Roger D. Secura
rsecura@ix.netcom.com

HOW TO SETUP AN "AD-HOC" PEER-TO-PEER NETWORK BETWEEN ONE WINDOWS XP DESKTOP COMPUTER AND ONE WINDOWS 7 LAPTOP COMPUTER USING TWO 'RALINK' USB WIRELESS ADAPTERS

NOTE:

. *The network system described in this document consists of two Ralink USB 2.0, 802.11g wireless adapters, wirelessly connected together in an "Ad-Hoc" peer to peer configuration. This hardware and software configuration is a totally separate system from any wireless and cable DSL internet connections within the home.*

   (Ad-Hoc definition - An Ad-hoc integrated wireless Local Area Network (LAN) is a group of computers, each of which has a Wireless LAN card or USB wireless adapter and are connected together as an independent wireless LAN system. In other words, computers connected to an "Ad-hoc" configured network (LAN) can only communicate with each other.)

HARDWARE/SOFTWARE/CONFIGURATION SETUP PROCEDURES (see Ralink manual):

NOTE:

. *You must load the Ralink software (CD) and attach one Ralink USB adapter (hardware) into an open USB port on your computer.*

. *You must load the software (CD) BEFORE you plug in the USB adapter (hardware).*

. **You must configure the USB adapter on each computer to operate in the 'Ad-Hoc' mode (see instructions below).**

 1. **Load the Ralink CD and select the** <u>USB</u> **Wireless 802.11g Driver from the menu list and follow the instructions on screen. Make sure you select the 'Ralink Configuration Tool' when it appears as a selection. Reboot the computer. With the computer turned on, plug in one USB adapter (hardware) into an open USB port and follow the Windows 'New Hardware Wizard' instructions when it automatically pops up.**

2. **Once the hardware and software setup is complete, you have to configure the USB adapter to run in "Ad-Hoc" mode. Right click on the 'R' icon displayed on the taskbar at the bottom of your screen and select 'Launch Config Utility' (If you don't have the 'R' icon on your system tray for some reason, you can launch this utility by clicking the Start button, All Programs, then look for 'RalinkWireless' on the list and then double click Ralink Wireless Utility.)**
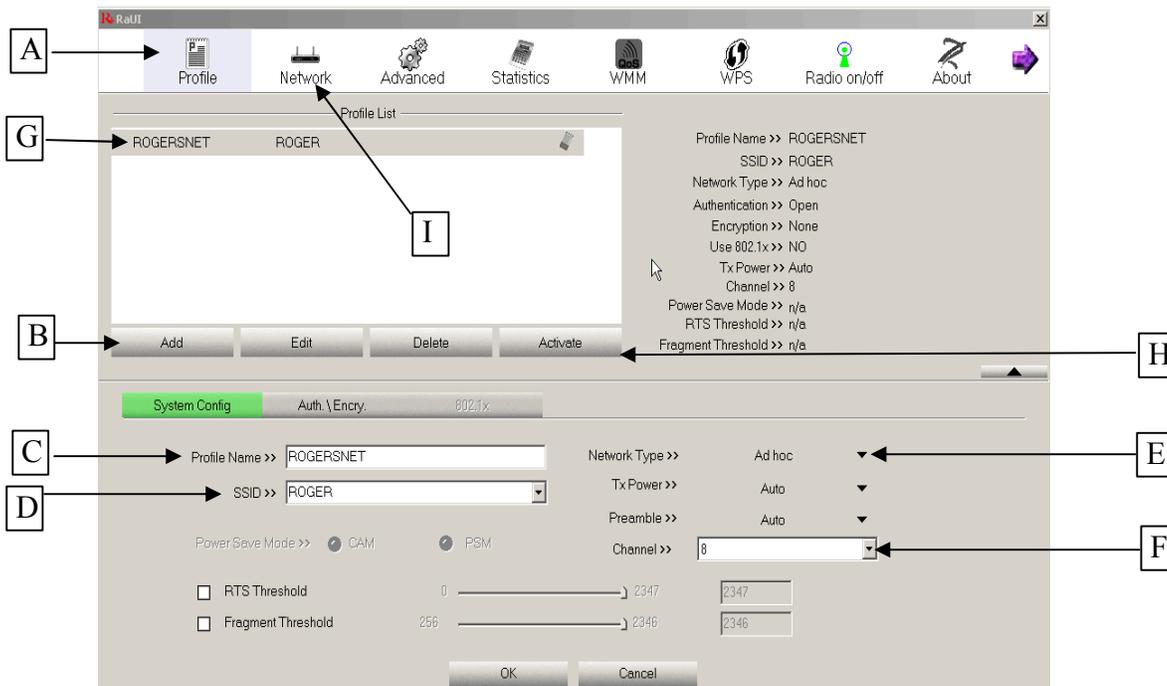
To configure your USB adapter for Ad-Hoc operation, select 'Profile' (A) and then click the 'Add' button (B). First, give your new wireless network a name under 'Profile Name' (C) and then give it a SSID name (D). Next, click on the down arrow under 'Network Type' (E) and select 'Ad hoc'. Finally, click on the 'Channel' menu (F) and select channel 8 (or 2 – just make sure both computers have the same channel number). Hit OK. Next, click and highlight your new profile name (G) and then hit the 'Activate' button (H) so it can be listed as a new network connection under 'Network'(I). Now, click on the 'Network' button (I). *NOTE: At this point in time you will NOT see your new wireless network listed here until you have configured both computers with the instructions above*. What you may or may not see is a list of wireless connections coming from people in your neighborhood who also have some form of wireless connection up and running - including your own home wireless DSL internet connection. Don't touch or select any of these connections. This Ralink utility allows you to view other wireless connections that are running in your home and in the neighborhood.

