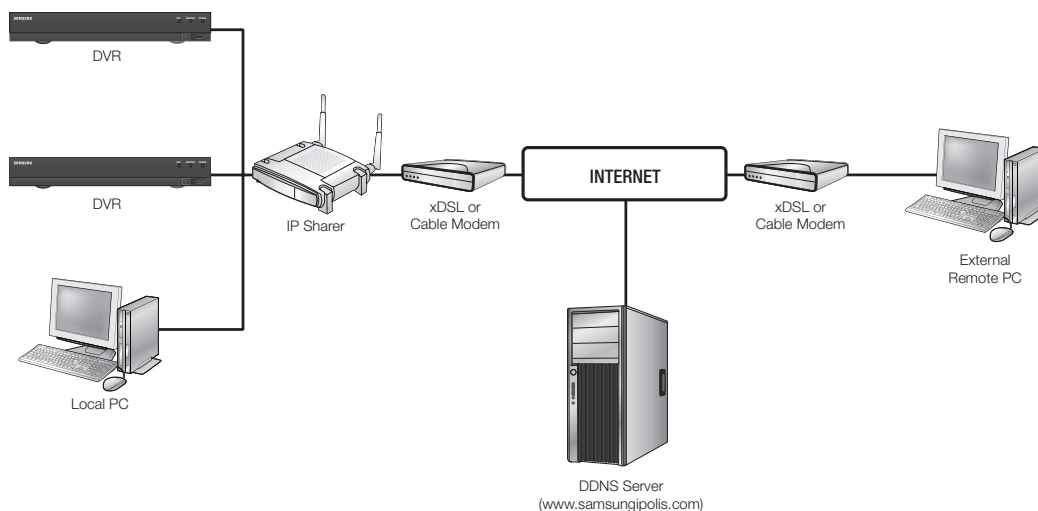# Quick Network Setup Guide

Connecting to the network using a router

By using a router, you can connect your computer and 1 ~ 3 DVR machines to the internet by sharing 1 internet connection via xDSL or cable modem.

This installation guide aims at casual users, not for network professionals.

For proper use of the router, strictly follow the steps 1 to 5.

Configure your router, computer and DVR equipments as described in the following steps.

Step 1. Connecting Cables

Step 2. Connecting your local computer to the router
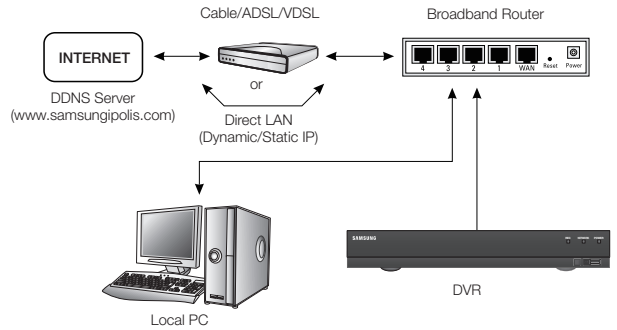
Step 3. Connecting DVR to the router

Step 4. Connecting the router to the internet service line

Step 5. Configuring router's port forwarding

Step 6. Accessing DVR using DDNS service in dynamic IP environment
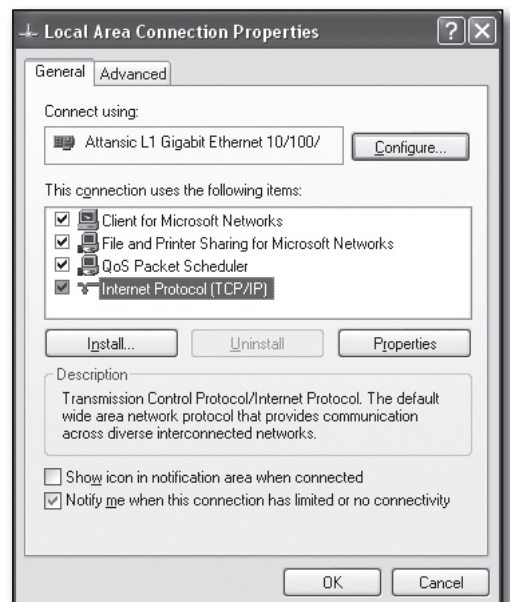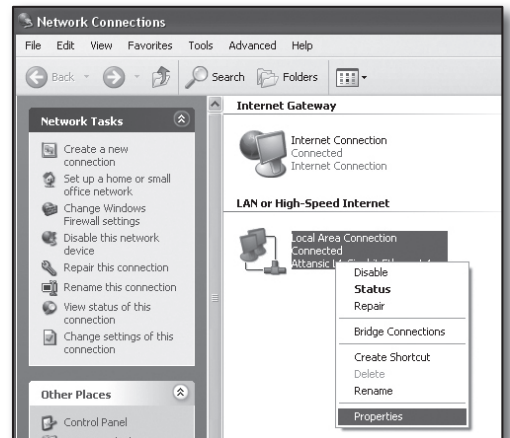
Step 1. Connecting Cables

1. Connect the internet service line (xDSL/Cable Modem) to your router's Internet (WAN) port.

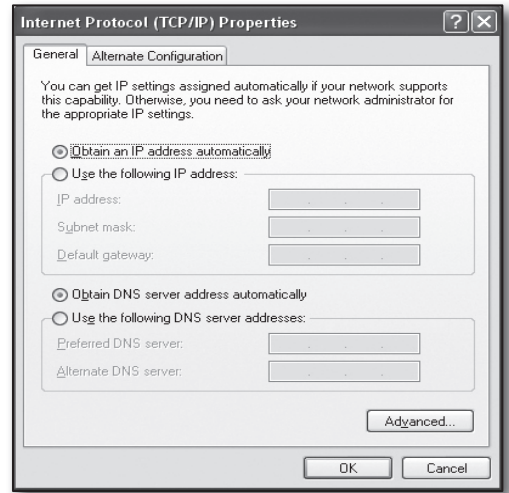2. Connect Ethernet cables from your computer and DVRs to the LAN (1 to 4) ports of the router.

