

Thank you for your interest in Ockam Eye. This document is your roadmap to getting the Eye system running on your boat.

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### What's needed

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The Eye system consists of 2 software components, and 4 major pieces of user-supplied hardware.

#### Hardware

1. An instrument system data stream. This can be provided by a Tryad T1 processor, an 050 RS-232 interface attached to either an 001 CPU or a T1 or a foreign instrument system with a NMEA-0183 output running with the NMEAxIt application (see details in the OS4 literature about this option).
2. A Laptop or PC with serial and Ethernet ports, and running Windows XP. One of the two software components (the ***EtherServer component***) runs on this machine. In addition to providing Ockam services on the PC, the server converts between serial data and Ethernet packets, thereby connecting the wireless PDA to the instrument system.
3. A wireless Cable/DSL router. This device performs two functions. The radio connects the Ethernet (wired LAN) to the PDA, and the internal software provides configuration information (DHCP) to all attached devices (wired and wireless).

Tested routers

Linksys BEFW11S4

4. A Pocket-PC PDA with wireless LAN, running the ***Eye software component***.

Tested PDAs

HP iPAQ 5450 with built-in WLAN hardware

Dell Axim X5 with Linksys WCF11 net card

Toshiba e740 with built-in WLAN hardware

#### Software

Some software comes with the hardware mentioned above.

1. The software that comes with the PC/Laptop.
2. The PDA installation CD.
3. The Router installation CD.

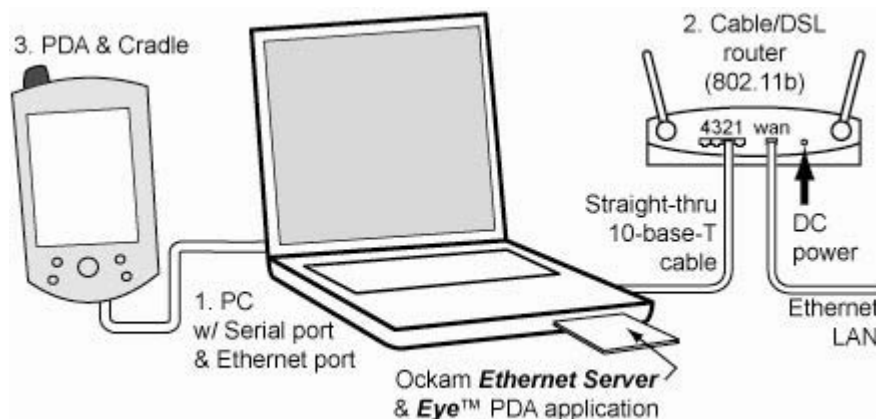
The OckamSoft 4 software downloaded from [www.ockam.com](http://www.ockam.com) or on CD.

1. The **OckamSoft 4 EtherServer Driver**. This component will be installed on your computer by the download/CD. It provides instrument services to the PC and launches instrument data onto the Ethernet.
2. The **Eye software**. This is also installed on your computer by the download/CD, but will be further downloaded to the PDA at the appropriate time. It provides the display and control function on the PDA.

You should download the self-installer package (the current revision is OS403.EXE), but do not install it until the appropriate time. If you install OS4 before the PDA, there will be a recoverable error involving the Eye software (see [Dealing with Eye download failure](#) below).


### Installation Part 1

In this first phase, we're going to get the PC/Laptop, the Cable/DSL Router and the PDA working together. For this, you will need access to an Ethernet local-area network (LAN). You may have one at home or work, or maybe at a local school. If necessary, you might have to do this phase at your computer store.



- A Get your laptop/PC operating correctly with an Ethernet LAN using TCP/IP. (If any of the following elements are not as described, you should seek professional help.)
- 1 Connect your computer directly to the Ethernet LAN.
  - 2 Open Control Panel (Start button/Control Panel).
  - 3 Open Network Connections.
  - 4 Right-click Local Area Connection and select Properties. You should get a dialog box with a list including Internet Protocol (TCP/IP), under which are three buttons, the right one labeled Properties.
  - 5 Select Internet Protocol (TCP/IP), then press the Properties Button.