3. **Once both computers are setup and configured with the instructions above, please check the following system settings on each computer – it could save you from pulling your hair out in frustration:**

. **Windows XP and Windows 7:**

Go to Start, run, and enter → services.msc and hit Ok. Under 'Name' find the following list of "services" and make sure each one is 'Started' and set to Automatic or Manual (to change settings double click on the Name):

Network Connections (Started, Manual)	**DSN Client (Started, Automatic)**
Server (Start, Automatic)	**COM+ Event System (Started, Automatic)**
TCP/IP NetBIOS Helper (Started, Automatic)	***Computer Browser (Started, Automatic)**
*Workstation (Started, Automatic)	**SSDP Discovery (Started, Automatic)**

*NOTE: Activate (Started, Automatic) 'Workstation' service BEFORE activating 'Computer Browser)

Remember, if you change any setting in 'services.msc' you have to reboot your computer.

4. **Now, launch the Ralink Config Utility on both computers. Go to the 'Network' heading (I). You should see your new network listed on both computers. If you don't see it, go back to 'Profile' (A), highlight your network and click 'Activate' (on each computer). Return to the 'Network' screen (I) and highlight your network name and click 'Connect' (again, do this on both computers). You should now see your network and its signal strength displayed as a colored bar graph.**

NOTE: If you're having any problems, please check for the following:

. **Verify (on both computers) that you have installed the USB adapter by going to 'Start', 'Control Panel', 'System', click the 'Hardware' tab and the 'Device Manager' button. (Windows 7 – go to Start, Control Panel, System, and double click on Device Manager) Next, click on the + sign next to 'Network adapters'. You should see a listing for an 802.11 USB Wireless LAN Card – this is your Ralink USB adapter. If it's not listed, then you didn't install the software/hardware correctly.**

