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DLink-655 Router Configuration Guide for VoIP

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The following steps will guide you through the configuration of the popular Dlink-655 router for VoIP usage. Before beginning, please make sure that the router has the latest firmware available; to download and install the latest firmware, follow the instructions provided on the DLink web site:

<http://support.dlink.com/FAQView.aspx?f=BAKgCW0iYmCt2WsChIKA%3d%3d>

MyOwn Telco is a Canadian telephony operator which provides residential and commercial VoIP solutions. Have a look today at our concurrential plans (<http://myowntelco.net/plans.php>) or contact us at support@myowntelco.net; our coast to coast phone number coverage (<http://myowntelco.net/canada-voip-did-numbers.php>) will surely please you!

First step: Log in

Open a web browser and navigate to you router IP address, which is usually something like <http://192.168.0.1>, and log in using the **Admin** username. If you don't know the IP address of your router, you may want to open a Windows DOS session using "**cmd**" and execute the "**ipconfig**" command; the IP address will then normally be identified with the **Default Gateway** field.

Second step: Port Forwarding

Once you are logged in, navigate to the **Advanced** tab and select the **Port Forwarding** menu item. Afterward, click on the check box on an empty section and fill in the following fields. When done, click on the **Save Settings** button.

Name: Put your VoIP device name (e.g. "IP Phone")

IP Address: Gather your device name's IP address and specify it here (e.g. "192.168.0.199")



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Second step: Port Forwarding (cont'd)

UDP: Specify the SIP ports range that will be used for communication signalling. If you don't know which ports are being used, verify your VoIP device's configuration (e.g IP Phone). Port 5060 is normally used but you can also specify a port range if you have several lines on your device; each line will use a distinct port. The same applies for RTP ports which carry the voice. In this example, a Linksys SPA-942 that has 4 lines, uses ports 5061 to 5064 for signalling and ports 16384 to 16482 for RTP (voice). (e.g. "5061-5064,16384-16482"). For a single port IP phone, it could be "5060,16384-16482", just make sure it reflects your phone configuration. If you are unsure of what the right configuration is for a single line, use "5060,10000-20000".

Product Page: DIR-655 Hardware Version: A3 Firmware Version: 1.32NA

D-Link

DIR-655 // SETUP ADVANCED TOOLS STATUS SUPPORT

PORT FORWARDING

This option is used to open multiple ports or a range of ports in your router and redirect data through those ports to a single PC on your network. This feature allows you to enter ports in various formats including, Port Ranges (100-150), Individual Ports (80, 68, 888), or Mixed (1020-5000, 689). This option is only applicable to the INTERNET session.

Save Settings Don't Save Settings

24 -- PORT FORWARDING RULES

Ports to Open			
<input checked="" type="checkbox"/>	Name SPA-942	<< Application Name	TCP
	IP Address 192.168.0.199	<< Computer Name	UDP 5061-5064, 16384-16482
			Schedule Always
			Inbound Filter Allow All
<input checked="" type="checkbox"/>	Name FTP	<< Application Name	TCP
	IP Address 192.168.0.197	<< Computer Name	UDP 21,50000-50005
			Schedule Always
			Inbound Filter Allow All
<input type="checkbox"/>	Name	<< Application Name	TCP
	IP Address 0.0.0.0	<< Computer Name	UDP
			Schedule Always
			Inbound Filter Allow All
<input type="checkbox"/>	Name	<< Application Name	TCP
	IP Address 0.0.0.0	<< Computer Name	UDP
			Schedule Always
			Inbound Filter Allow All
<input type="checkbox"/>	Name	<< Application Name	TCP
	IP Address	<< Computer Name	UDP
			Schedule Always
			Inbound Filter

Helpful Hints...

Check the **Application Name** drop down menu for a list of predefined applications. If you select one of the predefined applications, click the arrow button next to the drop down menu to fill out the corresponding field.

You can select a computer from the list of DHCP clients in the **Computer Name** drop down menu, or you can manually enter the IP address of the LAN computer to which you would like to open the specified port.

Select a schedule for when the rule will be enabled. If you do not see the schedule you need in the list of schedules, go to the **Tools -- Schedules** screen and create a new schedule.

You can enter ports in various formats:
Range (50-100)
Individual (80, 68, 888)



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Third step: Firewall Settings

Using the same **Advanced** tab, select the **Firewall Settings** menu item. Within the **NAT Endpoint Filtering** section, select **Address Restricted** for the **UDP Endpoint Filtering** setting and **Port And Address Restricted** for the **TCP End Point Filtering** settings.