Step 2. Connecting your local computer to the router

Step 2.1 Connection Setup

1. Click [**Start**] on your computer.

2. Open the <**Control Panel**>-<**Network Connections**>. The "**Network Connections**" window appears.

3. Select <**Local Area Connection**> and right click on it.

4. Select <**Properties**>.

5. "**Local Area Connection Properties**" window appears.
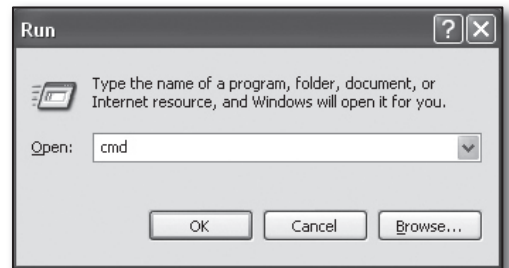
6. Select <**Internet Protocol (TCP/IP)**> and click [**Properties**] button.

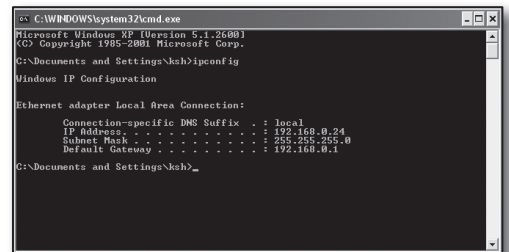7. Select <**Obtain an IP address automatically**> and <**Obtain DNS server address automatically**>, and click [**OK**] button.

8. Click [**OK**] button to finish the setup.

Step 2.2 Confirming the Connection

1. Click [**Start**] on your computer.

2. Click [**Run…**].

3. On the appeared command dialog, type 'cmd' in the <**Open**> box and click [**OK**].

4. In the DOS command window [**cmd.exe**], type 'ipconfig' and press [**Enter**].

5. Run the Internet Explorer, and enter the <**Default Gateway**> IP address found from the "**cmd.exe**" window into the address field, and press [**Enter**].

6. The router's login page will appear if all connections are properly established.
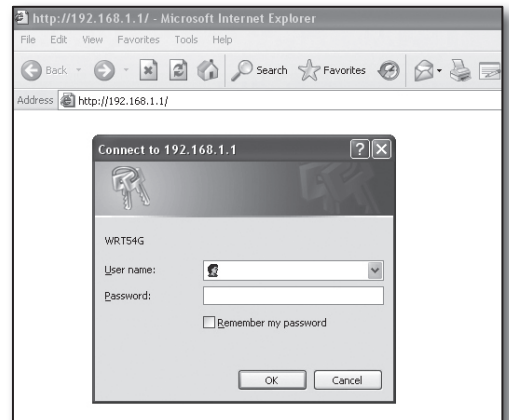
7. If the connection does not establish, check all cable connections and go to step 2.1 and select <**Repair**>.
On the "**Local Area Connection Status**" window, click <**Support**> tab and check <**Default Gateway**> if matches to the one found in the [**cmd.exe**], and check the connection again.
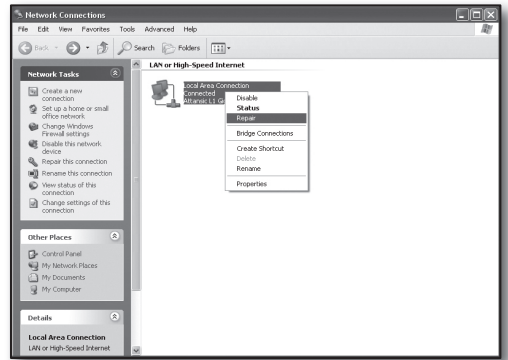
Step 3. Connecting DVR to the router

Step 3.1 Configuring DVR router setup

1. Press the [**MENU**] button on the remote control.

2. Use the left/right button (◄►) to select <**Network**>.
Network menu is selected.

3. Use the up/down buttons (▲▼) to move to <**Connection Mode**>, and press [**ENTER**] button.

4. Select <**Interface**>.
A window of connection mode setup appears.

5. Use direction buttons (▲▼◄►) to move to a desired item.

6. Enter the <**IP address**>.
The IP address consists of 4 fields, and the first 3 fields should be same to those of <**Default Gateway**> address of your computer which can be found in Step 2, and the last field should be unoccupied number (between 2 and 254).

   - ex) IP : 192.168.1.200

7. Enter the <**Gateway**> and <**Subnet Mask**> as same to those of your computer found in Step 2.

8. Set the <**Device Port**> and <**HTTP Port**>.
Set the Device Port and HTTP Port by referring to next page.
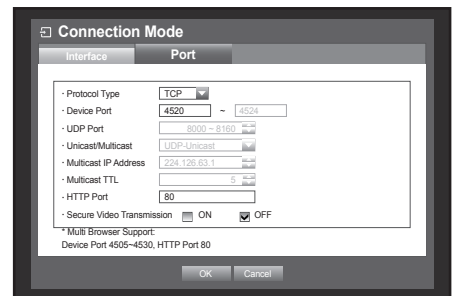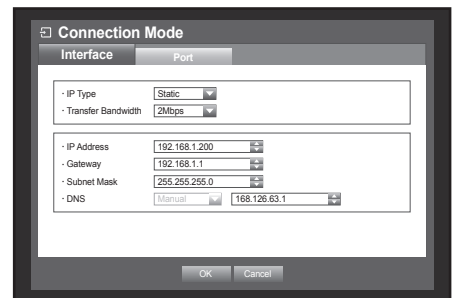
What is port?

