

## Version 8 WebCam Setup Guide

### Introduction

In order to use the WebCam feature of GeoVision there is an amount of configuration that needs to take place. As no one sites network or Internet connection are truly alike, it is difficult to write a definitive WebCam setup guide. This document will give example on widely used hardware, and hopefully give you the tools you need to configure the WebCam on an unlisted router.

### Explanation of terms and technologies

#### WAN

Wide Area Network – For the purposes of this document you can substitute WAN for Internet, as in WAN (Internet) side of your router.

#### LAN

Local Area Network – Local network of PCs and network devices. To be used as LAN side of your router.

#### Ports

Internet traffic travels though ports. This method is used, as it can identify what sort of data the TCP packet is carrying. For instance web browsing uses port 80, email uses port 25 etc.

GeoVision uses the ports listed below for WebCam

#### **80 HTTP Port**

For the WebCam Interface in Internet Explorer (all web pages by default use port 80). When you use Internet Explorer it silently adds “:80” to the end of the webpage address, try it yourself [www.ezcctv.com](http://www.ezcctv.com) is the same as [www.ezcctv.com:80](http://www.ezcctv.com:80)

#### **4550 Command Port**

For the commands that are sent between the interface and the GeoVision system

#### **5550 Data Port**

For the Video Stream

#### **5552 Remote View**

For the Remote ViewLog

#### **6550 Audio Port**

For the Audio Stream

#### TCP

Transmission Control Protocol – The protocol used to guarantee that packets of data get to the correct destination, and that they are received in the correct order.

**ADSL / Cable Modem**

These are usually USB devices that the computer sees as a traditional dial up connection. The PC has to "dial" the Internet connection, the connection is always available, but not always connected.

**ADSL Modem Router (Gateway)**

These are becoming more and more common. Most ISPs now give the user a router rather than a modem.

Routers are usually connected to your computer via an Ethernet cable. A router is a device that sits between a LAN (Local Area Network) and the Internet.

Routers are far more advanced than ADSL modems, and offer the following benefits:

- Enhanced Security via a hardware firewall
- Improved connections speeds
- Always on Internet connection
- Superior reliability

If you have a router, all traffic coming from that network going to the Internet, appears to come from the same IP address (Your Internet or WAN IP Address). Some setups will have a network of PCs sharing the Internet connection, rather than just one PC

**Firewall**

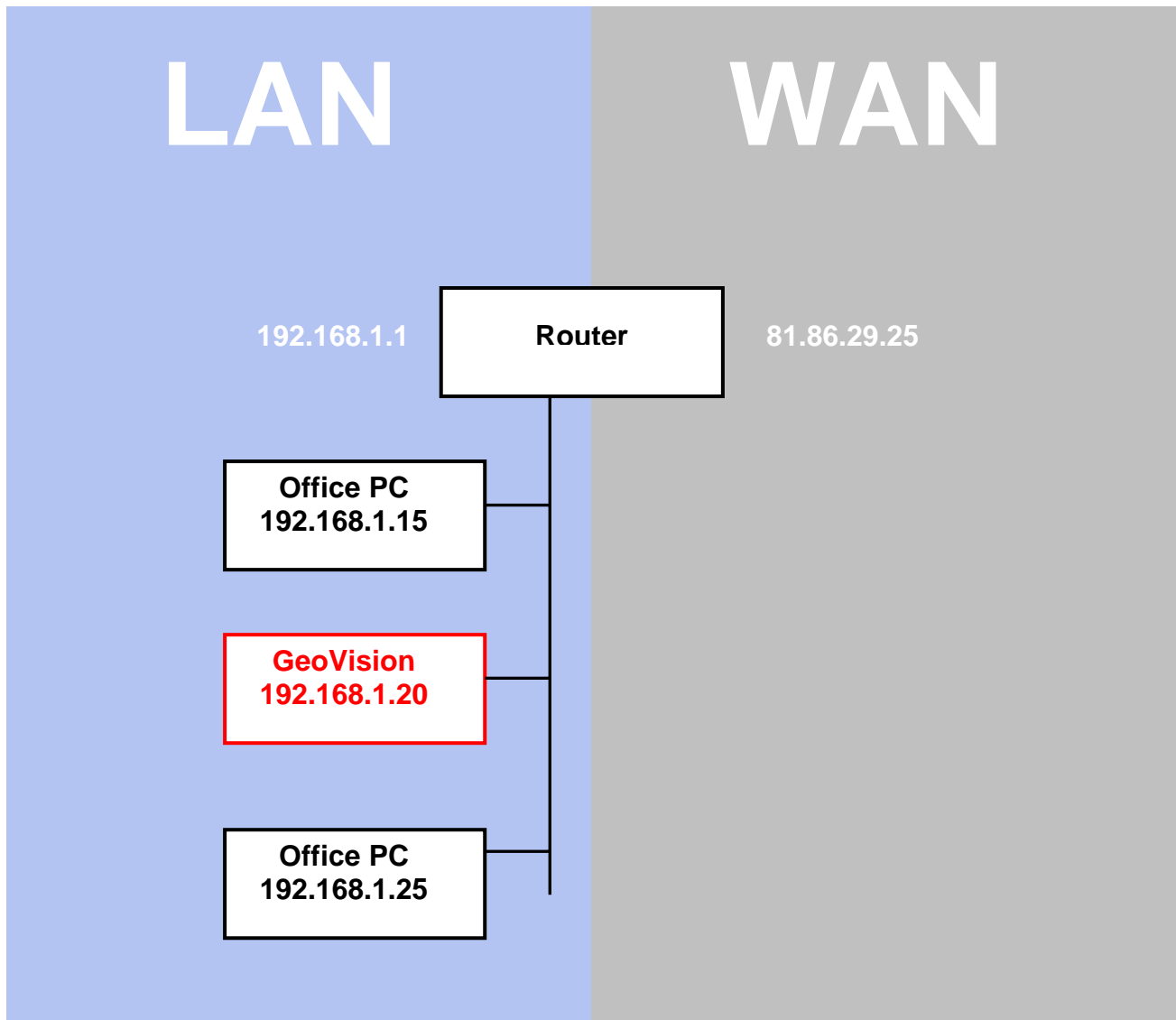
Either a piece of hardware (usually part of a router) or software used to limit unauthorized network connections into a network or computer.

