

# Tech Note - 07

Surveillance Systems that Work!™



## Connecting PC Based DVR to the Internet

The following tutorial is not intended to be a complete discourse on the subject. Each installation – due to the diverse network hardware on the market – is different. This tutorial is meant to be a guide. The examples are from a specific network but the concepts translate to every network and its respective connection to the Internet.

### General Overview

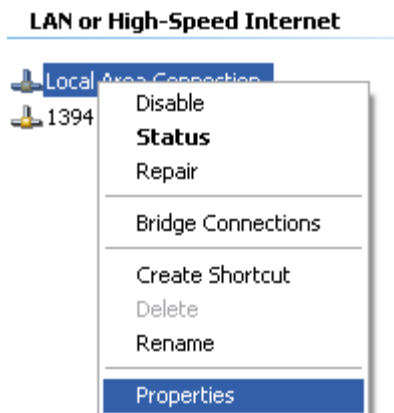
It is accepted that the reader of this Tech Note is familiar with the basic terminology of Windows Network Systems.

In order to connect a **GuardDog Surveillance Systems** PC-Based (using DiViS hardware) to the Internet, it is first necessary to:

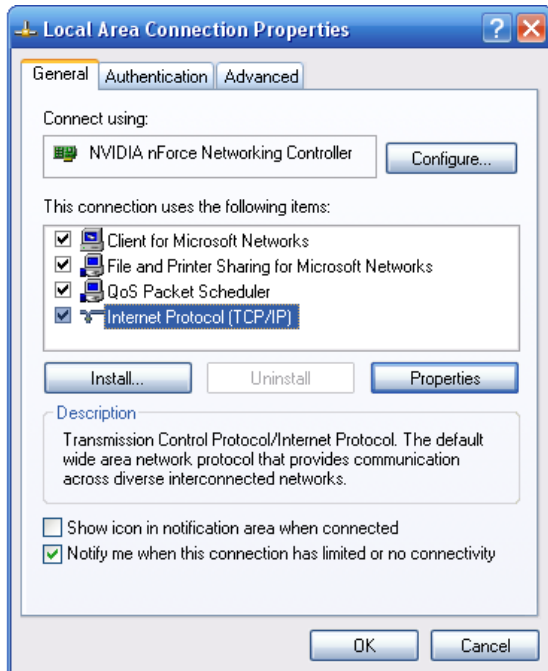
1. Establish a network connection. Please refer to Windows documentation if you do not know how to accomplish this.
2. We suggest that rather than allowing Windows to “Automatically configure your DVR computer’s IP address, you select Manual Setup and force an internal static IP address.



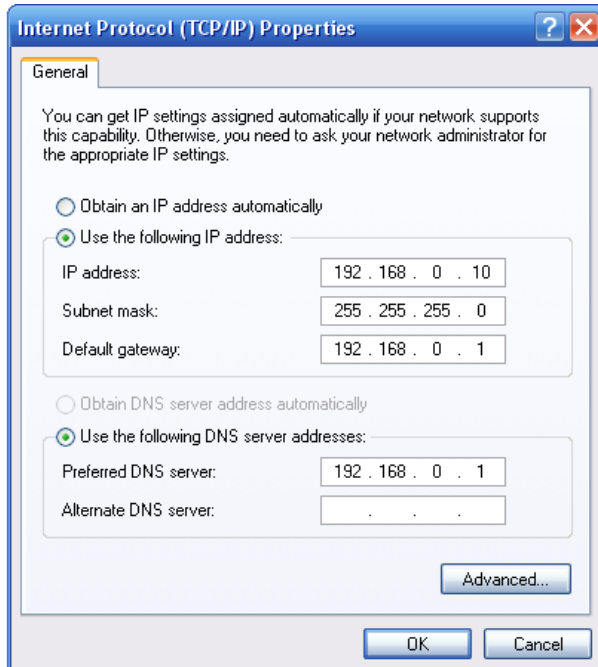
- From the Windows Control Panel, select the Network Connections icon



- Locate your Local Area Network Connection, Right-Click on it and select Properties



- Move down to **Internet Protocol (TCP/IP)** and select Properties...