As usual, the <**HTTP Port**> uses port 80.

If the port is not setted, it is automatically regarded to 80 in http protocol.

For example, http://www.yahoo.com and http://www.yahoo.com:80 are regarded the same.

Hence, if the <**HTTP Port**> has been changed other than 80, you need to specify the address as: http://<**IP ADDRESS**>:<**HTTP Port**>

 ▪ ex) http://192.168.1.200:80 to connect to the DVR using internet browser.
(Only when the port is set to 80, you can omit the port in the address.)

It is recommended to set <**HTTP Port**> to port number between 1024 and 65535.

If the port is not set to 80, accessing can be restricted depending on your service provider's security policy or firewall configuration.

DVR uses <**HTTP Port**> and <**Device Port**> for web connections.

<**HTTP Port**> is used for accessing DVR by using an internet browser.

<**Device Port**> is used for receiving video from DVR to internet browser.

> ▪ When configuring multiple DVR, <**HTTP Port**> and <**Device Port**> settings should be configured differently for each device.
>
> ▪ ex) DVR #1 Device Port : 4520, HTTP Port : 80
> DVR #2 Device Port : 50000, HTTP Port : 2000

Step 3.2 Checking DVR connection on your computer

1. Run the Internet Explorer, and enter the <**IP ADDRESS**> and <**HTTP Port**> of the DVR into the address, and press [**Enter**].

 ▪ ex) http://192.168.1.200:80

2. If the connection establishes properly, the Web Viewer screen appears.

3. If the connection fails, check Steps 1, 2 and 3 to confirm the connection setup.
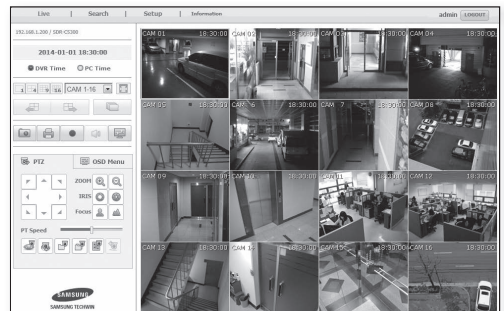
Internet connection setup method and steps may differ from routers, check your router's setup method.

Connection types according to your internet service

Setting the internet connection may differ from internet service types, check your environment before proceeding and select the appropriate connection type.

- DHCP(Dynamic) : IP environment which allocates IP address automatically.
- Static(Fixed) : IP environment using public IP addresses.
- PPPoE: Common in DSL environments, which requires ADSL access ID and password.
  Ask your internet service provider for the user ID and password.
  - ▪ Name of each type described above may differ from router manufacturers.
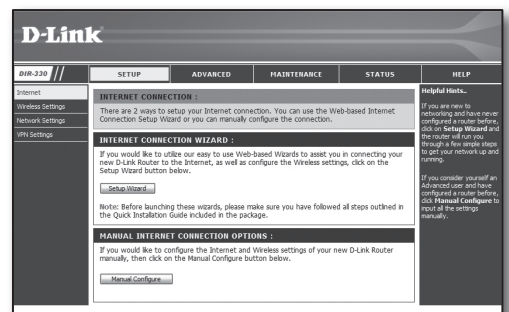

Step 4.1 Connection guide by routers

Step 4.1-Case 1. D-LINK DIR-330

1. Run the Internet Explorer and enter the <**Default Gateway**> found in Step 2 into the address field and press [**Enter**].

2. When the router login screen appears, enter the <**User name**> and <**Password**>.
   Refer to the router user manual for ID and password.

3. Select internet connection method from connection setup wizard and manual setup.
   Selecting the Internet Connection Setup Wizard automatically moves to the next step.

4. For manual setups, click <**Manual Configure**>.

5. Select your <**Internet Connection Type**>.

Dynamic IP Address Environment

6. Select <**Dynamic IP (DHCP)**>.

7. Click [**Save Settings**] button.

Static IP Address Environment

6. Select <**Static IP**>.

7. Enter the <**IP Address**>, <**Subnet Mask**>, and <**ISP Gateway Address**> assigned by your ISP.

8. Click [**Save Settings**] button.

ADSL Environment

6. Select <**PPPoE (Username/Password)**>.

7. Enter your <**User Name**> and <**Password**>.
Ask your internet service provider for the username and password.

1. Run the Internet Explorer and enter the <**Default Gateway**> found in Step 2 into the address field and press [**Enter**].

2. Enter the user name and password when the router login window appears.
   Refer to the router user manual for user name and password.

3. Click <**Setup**>-<**Basic Settings**> on the left menu.
   Click <**Setup Wizard**> for automatic setup.

Dynamic IP Address Environment

4. Select <**Get Dynamically From ISP**>.

5. Click [**Apply**] button.

Static IP Address Environment

4. Select <**Use Static IP Address**>.

5. Enter <**IP Address**>, <**IP Subnet Mask**> and <**Gateway IP Address**>.

6. Click [**Apply**] button.

7. It saves the changes.

Updating

To check the connection

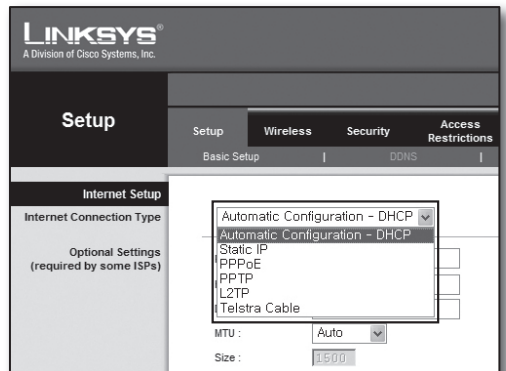Once connected, status indicator <**DHCPClient**> is displayed on the top side of the settings screen.