- 6 On the General tab, be sure Obtain an IP address automatically and Obtain DNS server address automatically are selected.
  - 7 OK the two properties windows and close the Network Connections window.
  - 8 Check that the LAN is working by opening the browser and surfing the 'net.
- B Configure the Cable/DSL router.
- 1 Disconnect the Ethernet LAN from the PC and connect it to the router's WAN connector, then connect your computer to one of the router's numbered LAN connectors.
  - 2 Run the router setup software on your computer and follow the instructions. Note the following:
    - a WAN connection type should be DHCP (Obtain an IP automatically).
    - b The wireless should be enabled.
    - c Set the SSID to a unique string, say your boat name. Enable "SSID Broadcast" until the system is running well, and then disable it.
    - d Don't enable WEP security until everything is working well.
- C Install the PDA support software on your computer. This includes ActiveSync, the software that downloads applications to the PDA.
- 1 Do not connect the PDA. First insert and run the CD that came with the PDA. During setup, you will connect the PDA. Note the following:
    - a Choose Standard Partnership and Sync with desktop.
    - b Select desired items to be synced. If for Eye only, no sync items are required.
  - 2 If the PDA requires an add-on LAN accessory, install it. This will involve downloading drivers into the PDA.
  - 3 Configure your PDA's WLAN.
    - a Mode should be "Infrastructure" vs. "Ad-Hoc". This means "talk to the router instead of each other".
    - b Set the SSID to the same string as the router (see B2c above).
    - c WLAN enabled (usually confirmed by an LED being on). Check that any power-saving options are disabled. You will want full-time Wi-Fi.
    - d WEP security disabled (see above).
- D If you haven't yet done so, obtain the OS4 (the self-installing package is called OS403.exe or later revision) and install it on the Laptop/PC by running it.

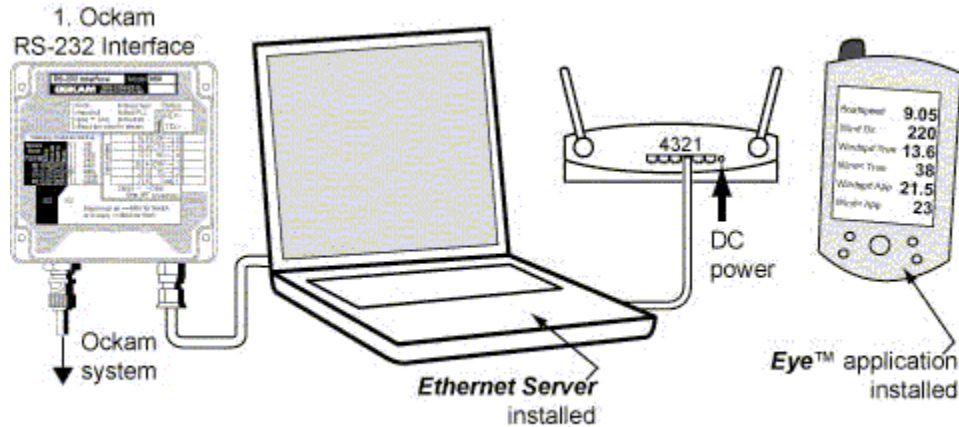
- 1 By default, the software is installed in \Program Files\OckamSoft 4, and access is provided via Start Button, All Programs, OckamSoft 4.
2. After you press Finish, the installer runs DOS application BuildBat.exe which creates batch file InstallEye.bat that in turn will be used to initiate downloading the Eye software to the PDA. If an error occurs, refer to Dealing with Eye download failure below.
- 3 On the PC: install the Eye software component on the PDA.
  - a Start Button, All Programs, OckamSoft 4, Download Eye to PDA. This should start CeAppMgr, which should ask Install "Ockam Eye" using the default application install directory?. Yes.
  - b If the download fails, refer to Dealing with Eye download failure below.
- 4 On the PDA: verify that the WLAN is active.
  - a iPAQ 5450: Start, Settings, System tab, iPAQ WLAN. Signal strength should be showing.
  - b Dell Axim+Linksys WCF11: Start, Settings, System tab, WCF11 Config Utility, Link tab. Signal strength should be showing.
  - c Toshiba e740: Start, Settings, System tab, Wireless LAN Utility, Config tab; Link quality should be showing signal. Advanced tab; uncheck power saving mode.
- 5 On the PDA, press Start, then Ockam Eye. You should see the Ockam Eye Demo page with 6 instrument function names on the left.
- 6 On the PC, run the OS4 EtherServer in simulation mode (produces data in lieu of having the boat attached).
  - a Start Button, All Programs, OckamSoft 4, Driver. You should get the driver logo  in the tray (the area at the right bottom of the screen where the clock lives).
  - b Click the driver logo and select Driver... Select the Simulator tab and toggle the Disabled button to Enable the Simulator.
  - c **The PDA should be showing numbers!**
  - d To stop the PDA, press the red **'X'** button or select File, Exit.
  - e To stop the OckamSoft driver, click the logo and select Exit.

