | 03 |
| Software Version | Sw Ver 1.74 E1AC | Config Database Version | 1 |

ALARMS

| | | | |
|-------------------------|----------|-----------------|---------------|
| Over Temperature Alarm | No Alarm | IO Input Alarms | NA - Disabled |
| Under Temperature Alarm | No Alarm | | |

AC LINES

| AC Line Number | AC Line Mode | AC Power Level |
|----------------|-----------------------|----------------|
| Line #1 | Dark/Dimm Lighting | 48 |
| Line #2 | Heater Control | 10 |
| Line #3 | Basking Spot Lighting | OFF |
| Line #4 | Lunar Lighting | OFF |

If you see get the Ez400 Controller status page, you are good to go!

The Ez400 is connected to your network. Use the router assigned IP address whenever you want to access the Ez400 over a network.

Method “B”, Direct Ethernet Connection to Computer Ethernet Port

Using this method, you can connect a single computer to the Ez400, which enables you to use a web browser to view or modify the Ez400 web interface screens, or to update the software on the Ez400.

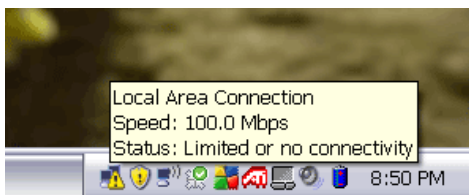
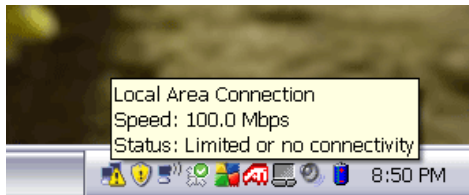
This method is useful for temporary connectivity to the Ez400 , when the Ez400 is not connected to a home network.

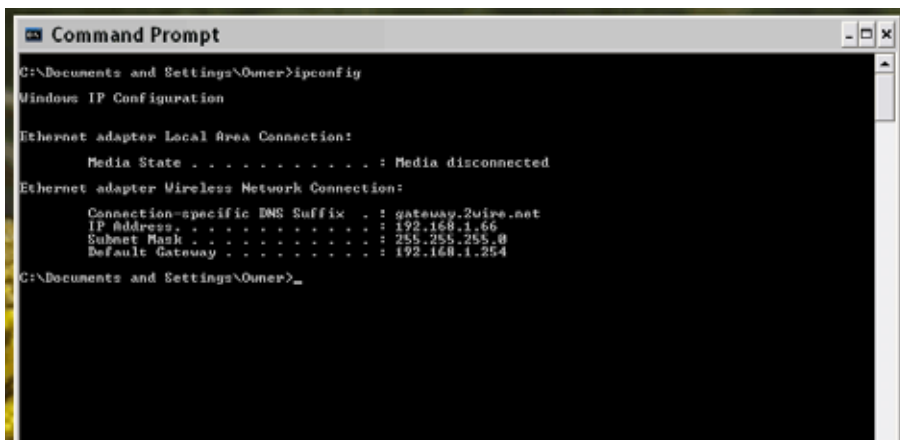
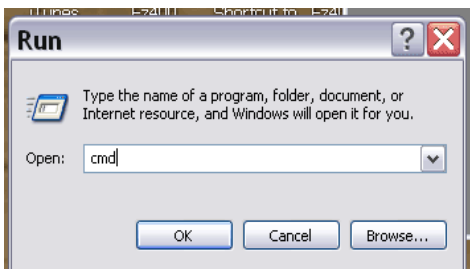
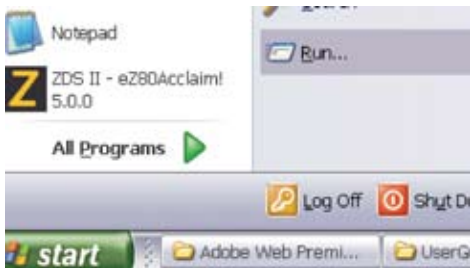
The process involves connecting your computer Ethernet port to the Ez400 and waiting for the computer to “timeout” it’s attempt to reach a router, after which the computer Ethernet interface will receive a “default” IP address. Once you know your computer’s default IP address, the IP address of the Ez400 is set to something which is compatible to the computer’s default. After that is done, you can access the Ez400 from that connected computer, using a web browser to the Ez400 IP address.