The screenshot shows the D-Link DIR-655 router configuration interface. The 'ADVANCED' tab is selected, and the 'FIREWALL SETTINGS' menu item is highlighted in the left sidebar. The main content area is divided into several sections:

- FIREWALL SETTINGS (Top):** Contains a description: "The Firewall Settings allow you to set a single computer on your network outside of the router." and two buttons: "Save Settings" and "Don't Save Settings".
- FIREWALL SETTINGS (Middle):** Contains the setting "Enable SPI :
- NAT ENDPOINT FILTERING (Bottom):** This section is highlighted with a red box and contains:
 - UDP Endpoint Filtering:**
 - Endpoint Independent
 - Address Restricted
 - Port And Address Restricted
 - TCP Endpoint Filtering:**
 - Endpoint Independent
 - Address Restricted
 - Port And Address Restricted
- ANTI-SPOOF CHECKING:** Contains the setting "Enable anti-spoof checking:
- DMZ HOST:** Contains a description: "The DMZ (Demilitarized Zone) option lets you set a single computer on your network outside of the router. If you have a computer that cannot run Internet applications successfully from behind the router, then you can place the computer into the DMZ for unrestricted Internet access."

On the right side, there is a "Helpful Hints..." section with text: "Enable the DMZ option only as a last resort. If you are having trouble using an application from a computer behind the router, first try opening ports associated with the application in the Virtual Server or Port Forwarding sections." and a "More>..." link.



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Third step: Firewall Settings (cont'd)

You must then scroll down the page and unselect the **SIP** check box within the **ALG Configuration** section. Once done, click the **Save Settings** button at the top of the page.

The screenshot shows the router's configuration interface. The top section is titled "DMZ HOST" and contains a descriptive paragraph about the DMZ option, a "Note" about security risks, and a form with "Enable DMZ" (unchecked), "DMZ IP Address" (0.0.0.0), and a "Computer Name" dropdown. The bottom section is titled "APPLICATION LEVEL GATEWAY (ALG) CONFIGURATION" and contains four checkboxes: "PPTP" (checked), "IPSec (VPN)" (checked), "RTSP" (checked), and "SIP" (unchecked). The "SIP" checkbox is highlighted with a red rectangle. The "WIRELESS" tab is visible at the bottom left.

Fourth Step: QoS Engine

Within the **Advanced** tab, click on the **QoS Engine** menu item; looking at the **WAN Traffic Shaping** section, make sure that **Enable Traffic Shaping** is selected. Also verify that both the **Enable QoS Engine** and the **Automatic Classification** check boxes are selected within the **QoS Engine Setup** section. Finally, select an empty item in the **QoS Engine Rules** section, and configure the fields using the following:

Name: Put your VoIP device name (e.g. "IP Phone")

Priority: "1" (Voice will have highest priority)

Local IP Range: This is the IP address for your VoIP device (IP Phone), which should be the same as the one you specified at step 2)



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Fourth Step: QoS Engine (cont'd)

Protocol: UDP ("17")

Local Port Range: These must be the same UDP RTP port (voice ports) as the one you specified at step 2) (e.g. "16384-16482")

The screenshot shows the D-Link DIR-655 router configuration interface. The left sidebar lists various configuration options, with 'QoS Engine' selected. The main content area is divided into three sections:

- QoS ENGINE:** Contains a description of the QoS Engine and two buttons: 'Save Settings' and 'Don't Save Settings'.
- WAN TRAFFIC SHAPING:** Includes checkboxes for 'Enable Traffic Shaping' (checked) and 'Automatic Uplink Speed' (checked). It also shows 'Measured Uplink Speed' as 'Not Estimated', 'Manual Uplink Speed' set to '128 kbps', and 'Connection Type' set to 'Auto-detect'.
- QoS ENGINE SETUP:** Includes checkboxes for 'Enable QoS Engine' (checked) and 'Automatic Classification' (checked), and 'Dynamic Fragmentation' (unchecked).
- 10 -- QoS ENGINE RULES:** A table with one rule highlighted in red:

Name	Priority	Protocol	Local IP Range	Local Port Range
SPA942	1 (1..255)	17 (UDP)	192.168.0.199 to 192.168.0.199	16384 to 16482

On the right side, there is a 'Helpful Hints...' section with text about 'Measured Uplink Speed' and 'Manual Uplink Speed'.

When you are done, click on the **Save Settings** button and reboot your router.