

ShareWave Galileo



Installation & Configuration Instructions

Revision 1.0
02/01/2000

Revision History

Version	Date	Author	Reason
1.0	02/01/2000		First Draft – Alpha Kit Version

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Objective

These instructions are meant as a general guide for installation of the Galileo Evaluation Kit. Some difference will occur depending on other network configurations present or different operating systems. For assistance evaluating the Galileo Wireless Network, refer to the Evaluation Guidelines document. You can obtain electronic copies of all available technical documentation from <http://www.ShareWave.com/support>.

Galileo Hardware & Driver Installation

Hardware/OS requirements:

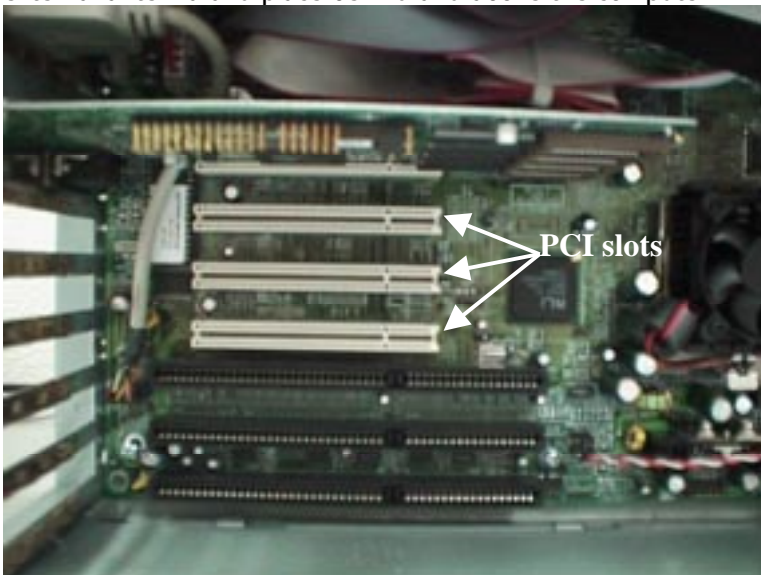
- Pentium PC
- One open PCI slot
- 32 Megs RAM
- Windows 98

Windows 98 Installation

Perform the following steps to install Galileo under the Windows 98 operating system. You will need your Windows 98 CD during the configuration. Be sure to install and configure Galileo on each of your Windows 98 PCs.

NOTE: Before installing Galileo, please remove any prior versions using the instructions under "Galileo Uninstall."

- 1) With the power **off** insert the Galileo NIC into an open PCI slot in the computer. Plug in the external antenna and place behind and above the computer.



Your "**HOST**" computer should have the connection to the Internet. The other machines that **do not** have network cards in them should be configured as "**CLIENTS**".

- 2) Power-on the computer. During Windows startup a dialog box will notify you of "**New Hardware Detected.**"
- 3) Insert the Galileo driver diskette in the A: drive and click "**Next.**"

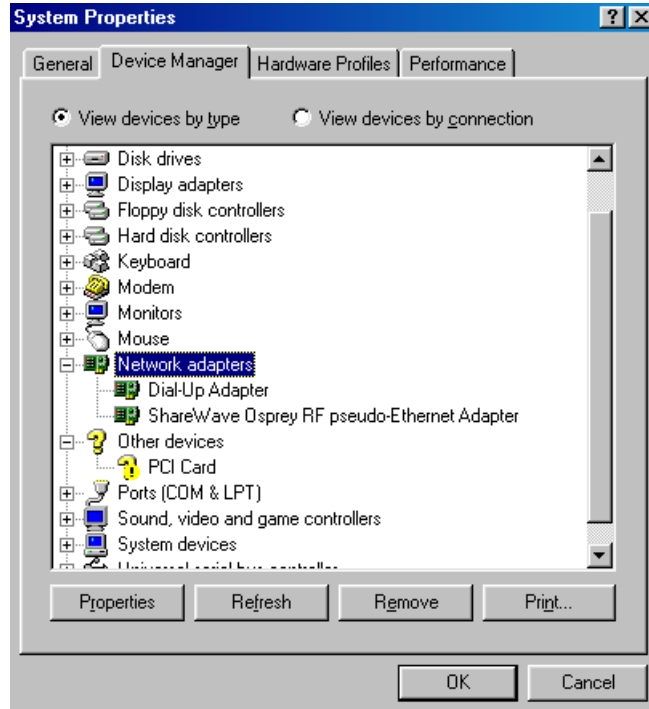
- 4) Select **"Search for the best driver for your device,"** and click **"Next."**
- 5) Check only the box that says, **"CDROM drive."** Uncheck the other boxes, and click **"Next."**
- 6) You will get a message that says, **"Windows was unable to locate a driver for this device..."** click **"Next,"** and click **"Finish."**

NOTE: "Device Manager" will identify two PCI devices, one for each of the two functions built into Galileo. It's normal for Windows to report it cannot find a driver for the first device. This will be corrected in the final product. You may also be asked to provide the Windows CD so the operating system can install network drivers during this process.