**Port Forwarding**

Port Forwarding can also be referred to as Port Redirection, Virtual Servers or NAT (Network Address Translation). They all fundamentally do the same thing.

When you want to view your cameras, using the GeoVision WebCam feature, you open Internet Explorer and enter the WAN IP address of your router. As there may be many systems behind the router, we need to tell the router where to forward the Internet Explorer (WebCam) traffic to.

The reason for configuring the router is not just one of security, when you connect to the WAN IP address of your router, it does not know where to direct that traffic. Take the example below, there are several PCs on the network, without port forwarding, the router does not know where to send the packets.

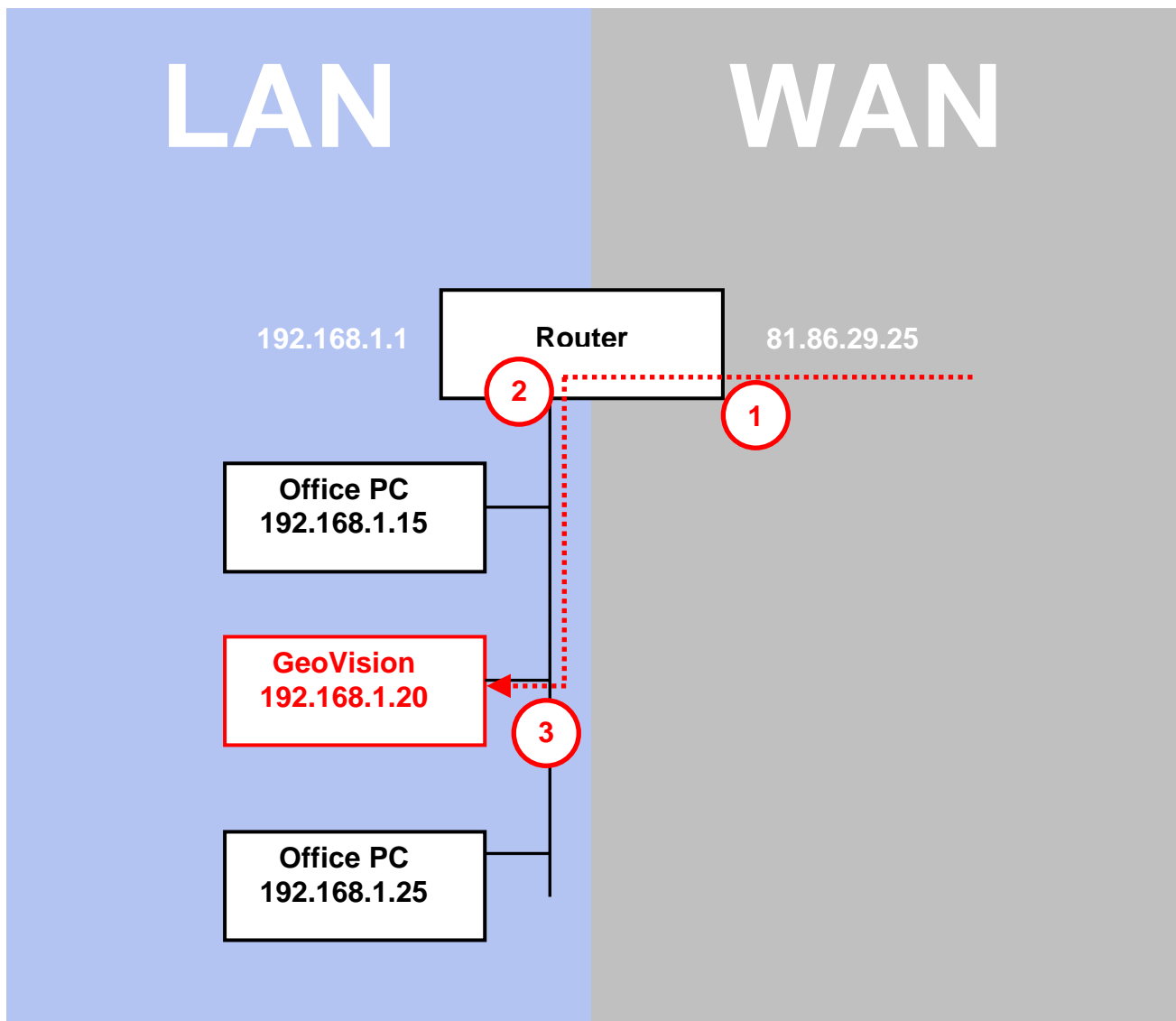


We need to tell the router to forward all GeoVision ports through to the LAN IP address of the GeoVision system.

Within the router we have configured a routing table like the one below.

EXTERNAL PORT	INTERNAL PORT	LAN IP ADDRESS
80	80	192.168.1.20
4550	4550	192.168.1.20
5550	5550	192.168.1.20
5552	5552	192.168.1.20
6550	6550	192.168.1.20

When traffic hits the WAN side of the router using any of the ports listed, it looks for preconfigured routes (or forwards) and applies them, see the diagram below