Router Status

Account Name	WGR614v6
Firmware Version	V1.0.3_1.0.3
Internet Port	
MAC Address	00:D0:59:E1:1B:FE
IP Address	10.1.1.156
DHCP	DHCPClient
IP Subnet Mask	255.255.254.0
Domain Name Server	10.1.1.6
	10.1.1.7

Step 4.1-Case 3. LINKSYS WRT54G

1. Run the Internet Explorer and enter the <**Default Gateway**> found in Step 2 into the address field and press [**Enter**].

2. When the router login screen appears, enter the <**User name**> and <**Password**>.
Refer to the router user manual for ID and password.

Connect to 192.168.1.1

WRT54G

User name:

Password:

☐ Remember my password

OK   Cancel

3. Click <**Internet Setup**>.

4. Select your <**Internet Connection Type**>.
According to your selection of connection type, different settings screen will appear.

LINKSYS®
A Division of Cisco Systems, Inc.

Setup

Setup   Wireless   Security   Access Restrictions

Basic Setup | DDNS |

Internet Setup

Internet Connection Type

Automatic Configuration - DHCP
Automatic Configuration - DHCP
Static IP
PPPoE
PPTP
L2TP
Telstra Cable

Optional Settings
(required by some ISPs)

MTU :   Auto

Size :   1500

Dynamic IP Address Environment

5. Select <**Automatic Configuration – DHCP**>.

6. Click [**Save Settings**] button on the bottom.

Static IP Address Environment

5. Select <**Static IP**>.

6. Enter <**Internet IP Address**>, <**Subnet Mask**>, and <**Gateway**> assigned by your ISP.

7. Click [**Save Settings**] button on the bottom.

ADSL Environment

5. Select <**PPPoE**>.

6. Enter your <**User Name**> and <**Password**>.
   Ask your internet service provider for the username and password.
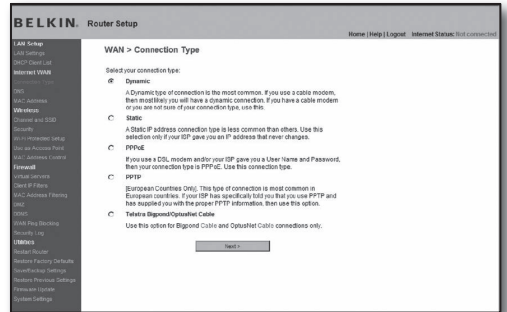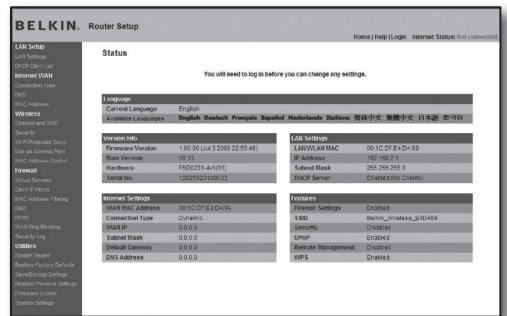
7. Click [**Save Settings**] button on the bottom.

8. Once finished, completion screen appears.

## Step 4.1-Case 4. BELKIN F5D8236-4

1. Run the Internet Explorer and enter the <**Default Gateway**> found in Step 2 into the address field and press [**Enter**].

2. Click <**WAN**>-<**Connection Type**>.
   Select your internet service type.

Dynamic IP Address Environment

3. Select <**Dynamic**> for the connection type and click [**Next>**] button.

4. Enter the <**Host Name**> and click [**Apply Changes**] button.
   - If your ISP provided specific DNS addresses, click <**WAN**>-<**DNS**> and enter the provided DNS addresses.
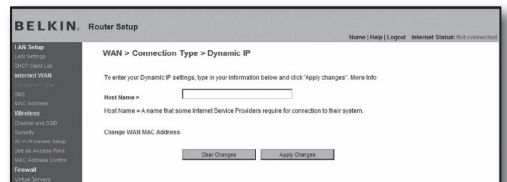
Static IP Address Environment

3. Select <**Static**> for the connection type and click [**Next>**] button.

4. Enter the <**IP Address**> assigned by your ISP.

5. Enter <**Subnet Mask**> and <**ISP Gateway Address**>.

6. Click [**Apply Changes**] button.
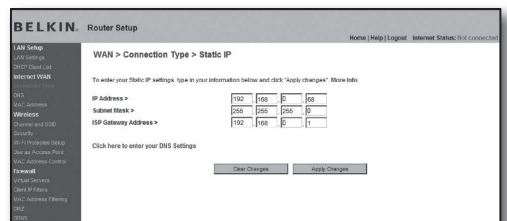
ADSL Environment

3. Select <**PPPoE**> for the connection type and click [**Next>**] button.

4. Enter user name and password.
   Ask your internet service provider for the user name and password.

5. Click [**Apply Changes**] button.
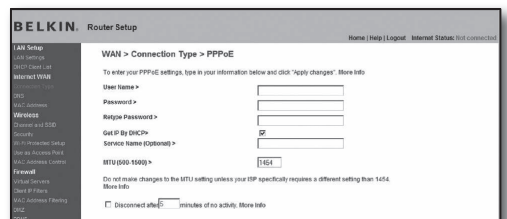
To check the connection

Once connected, status indicator <**Connection**> is displayed on the top side of the settings screen.
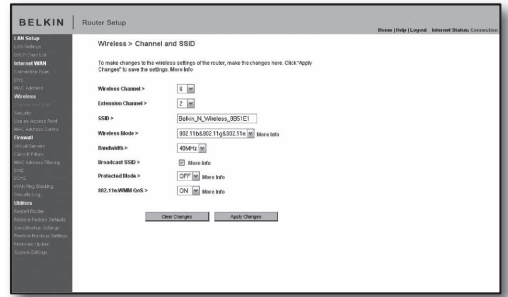
Step 4.1-Case 5. TRENDNET TEW-652BRP

1. Run the Internet Explorer and enter the <**Default Gateway**> found in Step 2 into the address field and press [**Enter**].