- 7) Windows will find another PCI device. This device will be called **"ShareWave Galileo RF pseudo-Ethernet adapter."** Click **"Next."**
- 8) Select **"Search for the best driver for your device,"** and click **"Next."**
- 9) Check only the box that says, **"CDROM drive."** Uncheck the other boxes, and click **"Next."** If it is unable to locate the Galileo driver, specify a location and type **D:\ or E:**.
- 10) Windows will find the Galileo drivers. Click **"Next"** to install them. Be patient. This can take several minutes. If you are asked for the **"Galileo drivers diskette,"** insert the CD into your CDROM drive and enter **"D:"**.
- 11) You will be asked for the Windows CD. Insert it into your CD drive and click **"OK."** This process can take a few minutes.
- 12) Click **"Finish."**
- 13) Remove the Galileo driver CD from your CDROM drive.
- 14) You will be asked to reboot the computer after installing the drivers. Click **"Yes."** You must restart your system or the second part of the installation will not work properly.
- 15) Setup starts automatically when the computer reboots, so when the first introduction screens comes up click **"Next."**
- 16) Click **"Yes"** to agree to the license agreement.
- 17) On the registration screen enter your name, company, and enter **ShareWave** as the serial number. Click **"Next."**
- 18) Select the directory you wish to install the Galileo program files to and click **"Next"** to begin copying files to the hard drive.
- 19) Enter your computer name (must be unique on your network) and workgroup (must be the same as the other computers on your network). The workgroup must be UPPERCASE because of an issue that Microsoft has reported in Windows98. Click **"Next"** to continue.
- 20) Enter the IP address and subnet mask, for example, 99.1.1.1 for the first computer IP, 99.1.1.2 for the second computer IP and 255.0.0.0 for the subnet mask on all computers on the Galileo network. Click **"Next."** You may use any IP addresses for the computers. The IP addresses above are examples used through out these instructions.
- 21) Select **"Alternate Master," "Master"** or **"Client"** and click **"Next."** You should select Alternate Master unless you are doing specific testing on a Master/Client setup. Consumer products will always be installed as Alternate Master nodes.
- 22) Select the channel you wish to use. Consumer products will select the channel automatically; however, you may select the channel on the evaluation units manually. You cannot run two Galileo networks on the same channel.
- 23) Select **"Yes"** to reboot your computer and click **"Finish"** to restart.

24) Repeat steps 1) through 23) for your other Galileo computers running under Windows 98.

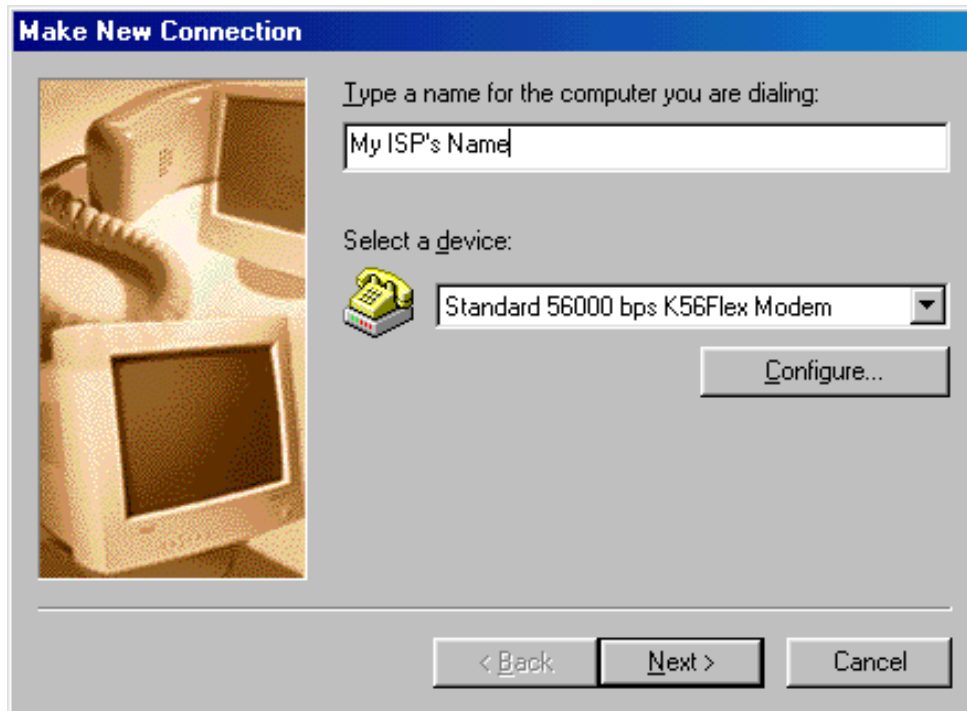
After restart, verify successful installation of the Galileo drivers by checking "**Device Manager.**" To do this right-click on "**My Computer**" and select "**Properties**" from the menu. Click on the "**Device Manager**" tab. You may have another Network Adapter installed. You should see something similar to the following:



Dial-Up Networking on Windows 98

Creating a Dial-Up Networking Connection

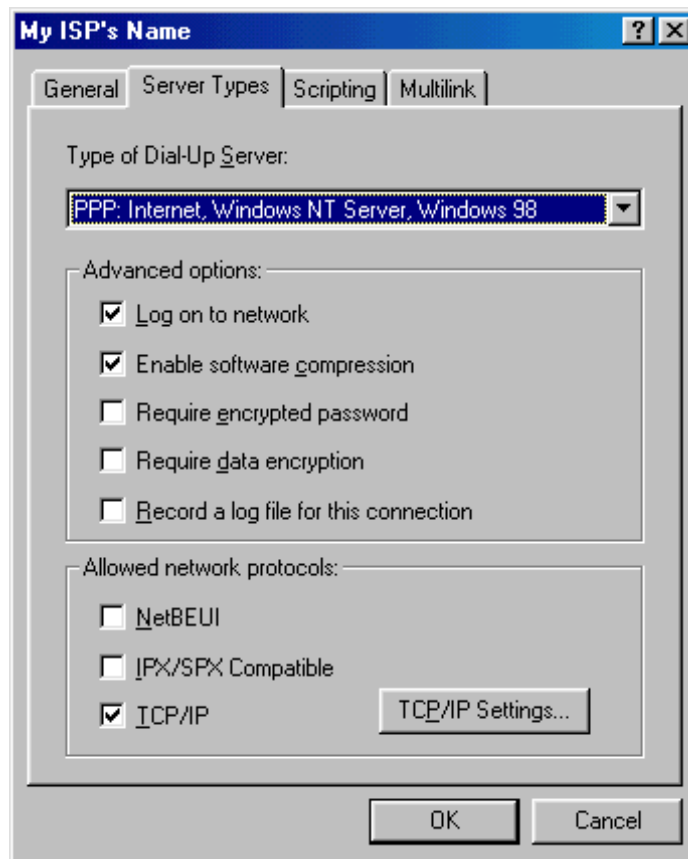
- 1) Click on the "**Start**" button. Select "**Programs,**" "**Accessories,**" and "**Communication**" then "**Dial-Up Networking.**"
- 2) Double-click on "**Make New Connection**" in the Dial-Up Networking box. If you have not configured Dial-Up Networking before, you will automatically be prompted for all necessary information about your modem and ISP.



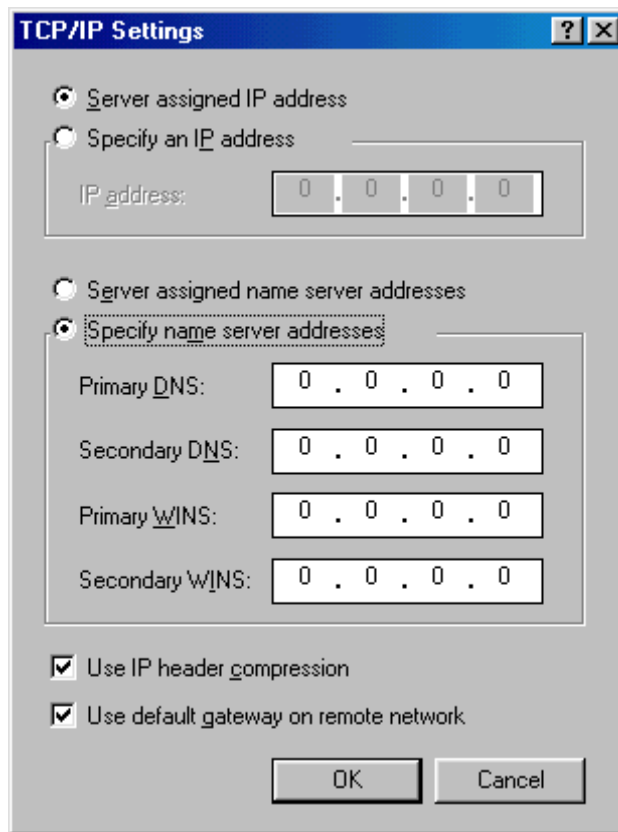
- 3) For the name of the computer you are dialing, type your ISP's name. This is only the name you will see on the dial-up icon.
- 4) Check to make sure that the "**Select a device**" field shows the correct type of modem.
- 5) Click on the "**Next**" button.
- 6) Enter the correct area code and phone number.
- 7) Click on the "**Next**" button.
- 8) Click the "**Finish**" button.
- 9) Now you should be back in the Dial-Up Networking window with a new icon for the connection you have created.

Configuring Connection Properties

- 1) Click on the connection icon you created. Click on "**File**" and then click on "**Properties.**"



- 2) In the dialog box that appears, click on the **"Server Types"** button in the lower right part of the box. A **"Server Types"** dialog box will appear.
- 3) In the **"Type of Dial-Up Server"** field it should say **"PPP: Internet, Windows NT, Windows 98."** If not, click on the arrow on the right side of the entry field and select that option.
- 4) Under **"Allowed Network Protocols,"** only **"TCP/IP"** should be checked UNLESS your system is connected to a network other than Galileo, in which case the protocol used by the other network should be checked as well.
- 5) Click on the **"TCP/IP Settings"** button in the lower right part of the **"Server Types"** dialog.