Example listing in Device Manager
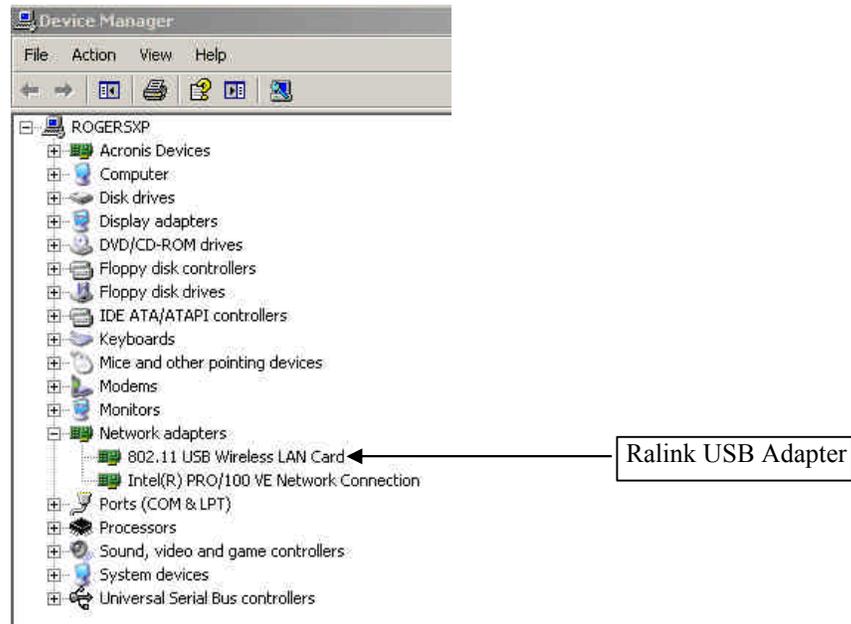
. **Go to 'Start', Run and type in CMD and hit Ok. Inside the black box type CD\ and hit Enter. Next type CLS and hit Enter. Next, type → ipconfig /all (note the space between g and /) and hit Enter. This is a list of all the wired and wireless connections currently running on your computer. Now, look for your Ralink 802.11 USB Wireless LAN Card listed somewhere on the right side of the screen (see white arrow below). If you see it listed, that means you have loaded the Ralink software and installed the hardware correctly.**

Example listing from typing 'ipconfig /all' into the black DOS box

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<u>**VERY IMPORTANT**</u>:

. **Check that both computers are in the same 'Workgroup' (see below)**

<table>
<tr><td align="center">**XP**</td><td align="center">**Windows 7**</td></tr>
<tr><td>Go to Start, Control Panel, System, and click Computer Name tab.</td><td>Go to Start, Control Panel, System, Advanced System Settings, and click Computer Name tab.</td></tr>
</table>
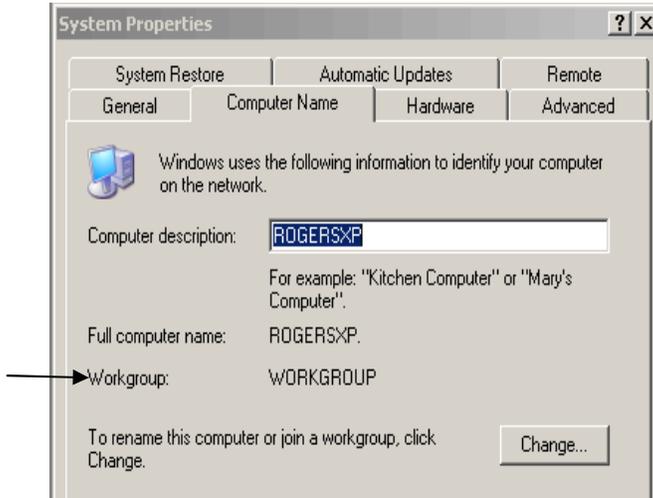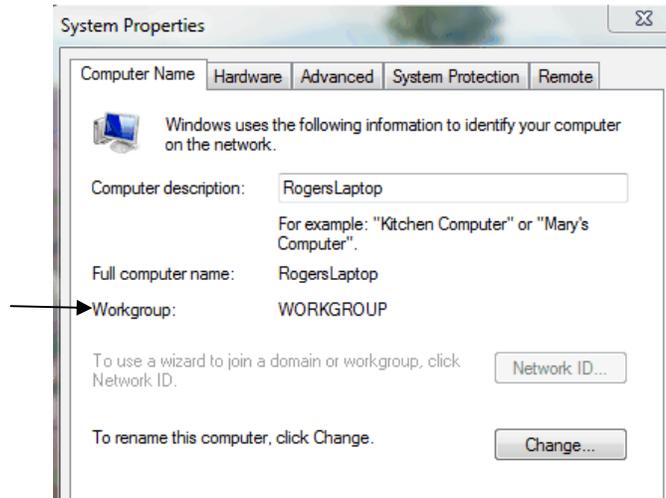
The 'Workgroup' name MUST be the same for both computers. You can name the Workgroup any name you want, but it must be the same name for both computers. If they are not the same name, change them by clicking the 'Change' button. – While you are here it might help if you type inside the "Computer Description' box a name that identifies your specific computer. This will help you recognize each computer when listed under 'My Network Places' and 'Network' on your C: drive. Just make sure they are NOT the same name.