2. Enter the user name and password when the router login window appears.
   Refer to the router user manual for ID and password.
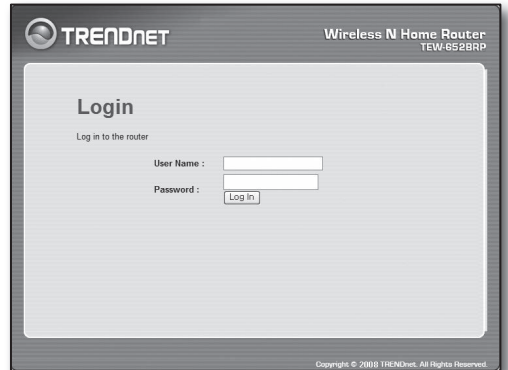
3. Click <**WAN**> on the left menu of he settings screen.

4. Select your <**Connection Type**>.
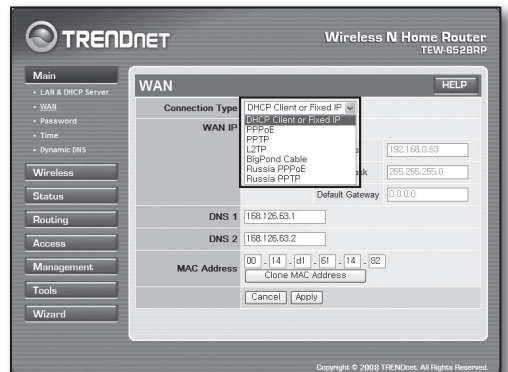
Dynamic IP Address Environment

5. Select <**DHCP Client or Fixed IP**>.

6. Click <**Obtain IP Automatically**>.
   - If your ISP provided specific DNS addresses, click <**WAN**>-<**DNS**> and enter the provided DNS addresses.

7. Click [**Apply**] button on the bottom.

Static IP Address Environment

5. Select <**DHCP Client or Fixed IP**>.

6. Select <**Specify IP**>.

7. Enter the <**IP Address**>, <**Subnet Mask**>, and <**Default Gateway**>.

8. Enter <**DNS1**> and <**DNS2**>.
   - If your ISP provided specific DNS addresses, click <**WAN**>-<**DNS**> and enter the provided DNS addresses.

9. When finished, click [**Apply**] button on the bottom.

ADSL Environment

5. Select <**PPPoE**>.
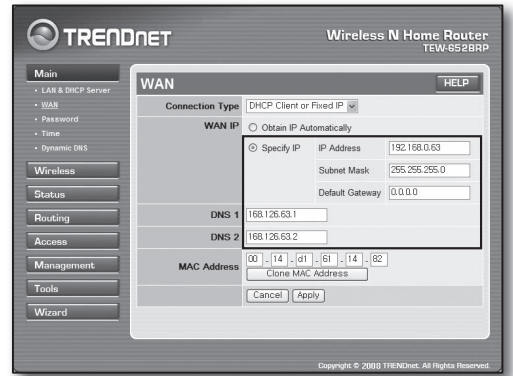
6. Select appropriate method of obtaining <**WAN IP**> address.

7. Enter the <**Service Name**>, <**User Name**> and <**Password**>. Ask your internet service provider for the user name and password.
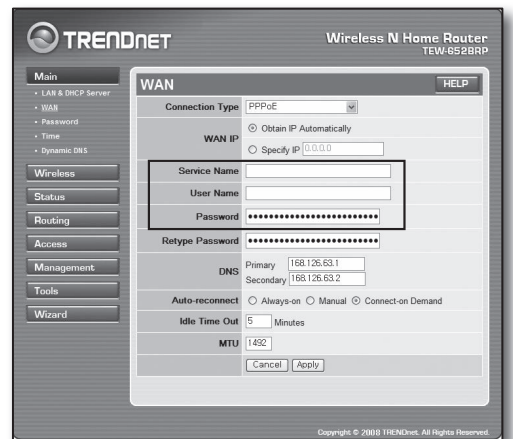
To check the connection

8. Click <**Status**>-<**Device Information**> on the left menu, and check the server's current status at <**DHCP Server**> under the LAN category.
   When the connection establishes successfully, it displays <**Enabled DHCP Table**>.
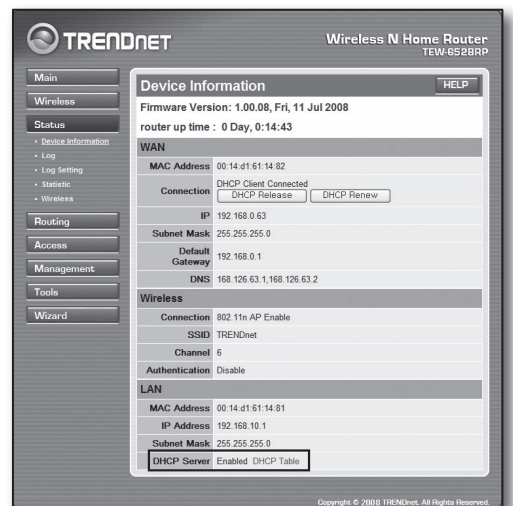
Step 4.2 Checking the connection to the internet
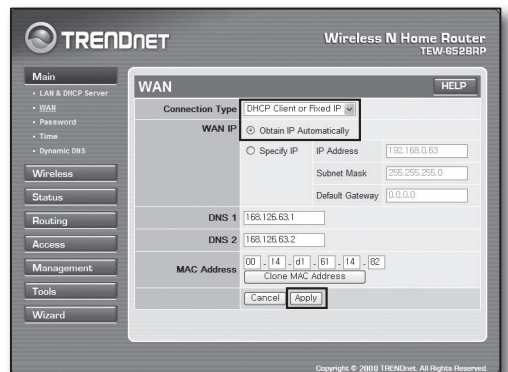
1. Run the Internet Explorer on your computer.

