WISP Broadband Ltd.

This is your guide to using our broadband Internet service. It contains important and useful information - keep it to hand.

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Further help & information is on our website.

Name:

Address

Your Customer Number: _ _ _ _ _ _ _ _

Your PC's IP Address: 192.168.10.

Your public IP Address: (optional) . . .

Your radio's IP Address: 10 . 0 . 0 .

We suggest the following WiFi channels for internal network : 1 2 3 4 5 6 7 8 9 10 11 12 13

Contact Details

Website: http://www.wispbroadband.co.uk/
E-mail: support@wispbroadband.co.uk
billing@wispbroadband.co.uk
Phone: 01844 339974
Post: Greystones, 47 Bridge Rd, Ickford, HP18 9HU.

Client Information Pack

	√ Indoor Radio	√ All-in-one outdoor

Equipment Guide

Antenna

Lights on *Smartbridges*:

- Red: Power
- Orange: Ethernet data activity
- Blue: Wireless state:
  - Blinking: searching for connection
  - Steady: connected

Radio

- Leave equipment on permanently
- Green light on *Powershot* confirms power is on
- WISP Broadband is responsible for configuring and maintaining the radio.

Coax

Ethernet patch cable

Power Supply

- Leave equipment on permanently.
- The Green light on the *Powershot* confirms power is on.

PowerShot

Power Supply

Your Computer

- If you have more than one computer, you will need a network Hub, and probably a Router.
- If you run your computer on a UPS, it might be best to run the radio on the UPS as well.

Ethernet or Network port

What is a Router?
Routers are the basic building blocks of networks such as the Internet. They connect networks together, *routing* data traffic according to addresses and rules.
Routers may be bundled with other functions such as:
- Firewalls for security,
- Ethernet hubs for wired networking,
- Access Points for wireless networking.

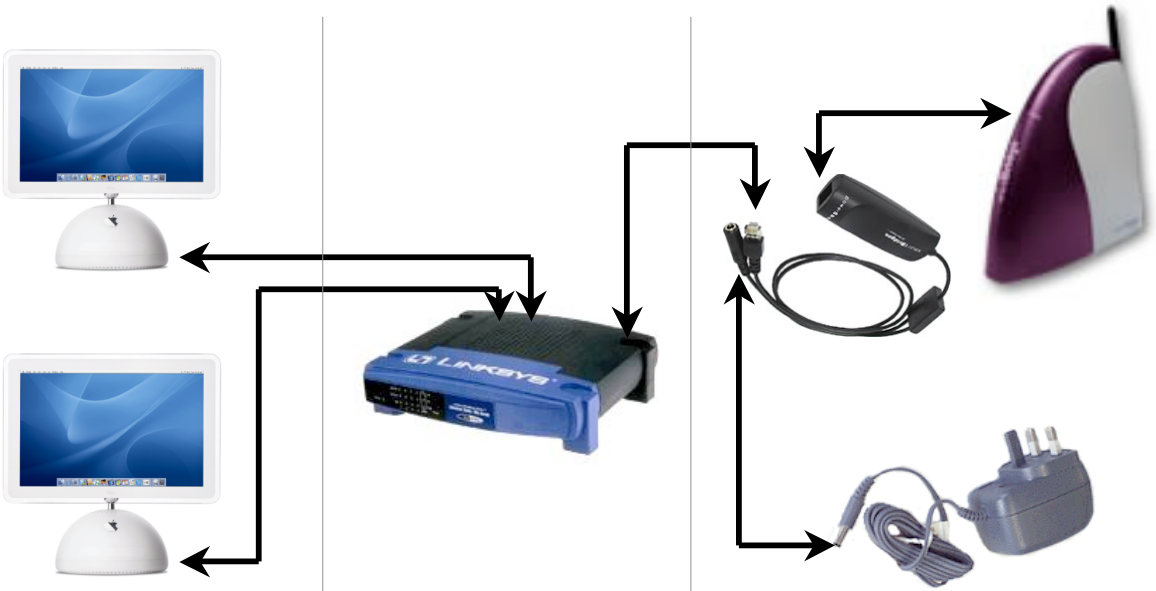
Where Would you put it?
In our case, the router must go between the WISP radio and the rest of your network, either your Ethernet hub or other devices
Some Routers have the hub built-in, so you would plug the WISP radio into the *Uplink* port, and your computer and other devices into the hub ports.

Networking with Routers

Do You Need a Router?

1	You have 1 computer with the radio plugged straight into its Ethernet port. You have no shared services and are running a software firewall.	No, although the router may be a useful enhancement to your security.
2	You have 1 computer with the radio plugged straight into its Ethernet port. You aren't sure about security or don't have a firewall installed.	It is recommended for security, and you might be interested in getting one with a built-in Ethernet hub or even wireless capability.
3	You have 1 computer with an Ethernet hub for printers and such like.	It is recommended, otherwise all your local data traffic is broadcast as well
4	You have multiple computers connected with an Ethernet hub.	It is strongly recommended in order to secure your local network traffic.

