Installation Manual

Version 2

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1. Introduction

The *easyHotspot* is the ideal solution for providing controlled WiFi access to your network or the Internet. Password controlled access makes it ideal for these applications:

- Community wireless networks
- Company networks
- Temporary hotspots at seminars
- Cafes
- Motels/Hotels
- Caravan parks
- etc.

This manual details the installation of the easyHotspot into your existing computer network.

You should have the following components in your easyHotspot kit:

- easyHotspot unit, with power supply and Linksys manuals
- this manual

Depending on the options purchased with the easyHotspot kit, you may have some or none of these:

- tickets
- range extender equipment

1.1. Features for the easyHotspot Owner

- **Ticket Controlled Access.** Your customers access your Internet connection by using a *Ticket* provided by you. The ticket has a login password. Tickets control the time online.
- **No onsite PC required.** Unlike some hotspot solutions, *easyHotspot* does not require that you have a PC onsite to manage the controlled access. The only hardware you need onsite is the *easyHotspot* unit.
- **Wireless or Wired Access.** You can provide controlled Internet access via wireless (WiFi), and/or wired (Ethernet). Wired access would suit an Internet Cafe with desktop PCs.
- **Usage Statistics.** With an optional private AAA Server account, you can check/download a variety of data including total data volumes, connect times, etc.
- **Expandable.** You can expand the wireless coverage range by adding extra antennas, amplifiers, and/or Range Extenders. No matter how large the physical network, you only need one *easyHotspot* device to control all network access.
- **Profitable.** Attract more customers by offering free Internet access - but only to your customers. Alternatively, you can increase your profits by selling Internet access at any price you choose.

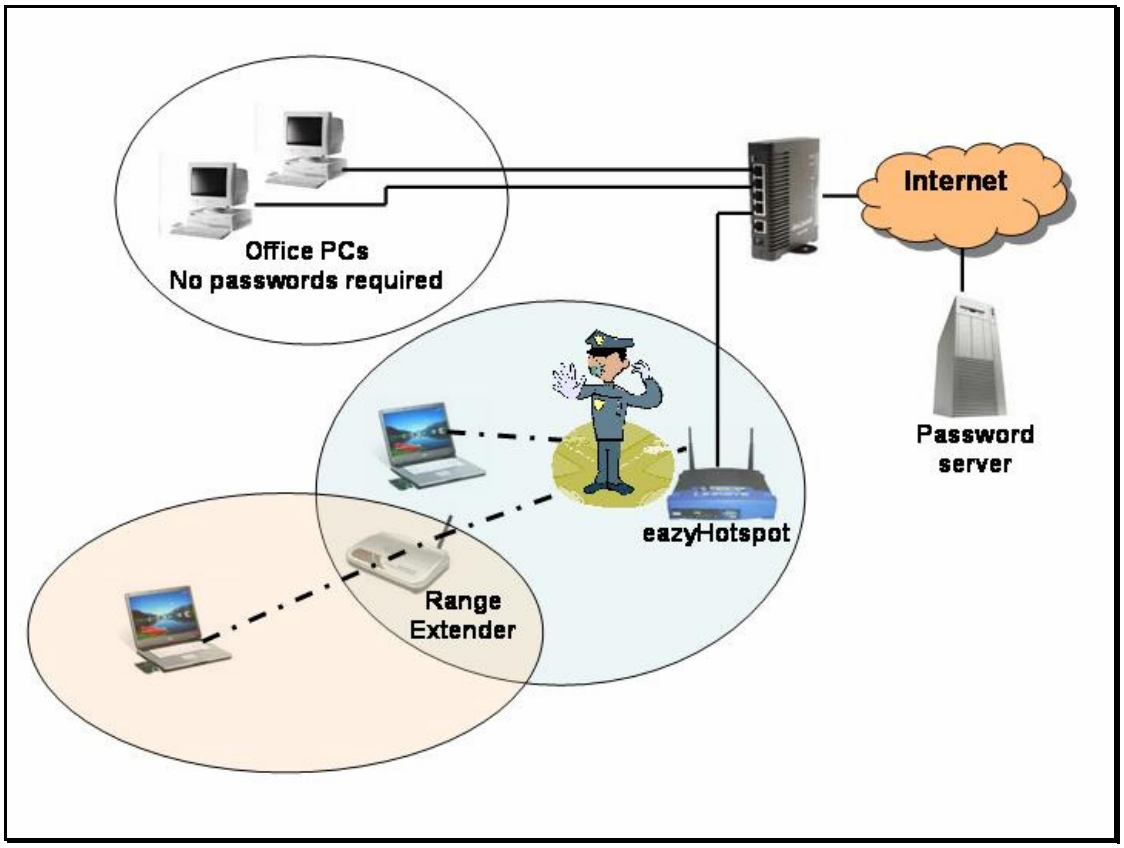
- **Secure.** By default, customers can **not** access any devices on your local area network (LAN). Customer traffic passes through the LAN to get to the Internet, but customers can not access any LAN device. However, ticket controlled access to your office LAN can be enabled by using a front-panel button.