- 1 The router is hit by the request from the remote Internet Explorer for port 80, 4550, 5550 and 5552 (also 6550 is using audio)
- 2 Router looks up the ports being requested, within it's lookup table, if it finds a corresponding entry, then it will forward the traffic
- 3 The traffic has been successfully forwarded to the GeoVision system (192.168.1.20)

## Configuration

### Windows XP Firewall / Software Firewall

Windows XP comes with a built in software firewall. By default the Windows XP firewall will block any incoming TCP connections.

You can download Windows XP Firewall configuration scripts from the download area of our website, available at <http://www.ezcctv.com/software-download.htm>

To run them, download the appropriate file for your card, unzip the file, and run the batch file. Links to the files are listed below.

#### **N.B.**

These files will only work if you have installed GeoVision to the default install directory, i.e. C:\GVxxxx

[GV250](#)

[GV600](#)

[GV650](#)

[GV800](#)

[GV900](#)

[GV1000](#)

[GV1120](#)

[GV1240](#)

[GV1480](#)

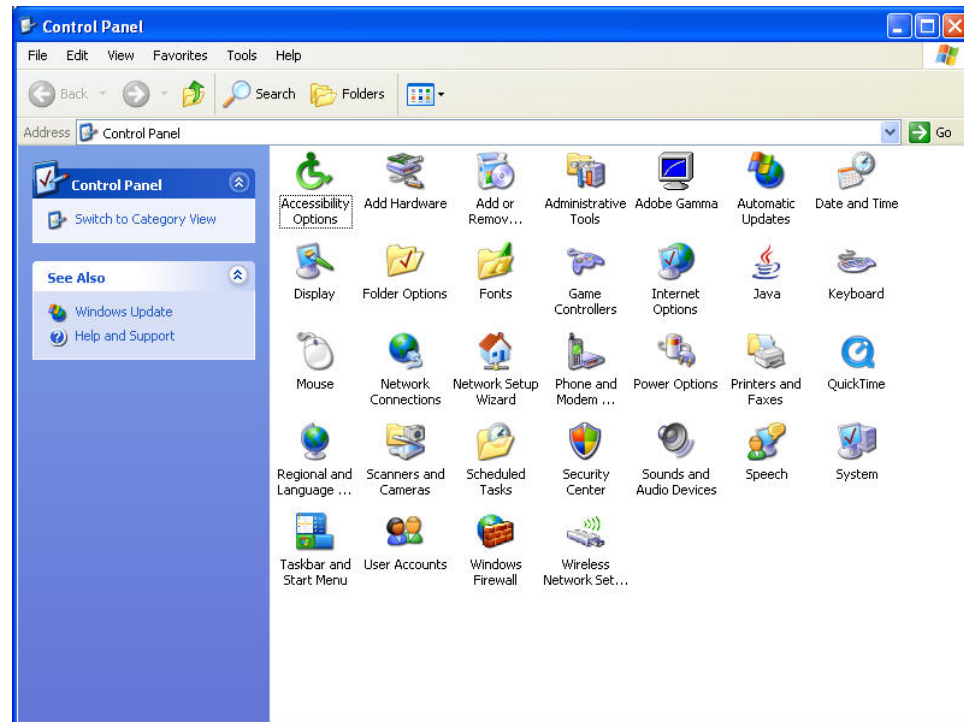
If you have installed GeoVision to an alternative directory, you will need to create exceptions for the following.