Bottom Line: If you have a local network (i.e. you have an Ethernet hub), you should use a router to provide security and reduce unnecessary wireless traffic.



Devices: Computers, etc. | **Network: Router & Hub** | **Wireless Broadband**

Router Specifications

DHCP: Useful for creating a dynamic local network to avoid having to set a static IP addresses.

Firewall: Very useful as additional network security. You must configure it properly and you still need backups & virus protection.

10/100Mbps: Indicates an Ethernet port which can run at normal 10Meg or fast 100Meg speeds. Useful as most new devices are both, but you may have some old, slower ones and it doesn't cost any extra these days.

NAT: Most small routers will be a NAT as they are an easy way of solving addressing issues without needing complex routing functionality. You need to check if your applications will work (e.g.VPN, PPTP, PPPoE).

Hub Ports: Very useful and cheaper than having an extra box & wires.

Note: Many small routers are sold for use with ADSL and have a built-in ADSL modem: YOU DO NOT NEED ONE OF THESE.

Jargon Buster

IP Address: Internet Protocol address, unique for each device on a network. Usually written as four numbers separated by full stops, e.g. 192.168.1.0

NAT: Network Address Translation connects two networks with different IP addressing schemes. Because it spoofs addresses to each network, some applications need to be 'NAT aware' or have specific config to work properly.

DHCP: Dynamic Host Configuration Protocol permits a network device (e.g. a router or server) to automatically assign IP addresses to devices joining a network. It is an extremely way to easily assign unique addresses within a network.

Broadcast: data packets that are sent out to every device on a network, for example to discover other computers, servers or printers. Such traffic is wasteful and insecure when sent beyond your own network.

IEEE 802.3: The fancy name for Ethernet.

IEEE 802.3u: "Fast Ethernet", 100Mbps

IEEE 802.11b: Wireless LAN, 11Mbps

IEEE 802.11g: Wireless LAN, 54Mbps

Where do I get a Router?

They are readily available from high-street and online computer stores. Below are a few examples. Indicative prices are taken from an online comparison site, Jan '04.

Basic Routers	Linksys: BEFSR11 £32 D-Link: DSL-504 £56
Router with Ethernet Hub	Linksys: BEFSR41 £34 NetGear: RP614 £38 D-Link: DI-604 £28
Router with Access Point	Linksys: BEFW11S4 £46, WRT54G £65 NetGear: MR814 £52, WGR614 £64 D-Link: DI-624 £84

Disclaimer: WISP Broadband does not advocate any specific model, maker or supplier of Routers. We have not tested these devices, only briefly reviewed their specifications, which may change. You must check if it is suitable for your circumstances.

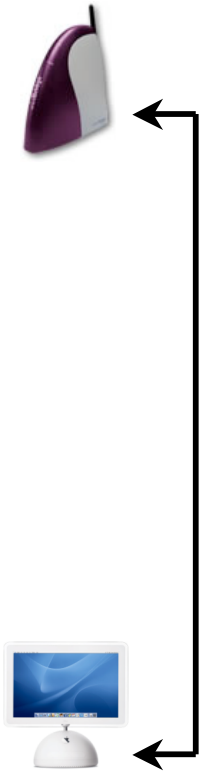
Using a Router

Setting Up your Local Area Network

Getting on-line with WISP Broadband is very easy in most causes. People with complex networks or unusual devices may need to read the relevant instructions or seek professional help.

None

One computer: Use supplied patch cable to *PowerShot* which is set to Cross-Over.



Basic

If your PC has directly connected peripherals, such as USB printers and scanners, these work as before.

The *PowerShot* is still plugged into the Ethernet or LAN port.

Complex

Use your hub/router to connect your computers and other devices.

Connect the radio to the WAN port.

LAN Setup

Five Easy Steps to Getting On-line

Getting on-line with WISP Broadband is very easy in most causes. People with complex networks or unusual devices may need to read the relevant instructions or seek professional help.