- 6) Click on the option button next to **"Server Assigned IP Address."**
- 7) Click on the option button next to **"Specify Name Server Addresses."**
- 8) Fill in the Primary and Secondary DNS fields, Contact your ISP or network administrator for support, if necessary.
- 9) Check both the **"Use IP Header compression"** and **"Use Default gateway on Remote Network"** boxes.
- 10) Click **"OK"** three times to get back to the Dial-Up Networking window.

Testing Connection to ISP

You may need to contact your ISP Administrator for this information.

- 1) Double-click on the ISP Dial-up icon.
- 2) In the **"User Name"** field, enter your ISP userid.
- 3) In the **"Password"** field, enter your ISP password. (Passwords are case-sensitive!)
- 4) Click on **"Connect."**
- 5) Your modem will dial and negotiate a connection. Once the connection is established, userid and password information will be verified. Assuming that everything is okay, you'll get a dialog box that says **"Connected"** to ISP with the baud rate and connect time.
- 6) Select the ISP dialog box and click on the **"Disconnect button."**

WinProxy Server

With an Galileo network you can use a single modem to connect all networked systems to the Internet via the proxy server. Our preliminary Web testing was done with WinProxy, written by Osis Software. You can download a free 30-day trial from <http://www.winproxy.com>. The following instructions will assist you in configuring WinProxy after you have installed it. Please refer to the installation instructions included with that software. WinProxy is also included on the Galileo Evaluation Kit CD in the WinProxy directory.

WinProxy software can be obtained in a number of ways. You can purchase the software on disk or by downloading it from the www.WinProxy.com web site. If you download it, you can evaluate the software for 30 days before purchase (you can purchase via secure connection from Osis Software's web site). Depending on whether you have downloaded the software or have in on disk, the beginning stages of your installation will vary slightly.

If you're downloading the WinProxy software:

- Go to **www.WinProxy.com**.
- Select **Product Downloads**.
- Choose **Save to Disk**. It will take a few minutes to save the WinProxy software on your disk. Once the file has been downloaded, you can log off and obtain the needed information.

If you're using a WinProxy system disk:

- Exit any Windows programs you may have running.
- Insert the WinProxy disk in the computer's disk drive.

Running WinProxy Setup

If you downloaded WinProxy and chose **Save to Disk**, click **Start** and then click **Run**. Browse to open the file you've downloaded—WproxyL21.exe or Wproxy21.exe, and select the file **setup.exe**. Click **OK** twice.

If you have purchased a WinProxy system disk, insert the WinProxy disk in the computer's disk drive. Click **Start** and then click **Run**. Browse to open the file you've downloaded—WproxyL21.exe or Wproxy21.exe, and select the file **setup.exe**. Click **OK** twice.

WinProxy's Install Program begins to run. Follow the prompts, choosing default options unless you have a specific reason not to do so.

- 1) When presented with Typical, Compact, and Custom, choose anything. The installation installs the same components with any choice.
- 2) Soon WinProxy begins the process of decompressing files, creating icons, folders, and updating initialization files. A small graph keeps you informed of the installation's progress.
- 3) When setup is nearly complete, you'll be asked if you want to launch WinProxy and/or read the text file.
 - √ Clicking Launch sets the Properties Wizard running as soon as setup is finished. If you have not yet obtained the information you will need to use with the Wizard, do not choose to launch now. Obtain the needed information and use the Properties Wizard later.
 - √ Reading the text file is a good idea, as it provides a quick and very informative overview of WinProxy.
- 4) Click Finish to complete the installation process.

You can proceed to the next step—configuring WinProxy with the Properties Wizard—now or later.

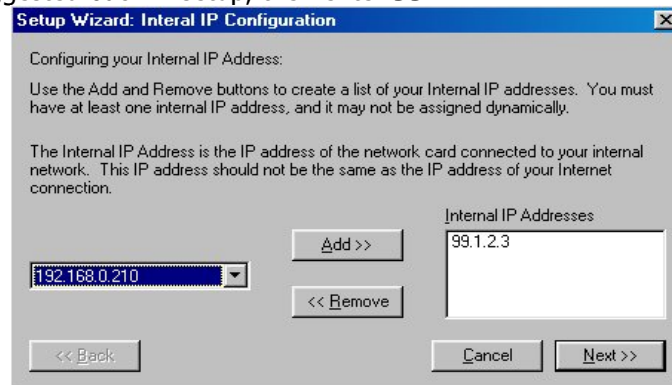
Configuring WinProxy

The Properties Wizard allows you to configure WinProxy's most common features during setup. To use more complex features, or to change the Properties Wizard's settings after setup, follow the path **WinProxy/File/ Advanced Properties** from the File menu in WinProxy.