#### **Applications**

[GeoVision Install Directory]bcasttcp.exe  
[GeoVision Install Directory]audioserver.exe  
[GeoVision Install Directory]ccserver.exe  
[GeoVision Install Directory]dmmcast.exe  
[GeoVision Install Directory]rpbsvr.exe  
[GeoVision Install Directory]webcamserver.exe  
[GeoVision Install Directory]tcpsvr.exe  
[GeoVision Install Directory]dmwebcam.exe  
[GeoVision Install Directory]twinsvr.exe

To create exceptions to the Windows XP firewall, you need to do the following:

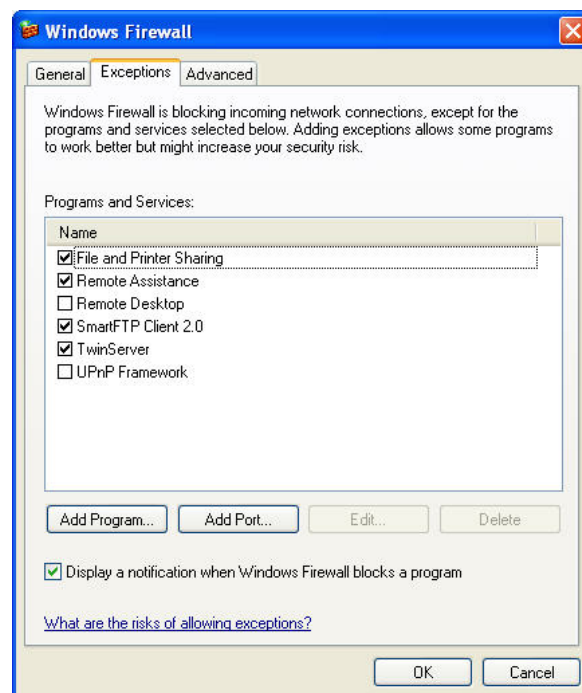
## 1. Enter Control Panel



## 2. Double Click on Windows Firewall

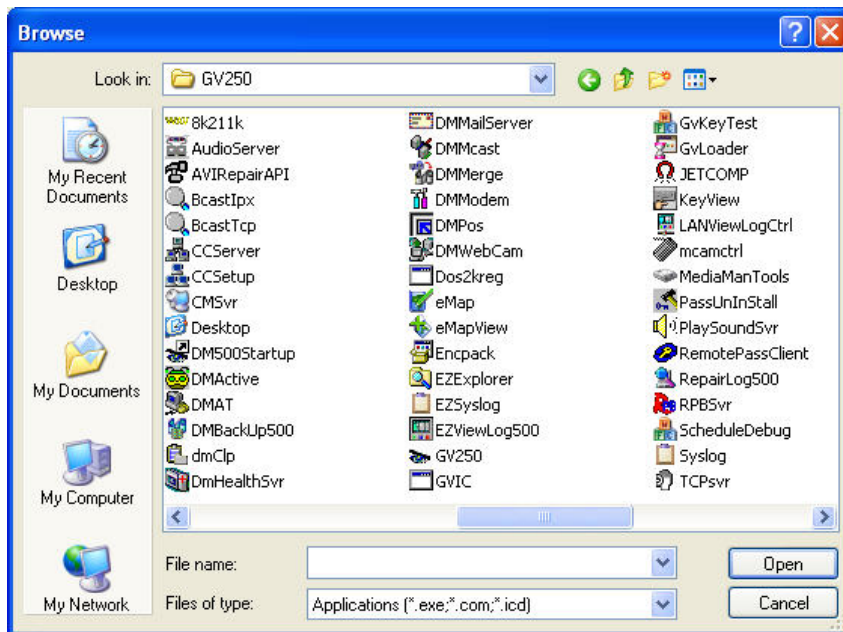


## 3. Click on the Exceptions Tab



## To add a Program Exception

1. Click on Add Program
2. Click on Browse
3. Navigate to the GeoVision install directory
4. Select the first program in the list above



## 5. Click OK

Repeat steps 1 to 5 for each program in the list above

## Ports

80

4550

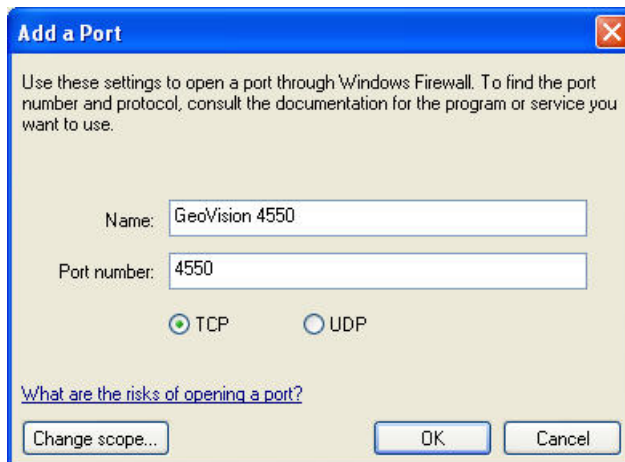
5550

5552

6550

## To add a Port Exception

### 1. Click on Add Port



### 2. Give the port a name

### 3. Enter the first port number in the list above

### 4. Make sure that TCP is selected

### 5. Click OK

Repeat steps 1 to 5 for each of the ports listed above.