5. Now, with both computers on, and assuming that you followed the correct procedures above, go to your C: root directory and look for a listing labeled 'My Network Places' (XP) … 'Network' (Win 7). You should see a listing something like what is shown below – Note that both computers can now see each computer listed under either My Network Places (XP) and/or Network (Win 7):

<div align="center">
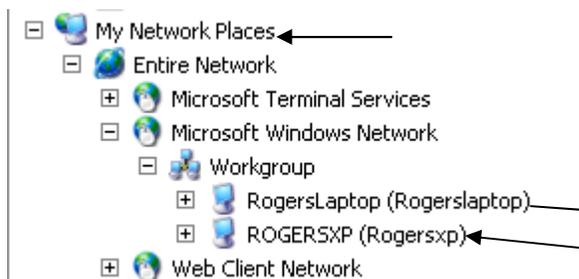
XP   **Windows 7**

</div>
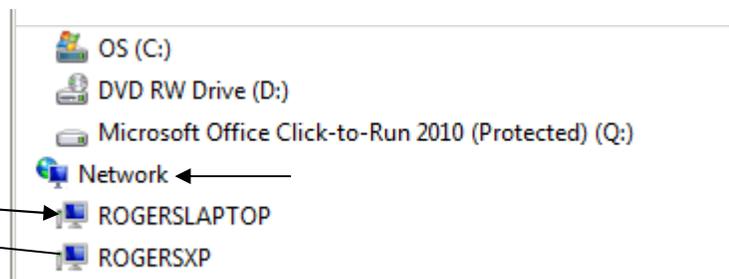
NOTE: At this point in time, you may or may not see any file folders (My Documents) or network printers listed under 'My Network Places' (XP) or under 'Network' (Win 7). Why? Because you haven't manually setup printer and file "Sharing" for Windows XP and Win 7. The following section will show you how to "Share" files and printers across your newly installed Ad-hoc USB wireless network.

HOW TO SETUP PRINTER AND FILE "SHARING" ON YOUR USB WIRELESS NETWORK

1. **In order to preserve your sanity, as few hidden configuration settings must be changed before any file or printer can be shared across your network. Please check the following settings on both computers so you don't spend eternity troubleshooting your file and printer sharing connections:**