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## Installation Part 2

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Now that the PC, Router and PDA work together, we'll move the venue to the boat, and finish the installation.



- A Connect the components as shown. The PC should still be connected to the router's local side (usually numbered), not the "WAN" or the "Uplink" connectors. No WAN will normally be connected unless your marina has the service.
- B Get the instrument data into the PC/Laptop.
- 1 Connect the T1 or RS232 interface to the PC's COMM connector and turn the instrument system on.
  - 2 If you are uncertain which COMM port the instruments are connected to, you need to search for the correct port.
    - a Run HyperTerminal (Start, All Programs, Accessories, Communications, HyperTerminal).


- b Enter Name "Ockam", pick an Icon, then OK. In the "Connect To" dialog, ignore Country, Area code and Phone number. In "Connect Using", select COM 1 or whatever available COM port there is, and OK. In "Port Settings", select 9600, 8, None, 1 and None, then OK.

Note: your RS232 interface may be set to other parameters than 9600, N, 8, 1. If set differently, set the correct parameters in "Port Settings".

You should now see Ockam data streaming by.

```
0 M06.64 B5.88 V4.2 b5.16 U148 f-4.93 P6.07 VS:off y2.2 Y-0.3 %36.8 ,
1 B5.85 X'33.697820 X-118.238097 r'1.84 y2.2 Y-0.2 #7.7 ,
2 B5.84 b5.17 F'0.41 O217 p7.33 :24:6.0 y2.2 Y-0.2 %36.8 ,
3 K8.0 H9.1 C154 B5.83 d33 R'0.00 h-2.2 y2.2 Y-0.5 #7.7 ,
```

- c If not, Call, Disconnect, then File, Properties and pick another COM port, OK, then Call, Connect. Repeat until you've found the Ockam data port.

- 3 Run the driver and set up the connection with the instruments.
  - a Start Button, All Programs, OckamSoft 4, Driver. You should get the driver logo  in the tray (the area at the right bottom of the screen where the clock lives).
  - b Click the driver logo and select Driver...
  - c Select the Comm Port tab and verify the settings determined in the step above.
  - d Select the Simulator tab and be sure it is Disabled.
  - e Select the Status tab and verify Frames received is counting up. Select the Variables tab, pick Boatspeed and verify the Current value.
- C Verify that the Router is connected and powered up.
- D On the PDA, run Eye. You should be getting data.
- E Register the PDA.
  1. Run EYE on the PDA. Select Help, then Register.  
Write down the following items.

|             |                |
|-------------|----------------|
| Program Rev | e.g. 4.03      |
| PDA Id      | e.g. ABCD-EFGH |

In addition to these two items, we need to know the PDA make, model, year and operating system.
  2. Call Ockam (203-877-7453) with your PDA at the ready. You will receive a 3-3 character unlock code back.
  3. If necessary, repeat the Help/Register, then enter the unlock code in the space provided, and press the OK button. If all went well, you should get a dialog box saying "Unlock code accepted. Please restart the program."

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### Dealing with Eye download failure

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During installation of OS4 (in your Program Files\OckamSoft 4\Eye directory) the installer runs DOS application BuildBat.exe which creates batch file InstallEye.bat that in turn will download the Eye software to the PDA when you select Download Eye to PDA in the OS4 menu. If you install OS4 before installing the PDA software, this step will fail.

When you Download Eye to PDA and you get an error message, the BuildBat step needs to be redone.

- 1 Re-run BuildBat.
  - a Start windows explorer (Right-click Start button, Explore).
  - b Navigate to Program Files\OckamSoft 4\Eye.
  - c Run BuildBat.Exe. When it completes, run InstallEye.bat.

2 OR, create the batch file by hand:

- a Determine the location of CeAppMgr.exe (Start, Search). For illustration purposes, let's say it is "C:\Program Files\Microsoft ActiveSync\CeAppMgr.exe" (which is where it is by default).
- b Determine the location of Eye.ini. It is normally at "C:\Program Files\OckamSoft 4\Eye\Eye.ini".
- c Edit the file "InstallEye.bat" (in the same directory as Eye.ini) to include both strings, in quotes, separated by a space, and on a single line e.g.

```
"C:\Program Files\Microsoft ActiveSync\CeAppMgr.exe" "C:\Program Files\OckamSoft 4\Eye\Eye.ini"
```