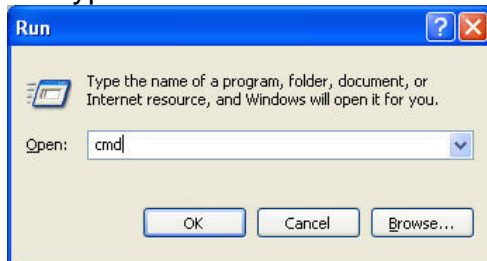
If you are using a software firewall other than Windows XP, please check your documentation about creating exceptions.

## Assigning a Static LAN IP address to your GeoVision system

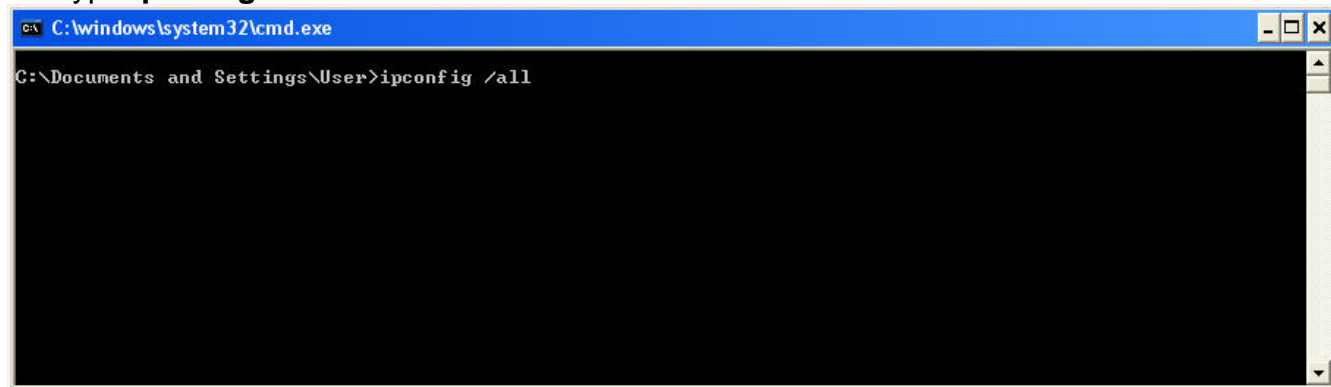
When you connect your PC to your router, it will obtain an LAN IP address. The address your router assigns to your PC may not always be the same. It is important that your GeoVision PC has a static LAN IP address, as we will be setting up port forwarding.