2. Enter the <**Default Gateway**> found in the Step 2 into the address field and press [**Enter**].

3. Click Status tab on the router menu.

4. Check the WAN (Internet) connection status and WAN (Internet) IP address.

5. When the connection establishes successfully, it displays <**DHCP Client Connected**> message and the WAN (Internet) IP shows an address.
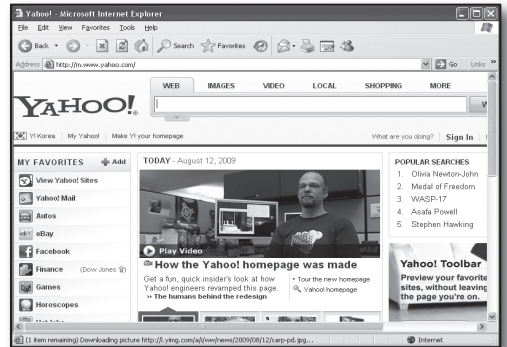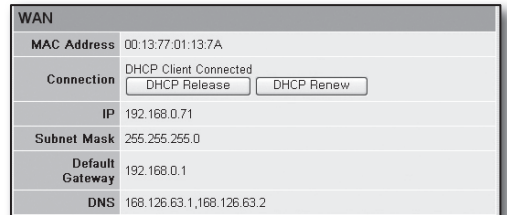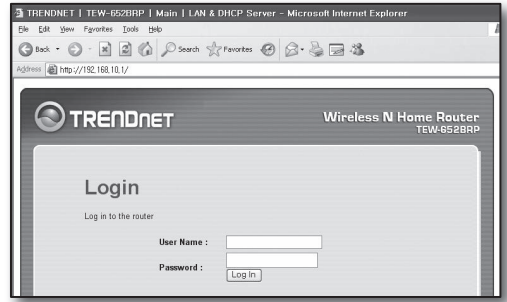
6. Using the Internet Explorer, access Yahoo, Google and other well known web servers.

7. If the connection is properly set, Internet Explorer displays visiting web server's page correctly.

8. If connection fails, go to Step 4 and check again.

Step 5. Port forwarding

Port forwarding should be configured for accessing from the outside of the router network to a computer or DVR is connected to the router.
Configure your router's port forwarding as followings.

What is port forwarding?

It is a port mapping function of <**Router's WAN (Internet) IP: Port**> to <**DVR's IP: Port**>, that helps opening a communication channel between inside and outside of the private LAN

Since one DVR uses 2 ports for communication, port forwarding setup for both 2 ports should be configured.

> ▪ **If only <HTTP Port> is configured for port forwarding:**
> Accessing through the web browser is possible but video is not received since the <**Device Port**> for video data communication is not configured for port forwarding.
> **If only <Device Port> is configured for port forwarding:**
> Accessing through the web browser is impossible since the <**HTTP Port**> for the communication is not configured for port forwarding.

In the below, port forwarding methods for each router are explained.

For other routers not guided herein, refer to the user manual of the router.

Step 5.1 Port forwarding guide by routers

Run the Internet Explorer and enter the <**Default Gateway**> of the computer, which is the router's IP address found in Step 2, into the address field and pres [**Enter**].

Step 5.1-Case 1. D-LINK DIR-330

1. Select <**Advanced**>.
2. Set the <**HTTP Port**> for port forwarding.

    2⁻¹. Check the <**Checkbox**> to select it.

    2⁻². Enter a name for the DVR port in the <**Name**> field.

    - ex) DVR1

    2⁻³. In the <**Public Port**>, enter the <**HTTP Port**> defined in Step 3.

    - ex) 80~80

    2⁻⁴. In the <**Private Port**>, enter the <**HTTP Port**> defined in Step 3.

    - ex) 80~80

    2⁻⁵. In the <**IP Address**>, enter the DVR's IP address defined in Step 3.

    - ex) 192.168.1.200

    2⁻⁶. For the <**Traffic Type**>, select <**Any**>.

3. Set the <**Device Port**> for port forwarding.

    3⁻¹. Check the <**Checkbox**> to select it.

    3⁻². Enter a name for the DVR port in the <**Name**> field.

    - ex) DVR2

    3⁻³. In the <**Public Port**>, enter the <**Device Port**> defined in Step 3.

    - ex) 4520~4524

    3⁻⁴. In the <**Private Port**>, enter the <**Device Port**> defined in Step 3.

    - ex) 4520~4524

    3⁻⁵. In the <**IP Address**>, enter the DVR's IP address defined in Step 3.

    - ex) 192.168.1.200

4. After completion, click [**Save Settings**] button.

Step 5.1-Case 2. NETGEAR 614SS

1. Click <**Port Forwarding / Port Triggering**> in the left menu.
2. Select <**Port Forwarding**>.
3. Set the <**HTTP Port**> for port forwarding.

    3⁻¹. Set the <**Add Custom Service**> for port forwarding.

3⁻². Enter a name for the DVR port in the <**Service Name**> field.
- ex) DVR1

3⁻³. Enter the <**Starting Port**> and <**Ending Port**> while matching to that of <**HTTP Port**> defined in Step 3.
- ex) 80

3⁻⁴. In the <**Server IP Address**>, enter the DVR's IP address defined in Step 3.
- ex) 192.168.1.200

3⁻⁵. Click [**Apply**] button to finish the setting.

