



Setting up a Linksys AG241 Router with a DS2 for Remote Viewing

Introduction

This guide will explain how to set up a Digital Sprite 2 (NetVu Connected) through a Linksys AG241 ADSL router so that images can be viewed and cameras controlled remotely.

Cables

If you're connecting directly to the DS2 from a PC, you require a 'crossover' network cable between your PC and the DS2. If you're connecting through the router, then you connect both to the router using 'straight through' network cables.

IP Addresses

You'll need to ensure that your computer, the Digital Sprite, and the router are all on the same subnet. In the simplest terms, this means that the first 3 segments of their IP addresses are the same.

The default IP address for the router is *192.168.1.1*. The sprite must also have an IP address in the range *192.168.1.xxx* – where xxx is a unique number in the range 2-255. Default gateway must be set to the IP address of your router, which by default is *192.168.1.1*.

Check the DS2 manual for instructions on setting the IP address of your unit. This must be set manually rather than using DHCP.

By default, your computer will be set to get an IP address automatically from the router, and this won't need setting. If you need to set it manually, refer to your computer's help files. The IP provided by the router to the first device that connects is *192.168.1.64*.

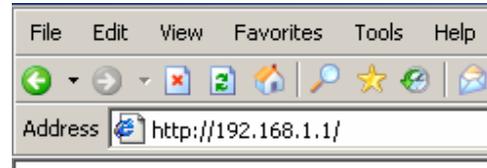
Ports

The DS2 requires several TCP/IP network ports forwarded to it. A list of these ports is below:

21	TCP	Needed for updating software on the unit remotely.
23	TCP	Needed for issuing remote administration commands.
80	TCP	Needed for remote viewing of images, and remote administration through web pages.
1025	UDP	Needed for remote telemetry commands to be received at the unit.
2074	UDP	Needed for remote audio.
2075	UDP	Needed for remote audio.
5201	TCP	Provides access to information on what's happening in the unit for troubleshooting purposes.

Connecting to the Router

Open up your web browser (normally Internet Explorer) and in the address bar, type in the IP address of your router, and press return.



The first thing that you see should be a popup box prompting for a username and password.

The default username and password are:
Username: admin
Password: admin

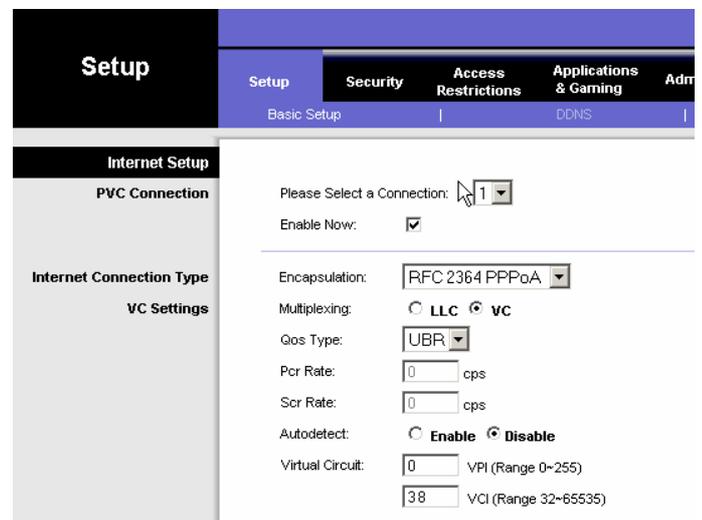
Router Setup

ADSL Setup

After entering the username and password, you'll be prompted with the "Basic setup" page of the router.

Fill in the information on this page with the details provided by your ISP.

Everything between "Internet Connection Type" and "PPoA Settings" is relevant to your ADSL connection. Contact your ISP for help with these settings.





Setup Options

There are two options to enable viewing over the internet: Port Forwarding, and a DMZ (Demilitarized Zone).

Port Forwarding allows you to selectively forward inbound connections to your DS2. This has the advantage of being secure – only connections which you have specifically allowed will be made, so potential security problems are reduced. Other inbound connections are ignored. This is more complex to set up than a DMZ.

Putting the DS2 in a DMZ forwards all inbound connections to the unit. This has one big disadvantage – security. Anyone can attempt to connect to any port on the DS2, leaving the unit open to any future security vulnerabilities. This is the simplest set up process, only 3 clicks on this router.

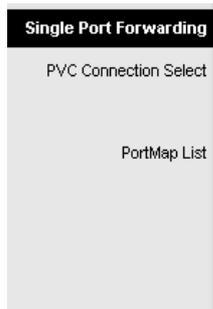
(Note: At this time, there are no known vulnerabilities for the DS2.)

Option One – Port Forwarding

Click on the ‘Applications and Gaming’ button to get to the port forwarding pages of the router setup.



The port forwarding page of the router setup.