### To find out the IP address of your GeoVision PC

1. **START > Run**
2. Type **cmd** <enter>

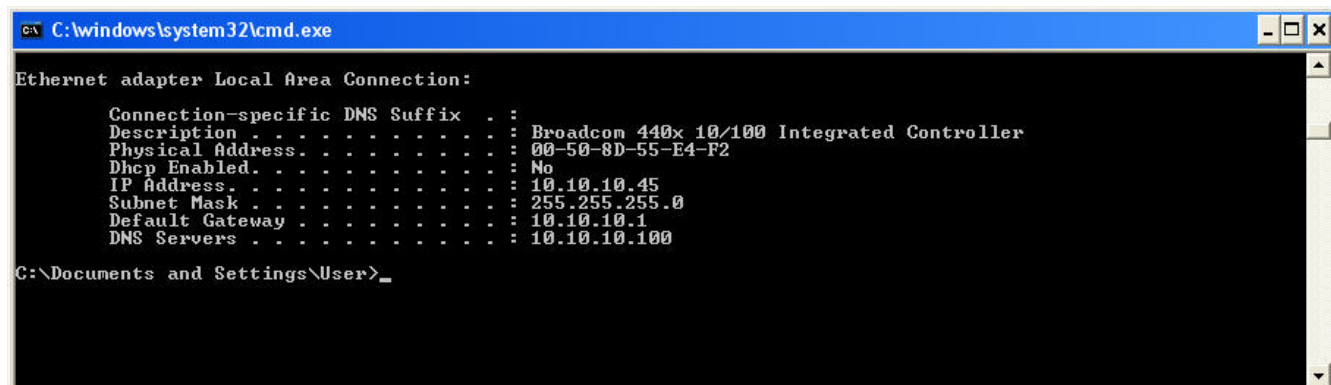


3. Type **ipconfig /all** <enter>



4. Make a note of your:

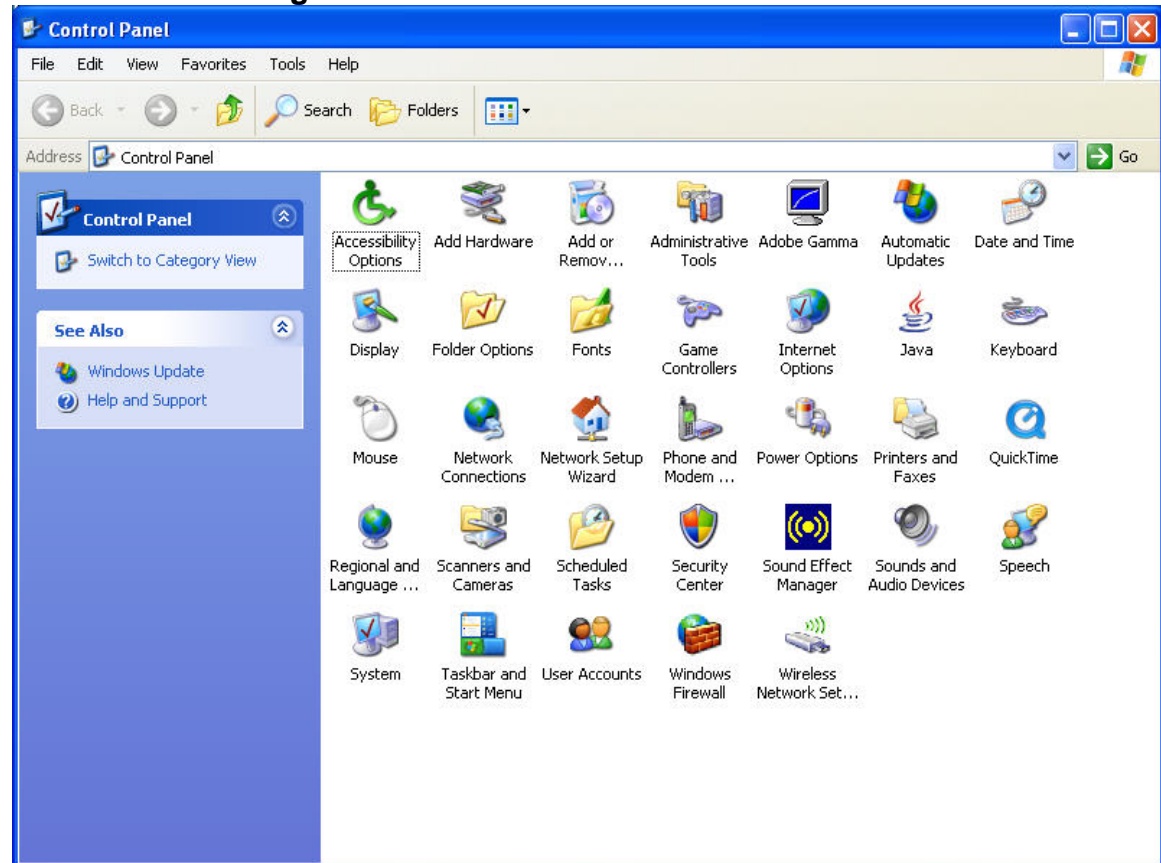
- IP Address
- Subnet mask
- Default Gateway
- DNS Servers