4. Set the <**Device Port**> for port forwarding.

  4⁻¹. Click <**Add Custom Service**> button.

  4⁻². Enter a name for the DVR's <**Device Port**> in the <**Service Name**> field.
- ex) DVR2

  4⁻³. Enter the <**Start Port**> and <**End Port**> while matching to that of <**Device Port**> defined in Step 3.
- ex) 4520,4521,4522,4523,4524

  4⁻⁴. In the <**Server IP Address**>, enter the DVR's IP address defined in Step 3.
- ex) 192.168.1.200

  4⁻⁵. Click [**Apply**] button to finish the setting.

Step 5.1-Case 3. LINKSYS WRT54G

1. Click <**Applications & Gaming**>.

2. Set the <**HTTP Port**> for port forwarding.

  2⁻¹. Enter a name for the DVR port in the <**Application**> field.
- ex) DVR1

  2⁻². In the <**Start**> and <**End**> fields, enter the <**HTTP Port**> defined in Step 3.
- ex) 80

  2⁻³. Select [**Both**] for the <**Protocol**>.

  2⁻⁴. In the <**IP Address**>, enter the DVR's IP address defined in Step 3.
- ex) 192.168.1.200

  2⁻⁵. Check the checkbox of <**Enable**> column for the specified port.

3. Set the <**Device Port**> for port forwarding.

  3⁻¹. Enter a name for the DVR port in the <**Application**> field.
- ex) DVR2

  3⁻². In the <**Start**> and <**End**> fields, enter the <**Device Port**> defined in Step 3.

  3⁻³. Select [**Both**] for the <**Protocol**>.

  3⁻⁴. In the <**IP Address**>, enter the DVR's IP address defined in Step 3.
- ex) 192.168.1.200

  3⁻⁵. Check the checkbox of <**Enable**> column for the specified port.

4. Click [**Save Settings**] button on the bottom.

5. Once finished, completion screen appears.

Settings are successful.
[Continue]

## Step 5.1-Case 4. BELKIN F5D8236-4

**1.** Click <**Firewall**>-<**Virtual Servers**> on the left menu.

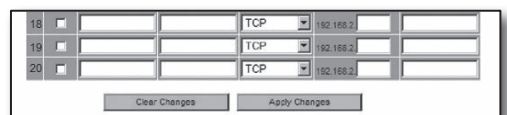**2.** Set the <**HTTP Port**> for port forwarding.

   2⁻¹. Check the <**Enable**> checkbox to mark selected.

   2⁻². Enter a name for the DVR port in the <**Description**> field.
      ▪ ex) DVR1

   2⁻³. In the <**Inbound port**>, enter the <**HTTP Port**> defined in Step 3.
      ▪ ex) 80

   2⁻⁴. For the <**Type**>, select [**Any**].

   2⁻⁵. In the <**Private IP address**>, enter the DVR's IP address defined in Step 3.
      ▪ ex) 192.168.1.200

   2⁻⁶. In the <**Private port**> field, enter the <**HTTP Port**> defined in Step 3.
      ▪ ex) 80
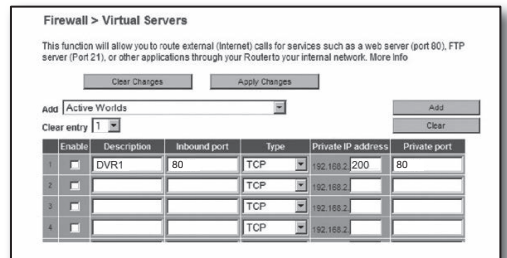
3. Set the <**Device Port**> for port forwarding.

   3⁻¹. Check the <**Enable**> checkbox to mark selected.

   3⁻². Enter a name for the DVR port in the <**Description**> field.
      ▪ ex) DVR2

   3⁻³. In the <**Inbound port**> fields, enter the <**Device Port**> defined in Step 3.
      ▪ ex) 4520,4521,4522,4523,4524

   3⁻⁴. For the <**Type**>, select [**Any**].

   3⁻⁵. In the <**Private IP address**>, enter the DVR's IP address defined in Step 3.
      ▪ ex) 192.168.1.200

   3⁻⁶. In the <**Private port**> fields, enter the <**Device Port**> defined in Step 3.
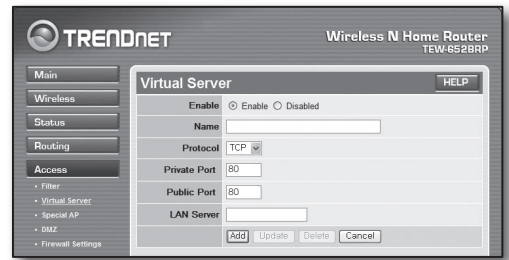   ▪ ex) 4520,4521,4522,4523,4524
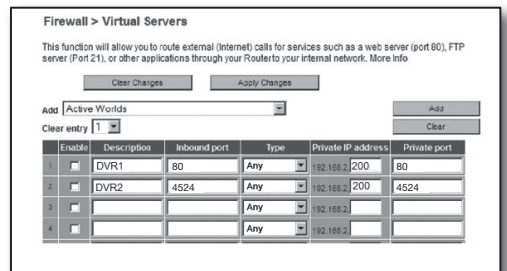
4. Once finished, click [**Apply Changes**] button.

1. Click <**Access**>-<**Virtual Server**> on the left menu.

2. Set the <**HTTP Port**> for port forwarding.

   2⁻¹. Select [**Enable**] for the item <**Enable**>.

   2⁻². Enter a name for the DVR port in the <**Name**> field.
      ▪ ex) DVR1

   2⁻³. Select [**TCP**] for the item <**Protocol**>.