- The following screen will appear...

- Notice “Obtain an IP address automatically” **IS NOT** checked. This provides the user the ability to manually assign a fixed (or static) **INTERNAL IP** address. The Internal IP address is going to be a function of the network the DVR is connected to and the **DEFAULT GATEWAY** will be the internal IP address that the router connected to the Internet is assigned.

In our example above...

The DVR is assigned and internal IP address of: 192.168.0.10  
 The Network Subnet Mask is: 255.255.255.0  
 The Default Gateway (Router’s int. IP address) is: 192.168.0.1

Furthermore, we’re forcing the DVR to use the DNS server address:

192.168.0.1 (i.e. the internal IP address of the router).

### 3. Port Forwarding (i.e. Opening Router Ports to the DVR Computer)

- Once the DVR computer’s network connection, Internet connection and internal IP address are established, it is necessary to open your router ports to the DVR PC to allow transmission of system information via the Internet.

This process is different (yet similar) for every router.

The router Port Forwards (Ports that need to be opened to the internal IP address of the DVR) are as follows:

Port 80	Firewall exclusion for DirectWeb
Port 3000	Image transmission
Port 3001	Command (including PTZ) transmission
Port 3003	Setting information transmission
Port 3007	Network transmission speed and bandwidth control
Port 8800	Audio data transmission

The following page details “typical” router port forward settings...

- :: Virtual Server
- :: Applications
- :: Filters
- :: Firewall
- :: DMZ
- :: Performance
- :: WAN (EVDO)

Virtual Server

**Virtual Server**

Virtual Server is used to allow Internet users access to LAN services.

Enabled  Disabled

Name

Private IP

Protocol Type

Private Port

Public Port

Schedule  Always

From Time  :  AM To  :  AM

Day  To

**Virtual Servers List**

Name	Private IP	Protocol	Schedule	
<input checked="" type="checkbox"/> GD1	192.168.0.15	Both 80/80	always	
<input checked="" type="checkbox"/> GD2	192.168.0.15	Both 3000/3000	always	
<input checked="" type="checkbox"/> GD3	192.168.0.15	Both 3001/3001	always	
<input checked="" type="checkbox"/> GD4	192.168.0.15	Both 3003/3003	always	
<input checked="" type="checkbox"/> GD5	192.168.0.15	Both 3007/3007	always	
<input checked="" type="checkbox"/> GD6	192.168.0.15	Both 8800/8800	always	

GD1..GD6 are names assigned by the system administrator – they could be anything. We chose GD1..GD6 as aliases for our GuardDog DVR. They easily could have been DVR1..DVR6 but since we often have more than one DVR connected to the Internet, DVR would not mean much to GuardDog Video.

4. Read your Router documentation... but... once you've made internal router port assignment changes, it is usually necessary to re-boot the router. Follow your specific instructions – you should now be connected to the Internet.

The first test is can you (from the DVR) get out to the Internet. To test, open...

Internet Explorer



If you're connected to the Internet, Internet Explorer will open your default "Home Page" – i.e. MSN, Google, Yahoo, etc.

If Internet Explorer does not open your home page, then check your Internet Explorer settings...

Tools – Internet Options – Connections – LAN Settings

Internet Explorer usually suggests your LAN Setting should be set to "Automatically Detect Settings." Try this first and if still not successful, uncheck "Automatically detect settings" then select "Use automatic configuration script" and set to your router's internal IP address (192.168.0.1 in our example above).

5. Once you know you're connecting to the Internet, you have two choices to view your DVR from a remote computer...
  - A. Open Internet Explorer and type in your network's external IP address. (If you don't know how to find your external IP address, open Internet Explorer from the DVR and type [www.ipchicken.com](http://www.ipchicken.com) into the address bar and select go. The result will be the external IP address.
  - B. Follow setup procedures (GuardDog TN-08) for installing DiViS-Net.

We suggest (for full system control and configuration capability – from a remote computer – we suggest option B above.

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