1.2. Features for the easyHotspot *Customer*

- WiFi Access. Any WiFi equipped laptop can connect to the Hotspot. [Optional: the hotspot owner can provide access via ethernet (CAT5) cable.]
- No special software required. The customer simply needs a computer that has a standard WWW browser. That's it!
- Simple login/logoff procedure.

2. Installation

2.1. How easyHotspot Fits in Your Network



The *easyHotspot* sits between your existing broadband router and the PCs/Laptops that you want to control. The *easyHotspot* acts like a traffic cop, making sure only those with a valid ticket are allowed to pass.

You can extend the wireless coverage area by adding one or more *Range Extender* units

2.2. Installation Requirements

The *easyHotspot* requires an ethernet cable connection to a local LAN. The type of LAN is a very common one that is provided by almost all broadband routers.

The LAN:

- **must** have a DHCP server that automatically provides the following network configuration:
    - IP address,
    - Subnet Mask,
    - DNS server address, and
    - gateway (to the Internet) address.
- **must** have a connection (via the gateway router) to the Internet.

- can have a firewall between the LAN and INTERNET. *easyHotspot* has been tested and works with the very common Network Address Translation (NAT) type of firewall.

The *easyHotspot* connects to the exiting LAN in the same way a wired PC would connect.

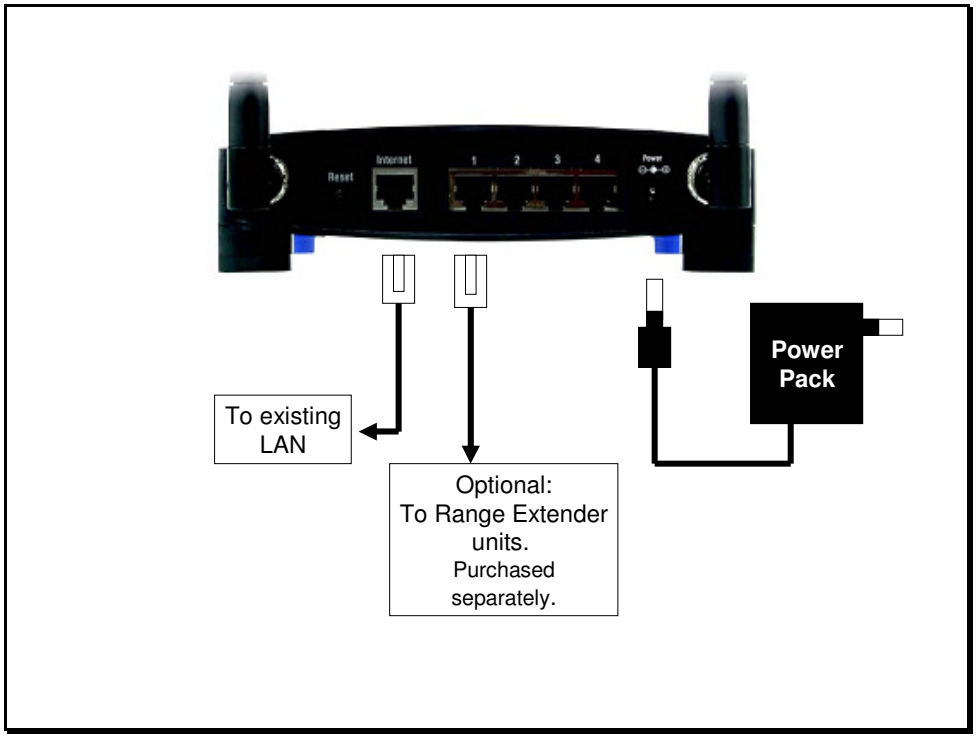
2.3. Installation Procedure

Please note that the easyHotspot comes in a Linksys box with Linksys manuals. These manuals do not apply to the easyHotspot. The easyHotspot is a Linksys WRT54GL, but all the Linksys firmware[1] has been replaced by easyHotspot firmware.