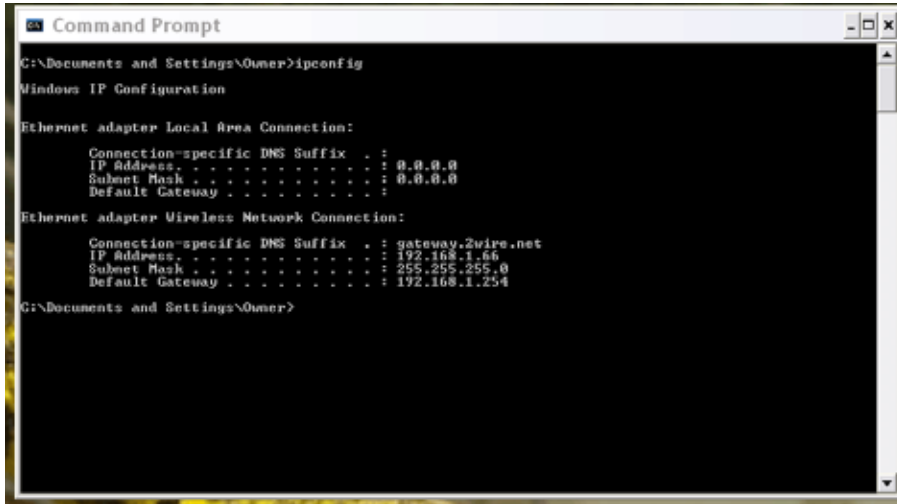
Step1: Determine your computer “default” IP address

When a computer Ethernet port is connected to another device, the computer will look for a router, in order to obtain an IP address for the connected Ethernet interface. This is the same process that the Ez400 performs in Method A, in order to automatically get an IP address assignment.

But if you directly connect the computer to the Ez400, neither device will find a router, and after the process times out, a “Default” IP address is assigned. You need to lookup the default IP address of the computer.







```
Command Prompt
C:\Documents and Settings\Owner>ipconfig

Windows IP Configuration

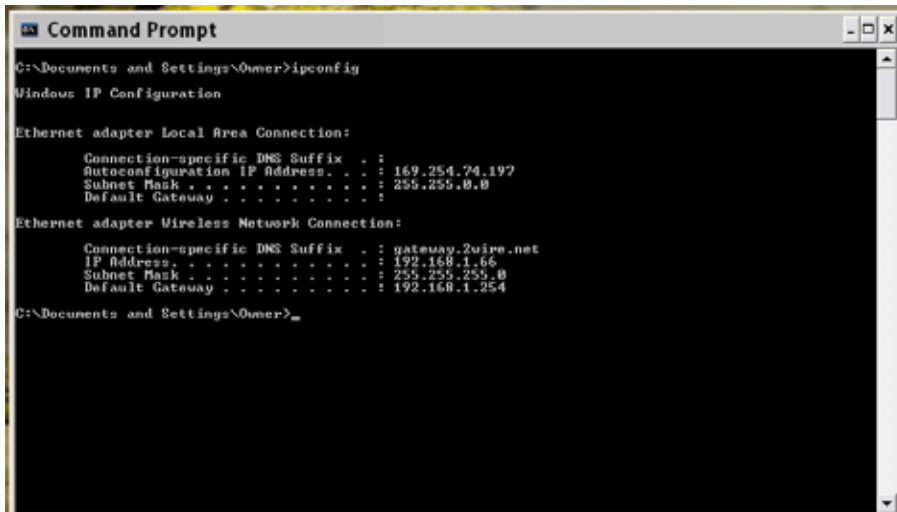
Ethernet adapter Local Area Connection:

    Connection-specific DNS Suffix  . : 
    IP Address. . . . . : 0.0.0.0
    Subnet Mask . . . . . : 0.0.0.0
    Default Gateway . . . . . : 

Ethernet adapter Wireless Network Connection:

    Connection-specific DNS Suffix  . : gateway.2wire.net
    IP Address. . . . . : 192.168.1.66
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 192.168.1.254

C:\Documents and Settings\Owner>
```



```
Command Prompt
C:\Documents and Settings\Owner>ipconfig

Windows IP Configuration

Ethernet adapter Local Area Connection:

    Connection-specific DNS Suffix  . : 
    Autoconfiguration IP Address. . . : 169.254.74.197
    Subnet Mask . . . . . : 255.255.0.0
    Default Gateway . . . . . : 

Ethernet adapter Wireless Network Connection:

    Connection-specific DNS Suffix  . : gateway.2wire.net
    IP Address. . . . . : 192.168.1.66
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 192.168.1.254

C:\Documents and Settings\Owner>
```

