

# 7 Firewall Setup



## Overview

### Purpose

This chapter explains how to configure the firewall for the CellPipe 7130 RG. Click the **Firewall** drop-down menu to open the **Firewall Setup** menu.

### Contents

This chapter covers the following topics:

<a href="#">Port Range Forwarding</a>	7-1
<a href="#">Virtual Server Basic</a>	7-3
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<a href="#">Demilitarized Zone</a>	7-6
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## Port Range Forwarding

The Port Range Forwarding window enables you to control the traffic passing through the ports.

**Note:** It is recommended that port range forwarding be configured with the assistance of your ISP.

Select **Port Range Forwarding** in the **Firewall Setup** menu to access the Port Range Forwarding window; see [Figure 7-1](#).

Figure 7-1 Port Range Forwarding window

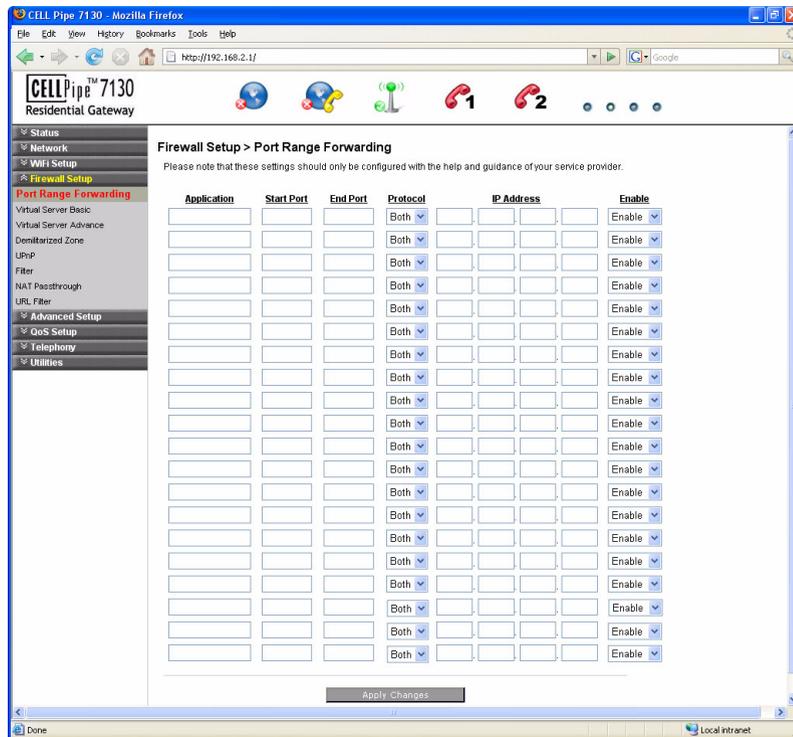


Table 7-1 describes the fields of the Port Range Forwarding window.

Table 7-1 Field descriptions

Field	Description
Application	Enter the name of an application you are hosting on your LAN PC; for example, Real Audio.
Start Port	Enter the starting number of the port range used for the application.
End Port	Enter the ending number of the port range used for the application.
Protocol	Select one of: <ul style="list-style-type: none"> <li>• TCP</li> <li>• UDP</li> <li>• Both</li> </ul> The type of application determines what protocol is required.
IP Address	Enter the IP address of the LAN PC that is running the application.
Enable	Select <b>Enable</b> to allow port forwarding for the application. Select <b>Disable</b> to stop port forwarding for the application.

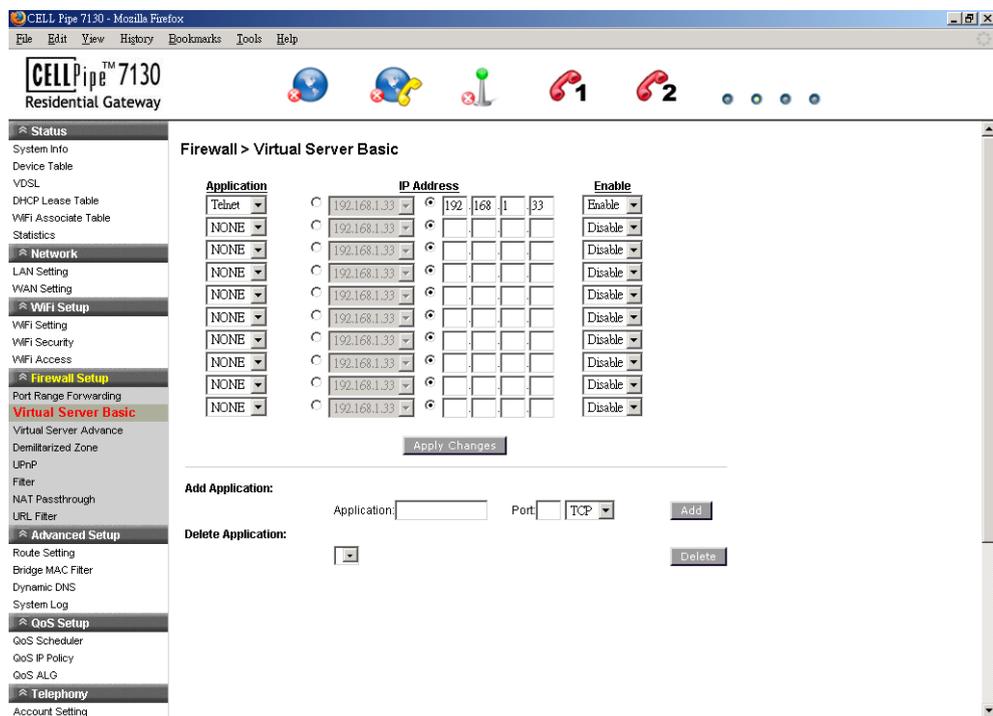
Field	Description
Apply Changes	Click to save your changes.