Your easyHotspot comes pre-configured. There are no software settings to be changed.

Make the following connections to your easyHotspot device.

- LAN Connection: The supplied CAT5 (LAN) cable goes from the socket labeled “Internet” on the rear of the easyHotspot, to your existing Local Area Network (LAN)
- Power: The supplied plug pack goes between a normal wall socket and the socket labeled “Power” on the rear of the easyHotspot.
- Optional: If wired Range Extender units were purchased separately, they are connected to any of the sockets labeled “1,2,3, or 4”.



[1] Firmware is software embedded within the device

2.4. Testing

After the easyHotspot has been installed and power applied, the front panel should look like this:

Light (LED)	Should be ….
CiscoSystems Button	Change between ON and OFF by pressing the CiscoSystems button for 1 second. The change is semi-permanent: if power is removed and re-applied the state (ON or OFF) is restored to the same as it was when power was removed. OFF: (default) Users with valid tickets do **not** have access to any device on the network (LAN) connected to the Internet rear socket. Their data traffic can pass through this network to get to the Internet. ON (orange colour): Users with valid tickets do have access to both the Internet, and devices on the network connected to the Internet rear socket. FLASHING: If this button is flashing alternatively White and Orange, a *Network Fault* has been identified. This must be rectified before continuing. See Appendix A.
Power	ON
DMZ	OFF
WLAN	ON (blink occasionally)
Ethernet 1,2,3,4	ON: If a LAN cable is plugged into the corresponding rear socket. OFF: Otherwise
Internet	ON: (Blink occasionally)

Using a laptop (or other WiFi enabled computer)

- Use the wireless networking utility provided with the computer to connect to easyHotspot wireless network. In most cases, the wireless network name will be **easyHotspot**. If ordered with a custom configuration, the wireless network name may be different. The wireless network name can not be changed.

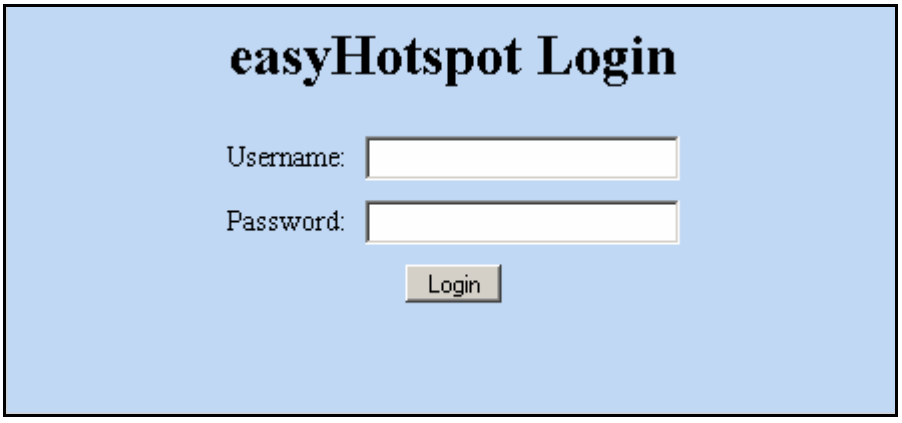
- Your PC should have been automatically assigned a network configuration as below. If not – see section 8 - Troubleshooting.

    - IP Address: 192.168.182.2
    - Subnet mask: 255.255.255.0
    - Default gateway: 192.168.182.1

    To see the network configuration on a Windows PC:

    - Click **Start**, then **Run…**
    - Enter **cmd** and press **OK**.
    - When the command window opens, type: **ipconfig** and press **Enter**.

- Open up the internet browser[2] on the PC. You should see a page similar to this. If not, see section 8 - Troubleshooting..



- Enter the Username/Password pair from a ticket, and click **Login**. Some starter tickets are included with most orders. A ticket will look