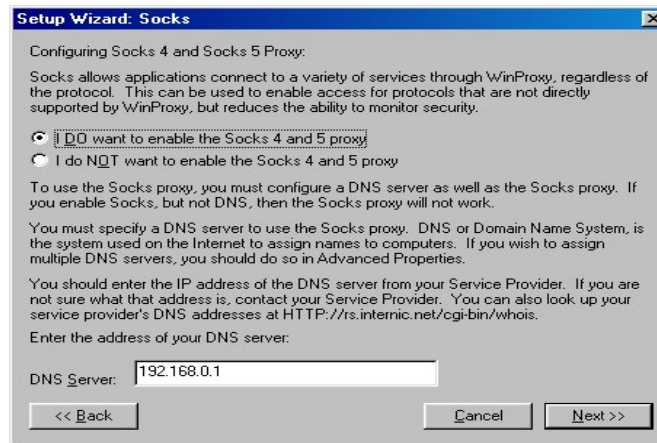
- 1) To setup WinProxy click on *File* and go to the *Properties Wizard*.



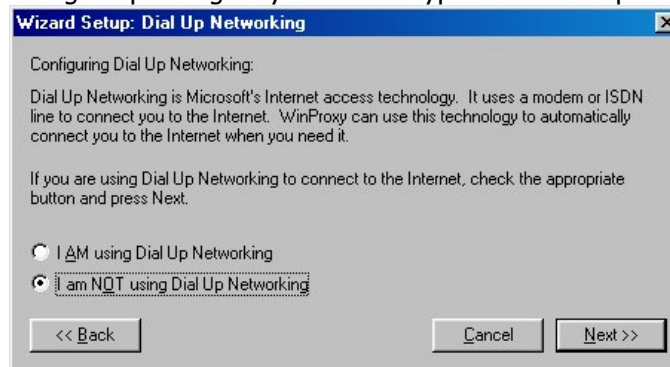
- 2) Enter the Internal IP Address of the Galileo network interface card. If you used the IP address we suggested back in setup, then enter **99.1.1.1**.



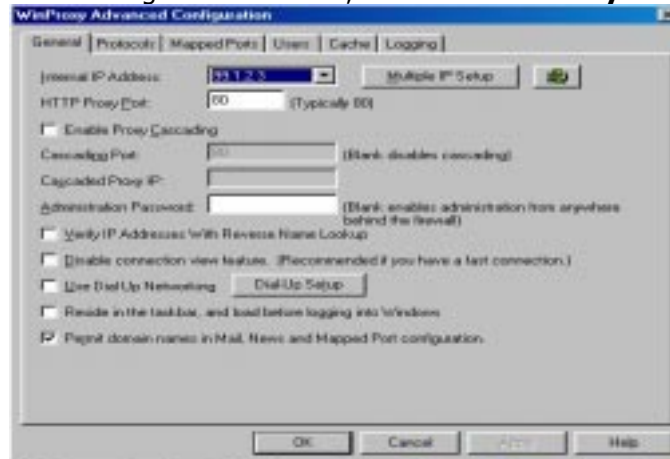
- 3) Enter the DNS Server address to either the Dial-Up ISP or the LAN you are connected to through an additional Ethernet card. This information should come from your ISP provider or network administrator.



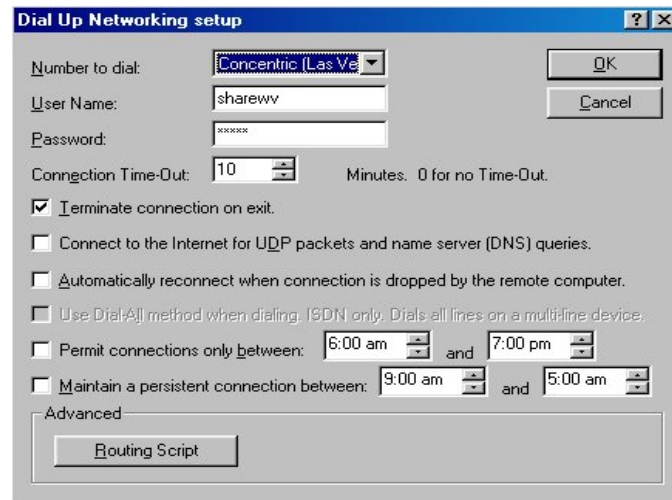
- 4) This setting will change depending on your access type either dial-up or LAN.