5. Type **exit** <enter>

# Setting your LAN IP address to a static address

## 1. START > Settings > Control Panel



## 2. Double Click on Network Connections

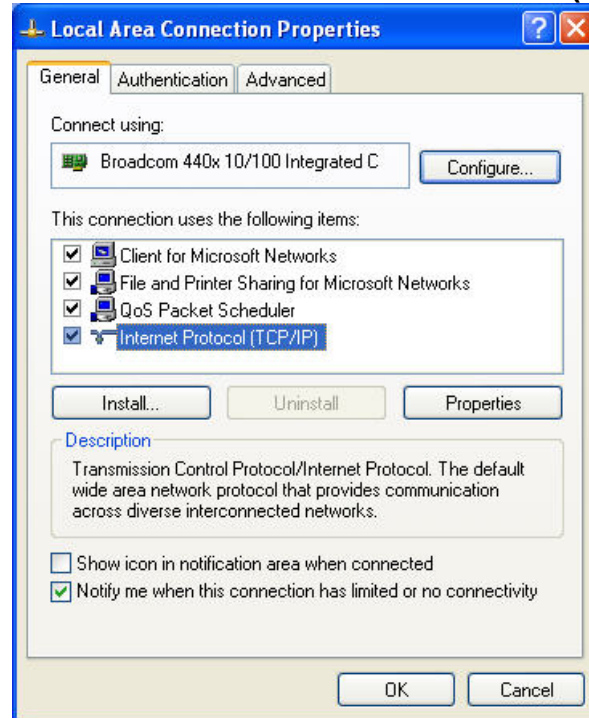


Network  
Connections

## 3. Right Click on the Local Area Connection and Click on Properties



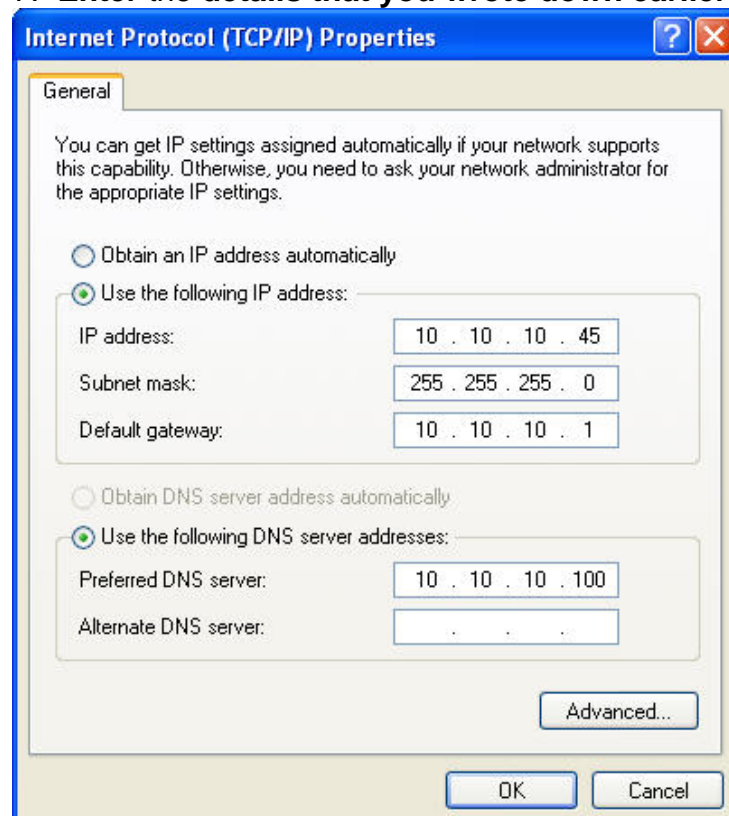
#### 4. Double Click on Internet Protocol (TCP/IP)



5. You will see on this screen that there is a dot next to **Obtain IP address automatically**. If your setup has a dot next to **Use the following IP address** then you are already setup or a static IP address, and you do not need to follow the instructions below.

6. **Click on Use the following IP address**

7. **Enter the details that you wrote down earlier, filling in all fields**



8. **Click OK** on all open screens to exit this setup menu.

**N.B.**

Now is a good time to test your Internet connection, this can be done easily by opening Internet Explorer and browsing for a webpage. If your test fails, please recheck all entries in the screen above.

## Examples

### Examples of router configuration

All routers are different, in this section we will go through the setup of 3 common routers. If your router is not listed, then a very good resource is [www.portforward.com](http://www.portforward.com).

They have detailed guides for the GeoVision setup for most routers, you can go to:

[http://www.portforward.com/english/applications/port\\_forwarding/GeoCam/GeoCamindex.htm](http://www.portforward.com/english/applications/port_forwarding/GeoCam/GeoCamindex.htm)

These guides include the ports 21 and 3389, these are optional and are not necessary for GeoVision WebCam

All of the following setups will assume that the following IP addresses, you will need to use your own IP address found in the section above.

IP Addresses

**Router**

IP address            192.168.1.1

**GeoVision System**

IP address            192.168.1.2


## Example 1 BT Voyager 220V / 2091



### Open Internet Explorer

Enter the router IP address **192.168.1.1** (Router IP) in the **Address Bar**

BT Voyager 2091 Configuration Manager



Quick Start  
Troubleshooting  
Advanced...

### BT Voyager 2091 Wireless ADSL

Welcome to your BT Voyager

Your Voyager is **connected** to Broadband and you can now surf the Internet.

Connection Status	<a href="#">Refresh</a>
<b>Online Time</b>	22 hours 6 mins 20 secs
<b>Data Transmitted</b>	793539456 bytes
<b>Data Received</b>	107087664 bytes


More details can be found in the [Advanced...|Status](#) menu.

[Disconnect](#) ✖ Clicking Disconnect will close down your Broadband connection. This will affect all computers currently connected.

[Version 3.01m](#)

### Click on Advanced

BT Voyager 2091 Configuration Manager



Quick Start  
Troubleshooting  
**Advanced...**

### Advanced Configuration

Your Voyager provides advanced functions to configure complex networks or specific applications.

On most Broadband access and home networks, there should be no need to access this menu unless instructed to do so by the helpdesk or a network administrator.