[2] e.g. Internet Explorer, Firefox, etc

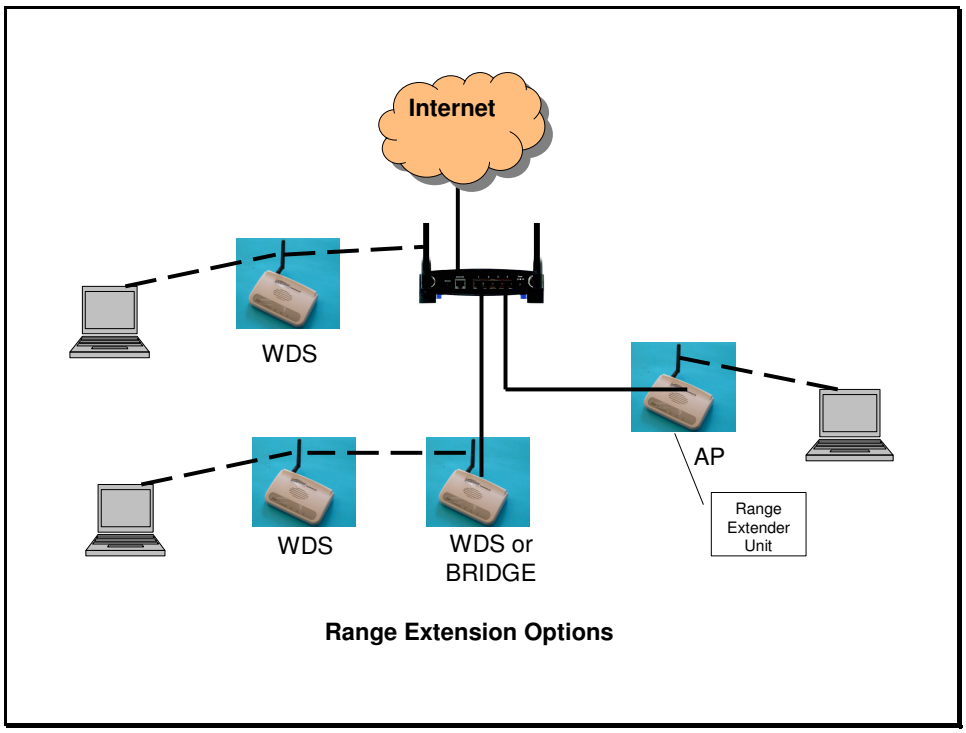
something like this:

- At this point, you should be granted internet access, and automatically sent to your browser's Home Page.

3. Range Extenders

For a simple one room Cafe-style installation, a single *easyHotspot* unit will be all that is needed.

For larger coverage areas (e.g. Motels/Hotels), the coverage range will need to be expanded using some combination of booster antennas, amplifiers, and Range Extenders. As each installation will be unique, it is not possible to cover all possible scenarios here, but the basic design will probably be something like one of the options shown below.



Range Extension Options

It is not possible to cover the details of all possible range extension options here. But it will generally be true that the range extender units will be setup in BRIDGE, AP, or WDS (=AP+BRIDGE) modes.

4. AAA Server

The AAA (Authentication, Authorisation and Accounting) server is managed off-site. This is where your account and passwords are kept. At the time of writing this manual, AAA accounts are free. Depending on the easyHotspot package purchased, you will have one of these AAA account options:

1. Shared use of the common easyHotspot account. This account is managed by wifi-hotspot-au.com. Additional tickets are purchased online. See this www page: `http://wifi-hotspot-au.com`

2. A private AAA server account. This account is managed by you. You create your own tickets and print them locally. If you have this option, you manage your tickets via this www page: `http://worldspot.net`

   If you have this option, the login details for your account are given in Appendix B.

   The Hotspot owner manages the account using any standard internet browser. The owner can:

   - Create/Edit/Delete user login accounts. Each account can have a specified time limit and/or data volume limit.
   - Check usage statistics.
   - Check a log of individual user account logon/logoff times.
   - Create and print bulk tickets. These tickets could be (e.g.) 30 min tickets for Cafe customers, 24 hr tickets for Motel guests, 7 day tickets for temporary office workers, etc.

5. Tickets

The *easyHotspot* system is based on the use of tickets. A ticket is a Username/password pair that has been pre-assigned.

Shown here is the default ticket design.

A ticket;

- is a copy of information stored on the **AAA Server**.
- can have any text or graphics on it.
- is typically printed on paper or a label, but does not have to be.
- controls the maximum time online. Any time limit can be set, including unlimited (i.e. permanent tickets).
- can be sold at any price
- (Shared easyHotspot AAA account only) can be ordered pre-printed in batches of 100. See this www page.
  `http://wifi-hotspot-au.com`

  (Private AAA account only) can be created online and printed locally by the hotspot owner.

6. Known Bugs

6.1. Connecting to Microsoft PPTP (Microsoft server) VPN server

Computers connecting via the easyHotspot can not connect to these VPN servers. This is a documented problem with the Linux operating system in the easyHotspot.