Please select a pvc connection:

Application	External Port	Internal Port	Protocol	IP Address	Enabled
HTTP	80	80	TCP	192.168.1.0	<input type="checkbox"/>
FTP	21	21	TCP	192.168.1.0	<input type="checkbox"/>
FTP	22	22	TCP	192.168.1.0	<input type="checkbox"/>

This page lists a set of rules, each of which tells the router to forward connections to a computer on the inside of the network.

- Application** A label explaining what the port is used for.
- External Port** The port that you’re listening to on the internet side of the router.
- Internal Port** The internal port that you want to forward the connection to. (Normally the same as the external port.)
- Protocol** Either TCP or UDP.
- IP Address** The IP address of your DS2.
- Enabled** Must be ticked for this rule to be active.

Several of the rules you need are already in by default, and just need enabling. They are:

- HTTP (port 80)
- FTP (port 21 only)
- Telnet (port 23)

Application	External Port	Internal Port	Protocol	IP Address	Enabled
HTTP	80	80	TCP	192.168.1.2	<input checked="" type="checkbox"/>
FTP	21	21	TCP	192.168.1.2	<input checked="" type="checkbox"/>
Debug	5201	5201	TCP	192.168.1.2	<input checked="" type="checkbox"/>
Telnet	23	23	TCP	192.168.1.2	<input checked="" type="checkbox"/>
Telemetry	1025	1025	UDP	192.168.1.2	<input checked="" type="checkbox"/>
Audio	2074	2074	UDP	192.168.1.2	<input checked="" type="checkbox"/>
Audio	2075	2075	UDP	192.168.1.2	<input checked="" type="checkbox"/>
NTP	123	123	UDP	192.168.1.0	<input type="checkbox"/>
POP3	110	110	TCP	192.168.1.0	<input type="checkbox"/>

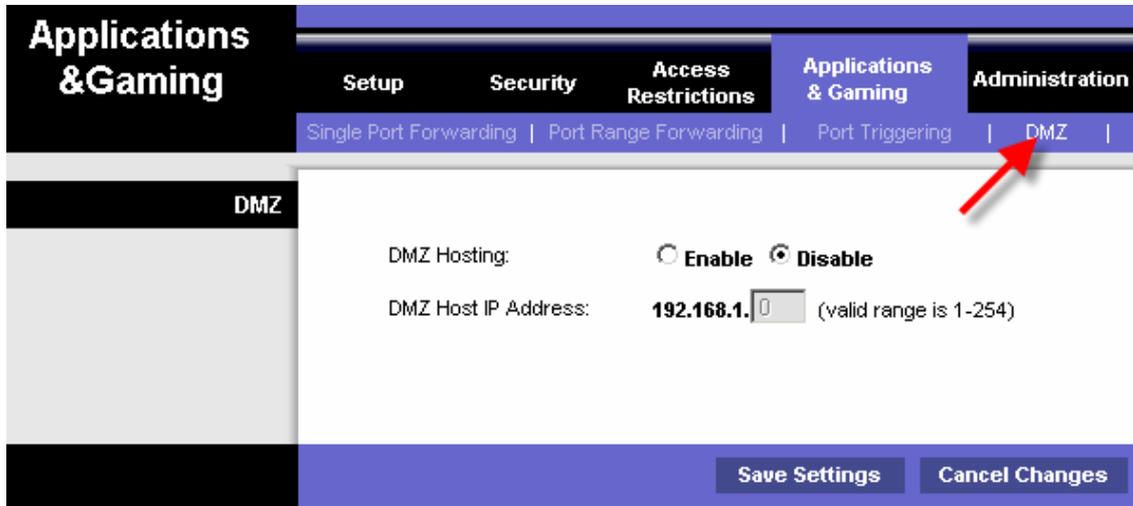
This is an example of what your port forwarding page should look like after adding all the needed ports.

See page 1 of this guide for a list of all required ports and what they’re needed for.

Click on ‘Save Settings’ and the setup is complete.

Option 2 – DMZ (Demilitarized Zone)

In the 'Applications and Gaming' menu click on DMZ (highlighted below). Enable the DMZ, and enter the IP address of the DS2 in the box.



The screenshot shows the router's configuration interface. The 'Applications & Gaming' menu is selected, and the 'DMZ' sub-menu is highlighted with a red arrow. The 'DMZ' settings are displayed, including 'DMZ Hosting' (set to 'Disable') and 'DMZ Host IP Address' (set to '192.168.1.0').

Applications & Gaming	Setup	Security	Access Restrictions	Applications & Gaming	Administration
	Single Port Forwarding	Port Range Forwarding	Port Triggering	DMZ	

DMZ

DMZ Hosting: Enable Disable

DMZ Host IP Address: 192.168.1.0 (valid range is 1-254)

Save Settings Cancel Changes

Click on 'Save Settings' and the setup is complete.