1	**Setup your local LAN**	You may have a very simple network with the radio plugging straight into your computer, or you a complex network with wiring, hubs and even wireless Access Points. All the wiring will probably be "Cat-5e" or similar Ethernet cabling. We supply a single cable to connect the radio to your computer or hub. If you need extra LAN cables, they are readily available from computer and even DIY shops. In most cases, you will need normal "Straight-through" cables, not "Cross-over". If you have a complex network, you should use a Router between your network and the broadband radio.
2	**Define the IP Address scheme**	IP Addresses need to be unique within a network. We use **Static IP addresses** in our network. This means you must configure your computer (or router) with the following information: Address assignment: *Static* or *Manual* **IP Address:** (see front cover of this guide) **IP Address Mask:** **255.255.255.0** **Default Gateway:** **192.168.10.1** **DNS Servers:** **158.43.240.4** **158.43.240.3** **SMTP:** **smtp.dsl.pipex.com**
3	**Test your Internet connection**	Go to the WISP Broadband website and perform download and security checks: http://www.wispbroadband.co.uk/support
4	**Check your security**	Do you have a security **Firewall** enabled or installed ? Do you have a **Virus Checker** installed and up-to-date? Do you know what **Shared Services** you have enabled?
5	**Check your Internet applications**	• E-mail: send yourself a test e-mail • Instant messaging • Web browsing • VPNs, games, USENET, etc.

Done? - then enjoy. **Problems?** - see our trouble-shooting guide.

Computer Setup

It's a Jungle Out There

When your computer is connected to the Internet, it may receive malicious attacks ("hacks"), communications ("viruses") or attempts to access your data. We strongly urge subscribers to protect themselves with appropriate security systems such as firewalls and virus protection.

> We do not monitor or control the data passing through our network and are unable to alert or prevent malicious or harmful data from reaching subscribers.

We accept no liability for related loss or damage: **Protect Yourself**

Jargon Buster

LAN: Local Area Network: wiring, hubs, switches & routers of your network.

Cat5: Category 5 wiring - the most common form of Ethernet wiring. Cat5e (enhanced) is for 100Mbps Ethernet.

Firewall: hardware unit (or software) which monitors and controls your Internet traffic. Correctly set up. it is a very good way to improve your protection from malicious attack.

Virus: (also trojans & worms) a fairly generic term for a malicious computer program which may causes harm, e.g. deletes data, sends your data elsewhere, launches attacks on other people, and so on. Viruses can attack via e-mail attachments, downloaded software or security flaws in the operating system.

Shared Service: basically a Server program running on your computer which communicates with other computers to provide a function such a sharing a printer or providing access to files.

Windows™ Checklist

- ✓ Data **backup** process in place
- ✓ **Virus checker enabled** and up-to-date (Free software available from www.grisoft.com)
- ✓ **Firewall enabled** (free software available from www.zonealarm.com/ or www.kerio.com/)
- ✓ Disable unused Shared Services

MacOS-X™ Checklist

- ✓ Data **backup** process in place
- ✓ **Virus checker enabled** and up-to-date
- ✓ **Enable Network Firewall** (under Sharing preferences)
- ✓ **Disable unused Services** (under Sharing preferences)
- ✓ **Disable unused Connection Sharing** (under Sharing preferences)

wisp Broadband

Safe Computing

Possible Symptoms	Checks & Observations	Solutions	Comments
Slow Connection	Your computer is busy	Quit unused applications. Restart.	
	Network is busy	Defer non-critical work until a quieter time.	
	Radio interference.	Wait a while and monitor.	There are many possible causes including very bad weather. We monitor the the system performance and should notice serious problems before you do.
No Connection	Check power (green light on PowerShot).		
	Check connections.	PING 192.168.10.1	Inability to PING the gateway may be your PC or a network problem.
	Power cycle the radio	Wait 30 seconds for it to restart.	If this still fails to work, call our support line.
E-mail not working	Mis-configured e-mail client.	Check your mail client settings.	
	E-Mail server down?	Check you e-mail provider's website for outage information.	

Troubleshooting Guide

Useful Methods for Debugging Network Problems - use as directed.

These are not particularly difficult to perform, but may be new or unusual.

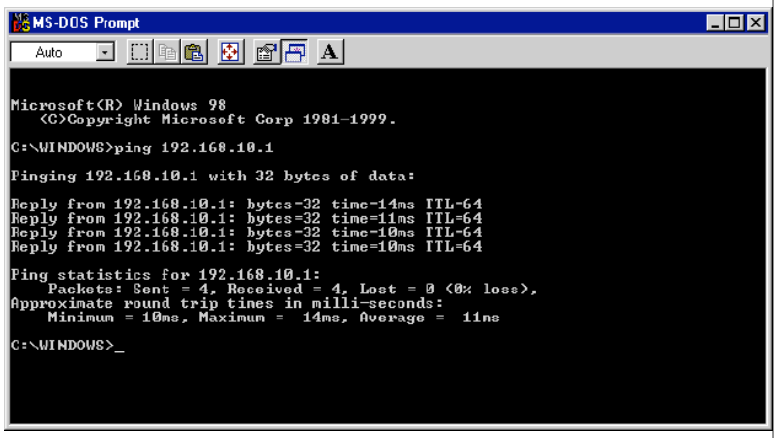
Radio Power Cycle - temporarily turn off power to radio