7. Instructions for Customers

Instructions for logging in from a Windows PC:

1. The PC should be setup as follows:
    - Wireless network Interface
        - Encryption (WEP, WPA, …) = Off
        - Internet Protocol TCP/IP
            - Obtain an IP address automatically
            - Obtain DNS server address automatically
    - WWW browser
        - set to not use a proxy server

2. Use your normal method to scan and connect to the wireless network for this hotspot.
3. Start your web browser. Common web browsers are **Internet Explorer** or **Firefox**.
4. Enter the Username and Password found on your ticket.
5. Once you have successfully logged on, your PC will have full Internet access, including WWW, email, etc.

Users are logged off in a number of different ways:

1. Use the logoff button in the pop-up provided when logged in.
2. If the pop-up has been closed, return to the logout page by visiting the following www page with your web browser:
   `http://192.168.182.1:3990`
3. Turn off the PC or leave the hotspot coverage area. After a fixed timeout, you will by logged off automatically.
4. Leave the PC on, but do not access the Internet for a fixed time. After a fixed time of inactivity, you will be logged off automatically.

8. Troubleshooting

When troubleshooting, start at the top of this list and work down.

Symptom	Possible causes
CiscoSystems button is flashing White/Orange	There is a *Network Fault*. See Appendix A.
Power Light on front panel is off	Check power pack is plugged in and power socket is on Faulty power supply Faulty easyHotspot
Internet light on front panel is off	LAN cable not correctly plugged into Internet socket. Faulty LAN cable Other end of LAN cable not plugged into a functioning ethernet device
WLAN light on front panel is off	Faulty *easyHotspot*
Customer cannot connect to wireless network	Customer PC configuration. See section 6. Faulty or disconnected Range Extender Faulty *easyHotspot*
Customer PC does not get automatic IP address in the range: 192.168.182.xxx	*easyHotspot* Internet cable is unplugged or is not connected to a LAN with a functioning DHCP server LAN DHCP server is not giving out DNS server addresses Connection from LAN to Internet is down AAA server is down
Customer does not get the Login page	WWW browser settings. See section 6.

Symptom	Possible causes
Customer's login fails	Expired ticket Invalid ticket Typing mistake (tickets are case sensitive) AAA server is down
Customer can not read email (etc)	Has been logged off due to inactivity. Login again via www browser.

Appendix A – Network Fault

When the *easyHotspot* first powers up, it does a 6-step Network test. If any of the 6 steps fail, the *easyHotspot* does NOT continue the startup process until all faults are resolved. **Note**: If Test 5 (Ping Test) fails 10 times, the *easyHotspot* will continue and boot up.

If a *Network Fault* is found, the CiscoSystems button on the front panel will flash WHITE followed by 1 or more ORANGE flashes. The cycle will repeat. You should wait for a WHITE flash, then count the ORANGE flashes.

Orange Flashes	Fault	Remedy
1	Internet Cable Unplugged or Internet port not negotiating with upstream Ethernet port.	Check Ethernet cable Add a LAN switch between *easyHotspot* and the LAN. This has been known to fix problems like this. Change Internet Router. We have seen incompatibilities with NetComm NB1 modem/routers.
2	Internet port unable to get IP address from LAN DHCP server	Check if a normal PC on the same LAN gets a DHCP address OK Check DHCP server configuration
3	Internet port unable to get default route LAN DHCP server	As above
4	Internet port unable to get DNS server address(es) from LAN DHCP server	As Above
5	*easyHotspot* unable to ping Authentication server. (Usually at radius.worldspot.net)	See if a PC on the LAN can ping these addresses: radius.worldspot.net radius2.worldspot.net If not – see if your ISP is blocking such access.
6	Internet Port connected to a LAN in the 192.168.182.xxx range.	Change the LAN IP address range to another network. The *easyHotspot* must use 192.168.182.xxx for its own use.

Appendix B – AAA Account Login Details

If you have the private AAA server account option, your login details are:

WWW site	http://worldspot.net/wk/login
Login	
Password	
Custom Ticket Template	

This manual does not cover the details of how to use the private AAA online account tools. However, the basic procedure to create and print a new batch of tickets is given below. At the time of writing this manual, the instructions below were correct.

- Login

- Menu selection: Manage Access Profiles.
    - If a suitable access profile does not already exist: click **Create**/**New**
        - Offer this access for free = Unchecked
        - Show ticket login for this profile = Unchecked

- Menu selection: Manage Tickets
    - Mass ticket creation. Select your access profile, complete the on-screen options, and click **Generate**.
    - Click **Print Tickets**.
        - Select the Ticket model (= design), or generate a new one.
        - Bundle: Select the batch of tickets generated above.
        - Click **Print**.