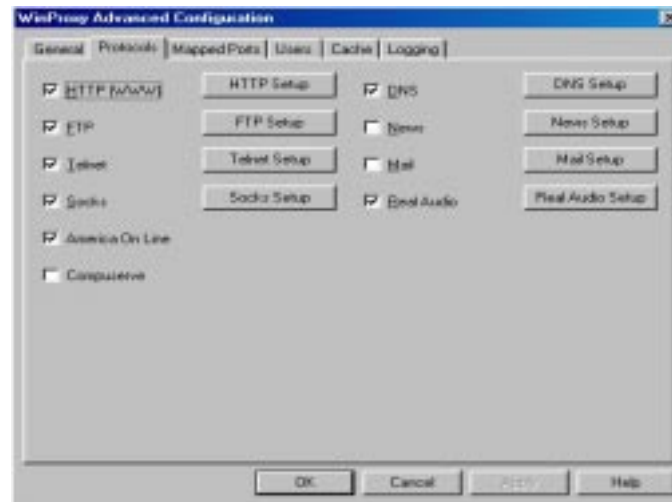
- 5) Once you completed the Properties Wizard, go back to the **File** menu and select the **Advanced Configuration**. Under **General** verify the Internal IP Address and if you're using Dial-Up Networking then enable that check box and select the Dial-Up Settings button. If you are using a LAN connection, then check the box marked "**Disable connection view features...**" This makes high-speed connections more stable. Since Galileo uses a web server for all network management functions, set the "**HTTP Proxy Port**" to "**81.**"



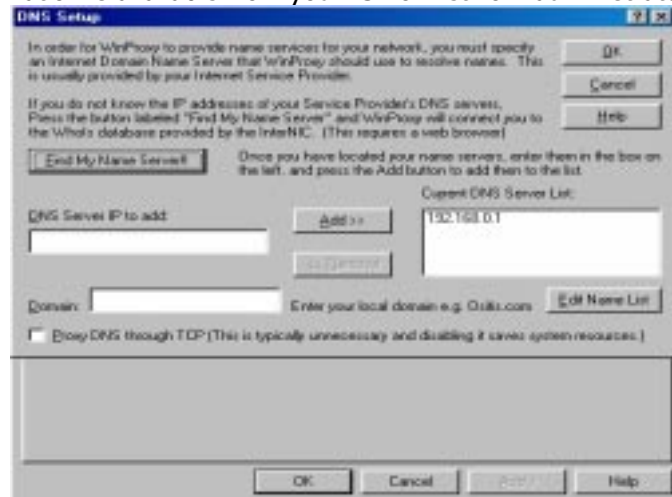
- 6) Enter your Dial-Up information with user name and password, if you are using Dial-Up Networking. You should have already setup the connection for dial-up networking.



- 7) On this screen, the most important setting to verify is the DNS Setup. Click on the **DNS Setup** button.



- 8) Verify that the Current DNS Server List has the correct DNS server of either the Dial-Up or LAN. This information is available from your ISP or network administrator.



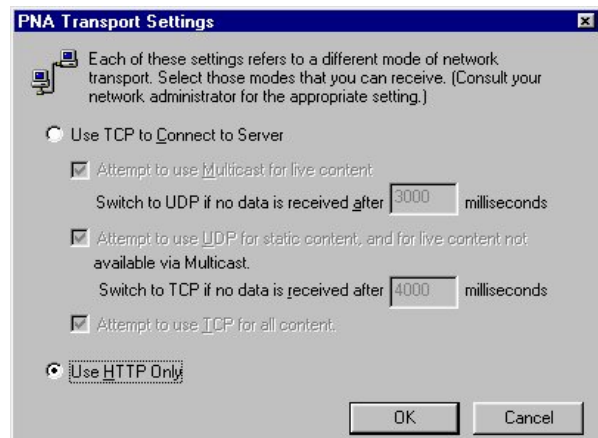
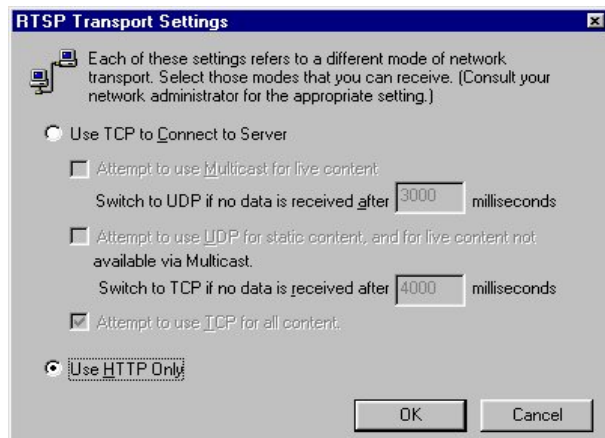
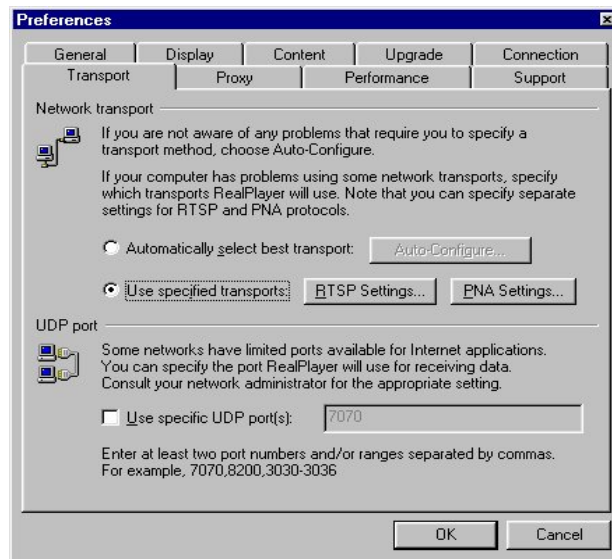
Remember, you must run WinProxy on the computer with the Internet connection every time you want to access the Internet from either computer. Next step is to configure your browser to use the proxy server to access the Internet.