<table>
<tr><td align="center">XP</td><td align="center">Windows 7</td></tr>
<tr>
<td>Go to Start, Control Panel, Windows Firewall, and click the Exceptions tab.</td>
<td>Go to Start, Control Panel, Windows Firewall, and click 'Allow Program or feature through Windows Firewall'.</td>
</tr>
</table>
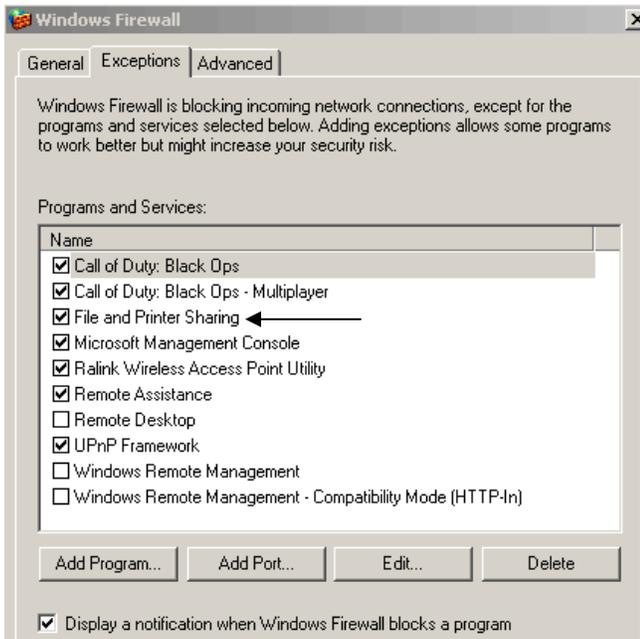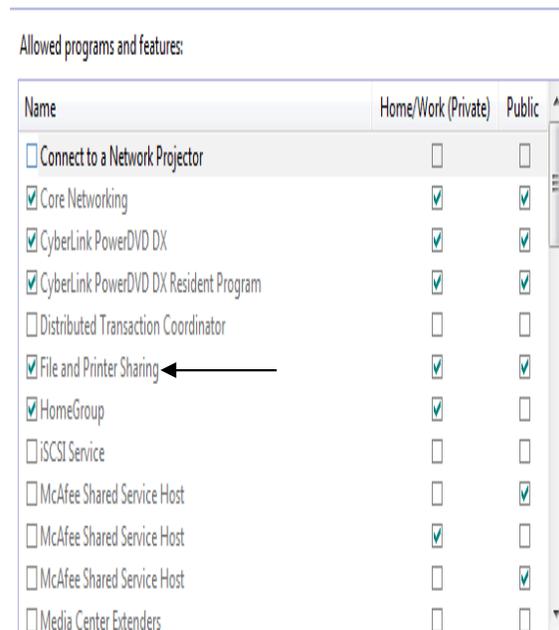
2. **Next, turn on 'Automatically Search for Networks and Folders' in Windows Explorer (your C: drive):**

<table>
<tr><td align="center">XP</td><td align="center">Windows 7</td></tr>
<tr>
<td>Open Windows Explorer and select 'Tools', Folder Options, View and put a check mark in the box in front of 'Automatically Search for Network Folder and Printers'.</td>
<td align="center">(No equivalent setting)</td>
</tr>
</table>
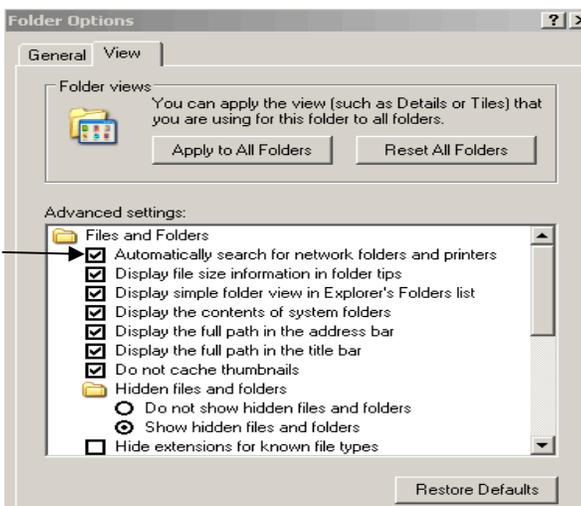
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3. Next, verify that File and Printer Sharing is enabled on both computers:

<u>XP</u>   <u>Windows 7</u>

Go to Start, Control Panel, Network,   Go to Start, Control Panel, Network and,
Connections, double click on your   Sharing Center, Change Adapter Settings,
new network and select the General   Double click the 802.11 USB LAN card,
tab. Verify that the 'File and Printer   click Properties button, select Networking
Sharing' box is checked.   tab. Verify that the 'File and Printer Sharing'
                                                                              box is checked.
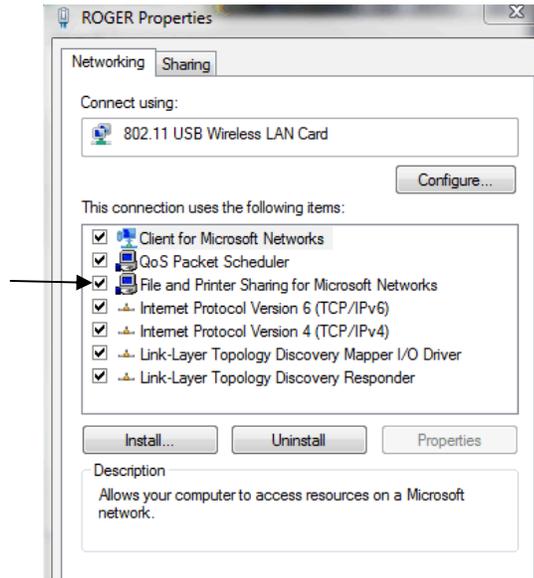
4. Ok, now you're ready to share files between your XP computer and the Windows 7 computer.
Compared to the difficulty of setting up printer sharing, this procedure is a walk in the park.
All you have to do is <u>right</u> click on any XP folder you want to share and select 'Sharing and
Security'. Click on the 'Sharing' tab and under the 'Network sharing and security' section check
the box next to 'Share this folder on the network'. Next to the 'Share name' give your folder a
name. Remember, after you click the Apply' button on this dialog box, Window XP will auto-
matically place this name (i.e. folder) under 'My Network Places'. That's all there is to it – just
do this procedure on both computers. - NOTE: It is strongly suggested that you do NOT attempt
to share your C: drive by right clicking on your Local Disk (C:). Also, try to share folders that are
in your root directory so you don't have to dig down through 17 thousand sub-directories in 'My
Network Places' to get to the shared folder you need. Maybe just create some new folders under
your C: root directory and then right click each one in order to share with the other computer.

(See the next page for 'Printer Sharing')

HOW TO SETUP "PRINTER SHARING"

In order to give you the simplest instructions on how to setup printer sharing, I've decided to send you to the following web sites:

   Sharing files and printers:

   http://www.howtogeek.com/howto/windows-7/share-files-and-printers-between-windows-7-and-xp/

   Drivers:

   http://bstdownload.com/reviews/brother-hl-1440-driver/
   (select your own printer driver located in the column on the left side of screen)

NOTE: Before you go, there are a couple of tips I want to share with you:

1. If you're working (Word, Excel, Adobe, etc.) on your Window 7 computer and you want to use the cable connected printer attached to your XP computer, you have to install the XP printer and driver files onto the Window 7 computer. Go to (in Win 7) 'Start' and click on 'Devices and Printers'. Click on 'Add a printer'. Select 'Add a network, wireless or Bluetooth printer' and follow the instructions. When you're asked for a printer driver, pull out your original CD printer installation disk and load it into the Window 7 CD drive. At this point in time, you may get a message that the printer driver can not be found on the CD drive. In that case, go to the website listed above and download the printer driver files to your Win 7 computer – click the 'Run' button, not the 'Save' button when downloading.

2. Then, once the printer and driver are loaded, you can right click on the printer icon and select both of the sharing and default printer settings.