[Advanced...](#) [Back to Quick Start](#)

[Version 3.01m](#)

Click on **Virtual Server** under **Configuration**



**BT** 

BT Voyager 2091 Configuration Manager

**Advanced Configuration**

Your Voyager provides advanced functions to configure complex networks or specific applications.

On most Broadband access and home networks, there should be no need to access this menu unless instructed to do so by the helpdesk or a network administrator.

[Advanced...](#) [Back to Quick Start](#)

Quick Start  
 Troubleshooting  
 Configuration  
 Quick Setup  
 Wireless  
 Local Network  
 Internet  
 Security  
 Virtual Server  
 IP Routing  
 DNS Server  
 Quality of Service  
 IGMP Proxy  
 System  
 Status

Version 3.01m

**Enter the User name and Password**

Default User name **admin** default Password **admin**

**Click on OK**



Connect to fragdata.homeip.net



Voyager 2091 Configuration Manager

User name:

Password:

Remember my password

OK Cancel

Click on **Port Forwarding** on the top banner

### Virtual Server Configuration

[DMZ Host](#) | [Port Forwarding](#) | [Dynamic DNS](#) | [ALG](#)

Click on **Add** near the right side of the page

Click on the **radial** next to **“User Defined”**

**Port Forwarding**

**Add New Port Forwarding Rule**

**Application Name:**

Pre-defined:

User defined:

**From Internet Host IP Address:**

**Forward to Internal Host IP Address:**

**Name the service “GeoVision”**

**Enter the IP address to forward to (GeoVision system) 192.168.1.2**

**Enter the port numbers as below**

**Click on Apply**

**Port Forwarding**

**Add New Port Forwarding Rule**

**Application Name:**

Pre-defined:

User defined:

**From Internet Host IP Address:**

**Forward to Internal Host IP Address:**

**By using the rules:**

Protocol	External Packet		Forward to Internal Host	
	Port Start	Port End	Port Start	Port End
TCP	80	80	80	80
TCP	4550	4550	4550	4550
TCP	5550	5550	5550	5550



## Example 2 Netgear DG834

### Open Internet Explorer

Enter the router IP address **192.168.1.1** (Router IP) in the **Address Bar**

Enter the **User name** and **Password**

Default User name **admin** default Password **<blank>**

 A screenshot of a Windows dialog box titled "Enter Network Password". It contains a key icon and the text "Please type your user name and password." Below this, the "Site:" field is populated with "192.168.0.1". The "User Name" field contains "admin" and the "Password" field contains a masked password "xxxxxxxx". There is an unchecked checkbox for "Save this password in your password list" and "OK" and "Cancel" buttons at the bottom.

Click on **Services** under **Firewall**

Click on **Add Custom Service**

 A screenshot of the "Services" configuration page in a web interface. It features a "Service Table" with columns for "#", "Service Type", and "Ports". Below the table are three buttons: "Add Custom Service", "Edit Service", and "Delete Service".
 

#	Service Type	Ports
<input type="button" value="Add Custom Service"/> <input type="button" value="Edit Service"/> <input type="button" value="Delete Service"/>		

**Create** a service for **4550**

**Name** the Service **GV1**

**Set Type** to **TCP**

**Set Start Port** to **4550**

**Set Finish Port** to **4550**

**Click Apply**

### Services

---

**Service Definition**

Name:

Type:  ▼

Start Port:

Finish Port:

---

**Create** a service for **5550**  
**Name** the Service **GV2**  
**Set Type** to **TCP**  
**Set Start Port** to **5550**  
**Set Finish Port** to **5550**  
**Click Apply**

### Services

---

**Service Definition**

Name:

Type:  ▼

Start Port:

Finish Port:

---

**Click** on **Rules** under **Firewall**  
**Click** on **Add** under **Inbound Services**

### Firewall Rules

---

**Outbound Services**

#	Enable	Service Name	Action	LAN Users	WAN Servers	Log
Default	Yes	Any	ALLOW always	Any	Any	Never

**Inbound Services**

#	Enable	Service Name	Action	LAN Server IP address	WAN Users	Log
Default	Yes	Any	BLOCK always	--	Any	Match

---

Type the following  
Click on Apply

### Inbound Services

---

Service: HTTP(TCP:80)

Action: ALLOW always

Send to LAN Server: 192 . 168 . 1 . 2

WAN Users: Any

start: 0 . 0 . 0 . 0

finish: 0 . 0 . 0 . 0

Log: Never

---

Click on Add under Inbound Services  
Type the following  
Click on Apply

### Inbound Services

---

Service:

Action:

Send to LAN Server:  .  .  .

WAN Users:

start:  .  .  .

finish:  .  .  .

Log:

---

**Click on Add under Inbound Services**  
**Type the following**  
**Click on Apply**

### Inbound Services

---

Service:

Action:

Send to LAN Server:  .  .  .

WAN Users:

start:  .  .  .

finish:  .  .  .

Log:

---

**Click on Apply**