NOTE: If you are going to test Media Player or Real Media through WinProxy, then you must go to TCP/IP settings on each node and enable DNS and set the IP address to the IP of the node with WinProxy installed.

RealPlayer with WinProxy

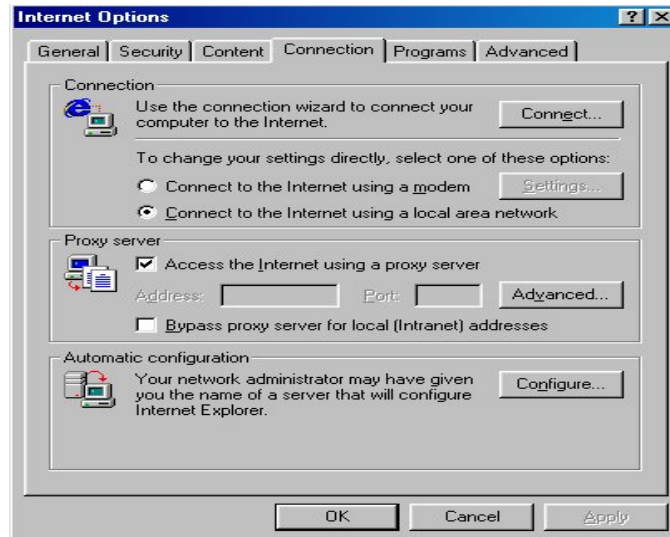
- 1) From the main menu select "**Options**" and then "**Preferences.**" Select the "**Transport**" tab.
- 2) Check the box labeled "**Use Specified Transports.**"
- 3) Under "**RealPlayer RTSP**" and "**PNA Settings,**" check the box labeled "**Use HTTP only.**" Click "**OK**".
- 4) Under the "**Proxy**" tab, enter the internal IP address of the computer running WinProxy. This should be **99.1.1.1**, if all prior instructions were followed and you are installing on the **Host PC**. For "**Port,**" enter the port that the HTTP protocol is using in WinProxy. Usually **81**.

Note: Make sure that the "RealAudio**" protocol is enabled in WinProxy.

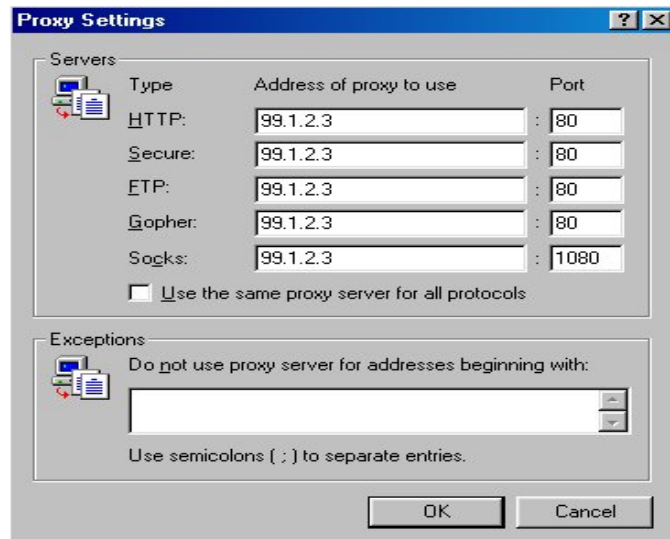


Internet Explorer 4 Configuration

- 1) Launch Internet Explorer 4 and click on the **"View"** menu and select **"Internet Options."** Select the **"Connection"** tab. Click on **"Connect to the Internet using a local area network."**



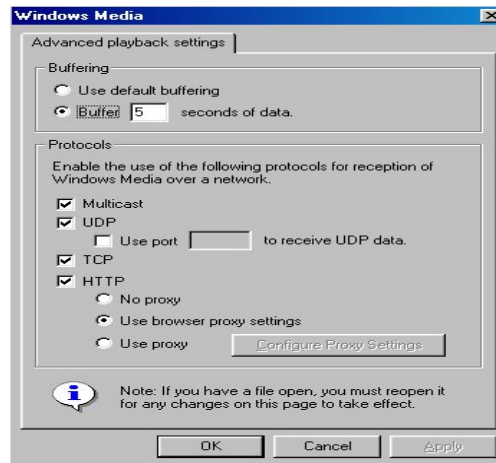
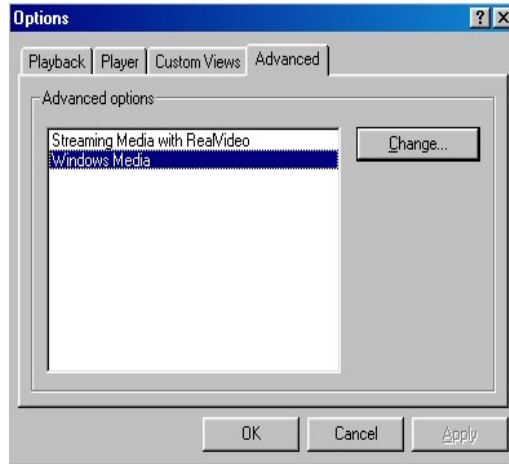
- 2) Check the **"Access the Internet using a proxy server"** box, and click the **"Advanced..."** button.