   2⁻⁴. In the <**Private Port**> and <**Public Port**> fields, enter the <**HTTP Port**> defined in Step 3.
      ▪ ex) 80

   2⁻⁵. In the <**LAN Server**>, enter the DVR's IP address defined in Step 3.
      ▪ ex) 192.168.1.200

   2⁻⁶. Click [**ADD**] button.

3. Set the <**Device Port**> for port forwarding.

   3⁻¹. Select [**Enable**] for the item <**Enable**>.

   3⁻². Enter a name for the DVR port in the <**Name**> field.
      ▪ ex) DVR2

   3⁻³. Select [**TCP**] for the item <**Protocol**>.

   3⁻⁴. In the <**Private Port**> and <**Public Port**> fields, enter the <**Device Port**> defined in Step 3.
      ▪ ex) 4520,4521,4522,4523,4524

   3⁻⁵. In the <**LAN Server**>, enter the DVR's IP address defined in Step 3.
      ▪ ex) 192.168.1.200

   3⁻⁶. Click [**ADD**] button.

4. Settings completed.
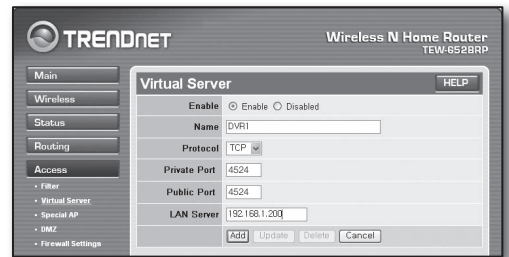
Step 5.2 Checking port forwarding on your computer

1. Confirm the router's <**WAN (Internet) IP**> which has been checked in Step 4.2 again.

2. Confirm the DVR's <**HTTP Port**> checked in Step 3.1 again.

3. Run the Internet Explorer and enter http://<**WAN (Internet) IP**>:<**HTTP Port**> into the address field and press [**Enter**].

4. DVR's Web Viewer screen appears if port forwarding configuration has been properly set.

5. If you cannot access to the Web Viewer or accessed but no video is displayed, go to the Step 5.1 and check again.

   ▪ **If only <HTTP Port> is configured for port forwarding:**
   Accessing through the web browser is possible but video is not received since the <**Device Port**> for video data communication is not configured for port forwarding.
   **If only <Device Port> is configured for port forwarding:**
   Accessing through the web browser is impossible since the <**HTTP Port**> for the communication is not configured for port forwarding.

Step 6. Accessing DVR using DDNS service in dynamic IP environment

Since the router's WAN IP address may vary in xDSL/Cable connections hiring dynamic IP allocations, DDNS (Dynamic Domain Name Server) service is provided for accessing the DVR with fixed DDNS address in dynamic IP network environments.

Step 6.1 DVR DDNS configuration

1. Use the up/down buttons (▲▼) in <**Network**> window to move to <**DDNS**>, and press [**ENTER**] button.

2. Use virtual keyboard to enter user inputs.

   ▪ Refer to "**Using Virtual Keyboard**".

• If selected <**OFF**> or <**iPOLiS**>, input fields are deactivated.

• If you select <**iPOLiS**>, the "DDNS Host Address" item will be displayed.

   - Type your set ID in <**Product ID**> field.
     More specific information is in "**iPOLiS DDNS Setting**".

   - Select <**Use**> in <**Quick Connect**> menu. After finishing "**iPOLiS DDNS Setting**", you can connect your DVR set with the address <**http://www.samsungipolis.com/ SDRC5300HOMEDVR**>.

      ▪ The router used should support uPNP Port Forwarding function.

      ▪ Note that uPNP Port Forwarding does not support UDP protocol.

      ▪ If the program fails to read uPNP Port Forwarding List, try again after restarting the computer and router.

**3.** When the DDNS setup is done, press <**OK**>.
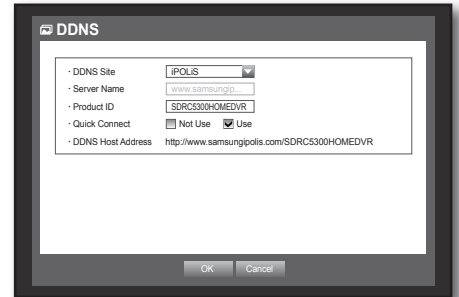
Step 6.2 Accessing DVR using DDNS address

1. Run the Internet Explorer and enter the DDNS address found in Step 6.1 into the address field end press [**Enter**].

2. DVR's Web Viewer screen appears.

3. If failed with accessing, go to the Step 6.1 and check the settings again.
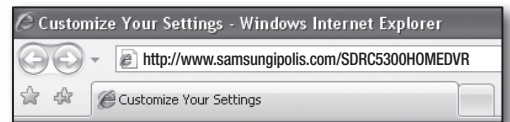
   ▪ It may take up to 10 minutes for updating the router's IP address recorded in the DDNS server. When failed with accessing, retry after 10 minutes.
   DVR reports its IP address to the DDNS server at every 10 minutes.
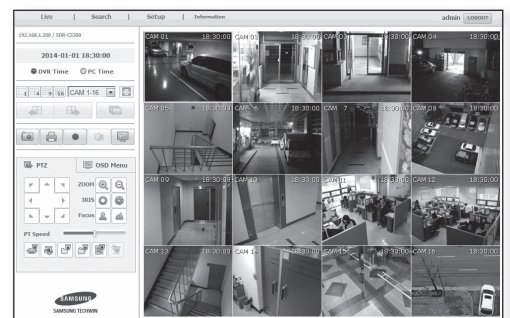
Configuration completed.

By remembering the DDNS address, ID and password, you can connect to your DVR from any computer that is connected to the internet.
For further operating information, refer to the user manual.