Step2: Set the Ez400 IP Address to Manual mode to work with the computer default

The Ez400 Vivarium Controller IP address must be changed from Automatic to Manual, and the IP Address must be made compatible with your PC's default IP address as determined from the prior steps.

A compatible Ez400 IP address will be the SAME IP address as the PC except for the last 3 digits, which don't really matter, but must be different from that on the PC (else there is an address conflict). The Ez400 subnet Mask must be set to 255.255.255.0 (which is also the default). The Ez400 Default Gateway doesn't matter for direct PC connection and can be left at the Ez400 default.

Short Cut:

Most Windows and Mac PC's Ethernet ports set to "Automatic" mode will default to an IP address of 169.254.XXX.XXX, where XXX can vary depending on the specific PC operating system version, etc.

The Subnet Mask indicates which IP address fields are "don't care" and can be random numbers with a 0 in the field, and portions that must match are indicated by "255".

Thus to use the Ez400 directly connected, simply set the Ez400 Manual Mode IP address to 169.254.1.250 (where the last 3 digits "250" should be unique from the PC) and the subnet mask to 255.255.0.0. This ensures that the "random" portions of the PC IP address are "don't care"

This ensures a compatible address in most cases.

Ez400 User Guide information on setting a manual IP address is listed in the sections that follow, for reference

Manual Mode IP Address



The IP address must be "reachable" on your

network. This means that all devices share a common “base” address, usually the first 3 fields, while the 4th field must be unique for every device on the network.

Typical private-network IP addresses are usually of the format 192.168.1.xxx or 192.168.0.xxx. Every device on an IP network must have a unique IP address.

Manual Mode Subnet Mask



Subnet Mask
255.255.255.0 >

The Subnet Mask determines the “Range” of the variable portion of the IP address, and is used by the network router and network devices like the Ez400 Vivarium Controller to determine how to reach / communicate with other devices.

The Subnet Mask fields with a value of 255 indicate the portion of a network IP address that is “fixed” for the local network, while the fields with a value of 0 indicate the portion of the network IP address that is variable, and assigned to unique numerical values for each device on the network.

Most private network IP addresses use the default value of 255.255.255.0

Manual Mode Default Gateway



Default Gateway
255.255.255.0 >

The default gateway is the address of the router (i.e. gateway), which is used by a network connected device to reach outside the local, private network (for example, to send data outside to the www/internet). Typical private networks reserve the first IP address in the range for the default

gateway. For example, a network with the base address of 192.168.1.xxx would reserve 192.168.1.1 for the default gateway (router), while a network with the base address of 192.168.0.1 would reserve the address 192.168.0.1 for its default gateway.

Step3: Launch computer Web Browser to verify connectivity

Refer to “Step 4” of Method A, as the procedure is the same.

Once connectivity is verified, you can access the Ez400 via the web browser on the directly connected PC, and also perform SW updates, etc.