- 3) Enter the IP address of the PC where WinProxy is installed for all the "Address of proxy to use" boxes for example **99.1.1.1**. For **HTTP**, **Secure**, and **FTP** enter **81**, or which ever port you entered in the HTTP Proxy Port in WinProxy setup, in the port box. For **Socks** enter **1080** in the port box.
- 4) Click **"OK"** twice to get back to Internet Explorer.

Windows Media Player Configuration

- 1) The only important and necessary setting in Windows Media Player is under the **"Advanced Windows Media"** settings, make sure the **HTTP** setting is set to **"Use the Browser Proxy"** otherwise media streaming from the Client will not work correctly.



Galileo Updates

Because of the fast evolving nature of Radio-Frequency networking many components of the Galileo Evaluation Kit will be updated often. You will be able to find these updates and additional support information on the ShareWave Galileo web site, <http://www.ShareWave.com/support>. If you are unable to access this web site, contact ShareWave Technical Support at (916) 939-9400 extension 3236.

The following procedures will guide you through updating your Galileo firmware using the Firmware Update Manager.

- 1) Use your browser to locate the ShareWave Galileo support site at <http://www.ShareWave.com/support>. Navigate to the update section and click on the link for the most recent firmware.
- 2) The Galileo firmware will begin downloading to your PC. Follow the prompts on your browser to place the Zip file in a directory where you can find it later.
- 3) Once the download is complete, unzip the **venus.srf** file into the Galileo directory.
- 4) Next, restart your computer. The Whitecap protocol will automatically update the firmware using the **venus.srf** file.

NOTE: If you remove the **venus.srf** file, the Galileo NIC will return to its original firmware version. Different firmware on different Galileo cards may not communicate with each other.

Galileo Uninstall

If you have a version of the Galileo Evaluation Kit installed on the computer you will use for testing the new version, then you should uninstall Galileo before installing the current version of the Galileo Evaluation Kit. Just follow these steps.

- 1) Open the Task Manager by pressing Ctrl-Alt-Delete. End the process called "r3svc." Close the Task Manager.
- 2) If you are running a version of Galileo after 3.0, then right-click on the Galileo "bird" icon in the system tray and select exit. If you are running a version of Galileo before 4.0 then close the SNM program.
- 3) Run the Galileo Uninstall from the Control Panel's Add/Remove Programs.
- 4) Open "My Computer" and delete the following files, Galileo.inf; ShareWave, Inc. Galileo.inf; Galileo.sys; Swwcpd.vxd and Swwcpddi.dll. Also, delete the installation directory, C:\Program Files\ShareWave\Galileo," if it exists.
- 5) On some earlier versions, you may need to delete all Snm files including InstallForSnmInReg.exe and Snm.exe. Remove Snm.exe from your startup group.
- 6) Use RegEdit to remove the two keys, [\\HKEY_LOCAL_MACHINE\Software\ShareWave](#) and [\\HKEY_LOCAL_MACHINE\System\CurrentControlSet\Settings\Class\Net\000X](#) where X is the Galileo adapter. You can check this by clicking on the key and looking at the driver description. Depending on the version of Galileo you are uninstalling, the uninstall program may have removed these keys already.
- 7) Verify that the uninstall program has removed all of the following keys from the registry branch [\\HKEY_LOCAL_MACHINE\Software\Microsoft\Windows\CurrentVersion\Run](#), **swwebserver, 64KRead, and R3svcs.**
- 8) Right-click on "My Computer" and select "Properties." Click on the "Device Manager" tab.
- 9) Select the ShareWave Galileo pseudo Ethernet card under Network Adapters and click on the "Remove" button.
- 10) Select the unknown PCI device that has a yellow exclamation next to it and click on the "Remove" button.
- 11) Close the "Device Manager."
- 12) Restart your computer.

Galileo Specifications

1) General

- Radio Transmission Format 2.4 GHz Digital Spread-spectrum
- Data Transfer Rate (Max) 11 Mbps
- RF Range (Max) 45 m (150')

2) System Requirements

- Pentium PC
- One open PCI slot
- 32 Megs RAM
- Windows 98

3) Environmental

- Temperature 10-40° C
- Humidity 10-85% Non-condensing

4) PCI Card

- Main Board Interface 32/64 bit PCI expansion slot