Depending upon your installation, either unplug the radio power supply (pull plug from mains socket) or pull apart power connector at *PowerShot*.
Leave un-powered for 5secs, then reconnect firmly. Wait 20secs for unit to restart.

ping - send test packets to an IP address to test the connection

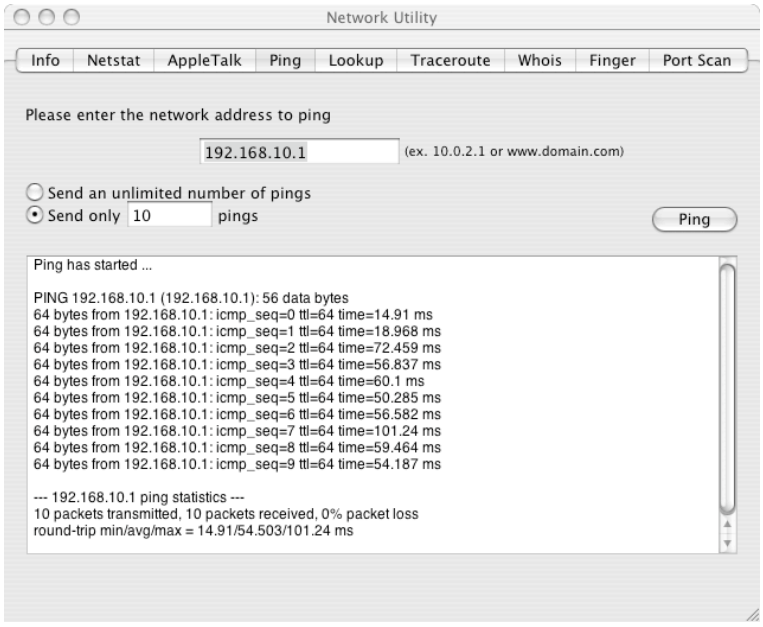
Windows:

Open a Command window and type:
`ping 192.168.10.1`



MacOS-X:

use *Network Utility*



ipconfig - display your IP network settings

Windows: open a Command window and type: `ipconfig /all`
MacOS-X: use *Network Utility* or open System Preferences, Network

You will see your current IP address, subnet, gateway, DNS servers, etc.

Debugging Toolkit

Internet Service: Summary Terms & Conditions

This page summarises our Internet Service and is intended to be an informal, introductory guide.

Our full and formal Terms and Conditions are available upon request, or at our website. The terms may be updated from time to time without notification. The latest version in force is always available at http://www.wispbroadband.co.uk/.

The WISP Network

We provide a basic ISP service using a wireless local distribution network. The network is a shared (contended) access system and variations in system loading will cause individual user data rates to vary. The network traffic flows are asymmetric (faster downlink than uplink).

Sharing the service with other users is a key part of the pricing model and you are expected to make responsible use of the service as your actions affect others. Data volumes well in excess of your fair share for a long period of time will be considered excessive use and we may request you to moderate your use, otherwise we may restrict or disconnect your service.

WISP does not block any particular type of network traffic, but reserves the right to apply traffic shaping rules that prioritise IP protocols to produce a network response of broad appeal.

Network service is not guaranteed and should not be used for critical applications such as medical or industrial control. Outages may occur for reasons beyond our control.

The network/user interface is defined as the Ethernet port on the wireless transceiver at your premises. We try to be helpful, but we do not provide formal technical support for your computers, LANs or wiring.

If you have specific requirements for IP addresses or VPNs:, please contact us.

We do not limit the type or number of computing devices connected by a user. However, the subscriber may not sell, distribute or share the connection with others (defined as outside their household or company).

Note: Customers served from the Wornal Park node may experience delayed network repairs since our access to the node equipment is limited to normal business operation times.

Our Responsibilities

1. To operate and maintain the network in a competent manner. Mains electricity outages, particularly those of extended duration, may cause a loss of service. Equipment failures will be attended to according to our support and escalation processes.
2. To send invoices/receipts as agreed, in a timely fashion.
3. WISP will maintain the privacy of subscriber's detailed usage information and normally only publish summary data where individual users are not identifiable unless required to do so by law-enforcement agencies.

Your Responsibilities

1. Use WISP service according to an *acceptable use policy* (AUP). This means using WISP services in a reasonable way, and to aver from behaviour that disrupts the network or causes harm to other users.
2. Use the wireless transceiver equipment in accordance with its specifications.
3. Pay bills as agreed in a timely fashion.
4. Protect yourself on the Internet. The Internet is not a secure network. User data may be copied and analysed as it passes through its nodes and links. Users must take responsibility for securing their data, using encryption or other techniques as appropriate.