## Virtual Server Basic

The virtual server acts as a gateway to pass your service request from the Internet client to your LAN servers.

Select **Virtual Server Basic** in the **Firewall Setup** menu to access the Virtual Server Basic window; see [Figure 7-2](#).

**Figure 7-2 Virtual Server Basic window**



[Table 7-2](#) describes the fields of the Virtual Server Basic window.

**Table 7-2 Field descriptions**

Field	Description
Application	Select the application to be served by the virtual server.
IP Address	Select the radio button in the left column to select a pre-configured LAN host or select the radio button in the right column and enter an IP address manually.
Enable	Select <b>Enable</b> to connect the virtual server. Select <b>Disable</b> to end the connection.

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Field	Description
Apply Changes	Click to save your changes.
<b>Add Application</b>	
Application	Enter the name of an application you are hosting on your LAN PC.
Port	Enter the desired port in the <b>Port</b> field and then select the required protocol.
Add	Click to add the application to the virtual server. Your added application is now available in the application list for configuration.
<b>Delete Application</b>	Click the drop-down menu and select the application to delete.
Delete	Click to remove the application from the application list.

## Virtual Server Advance

Advanced settings enable you to use a different port other than the standard port for your service/server. The router conducts the port-level translation.

Select **Virtual Server Advance** in the **Firewall Setup** menu to access the Virtual Server Advance window; see [Figure 7-3](#).

Figure 7-3 Virtual Server Advance window

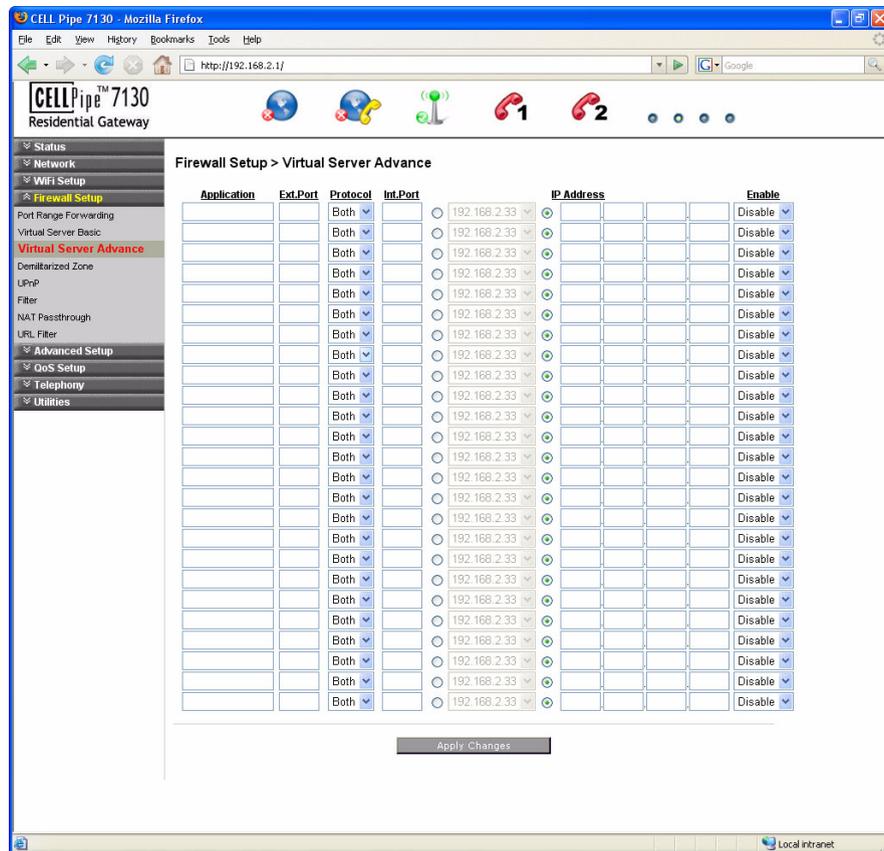


Table 7-3 describes the fields of the Virtual Server Advance window.

Table 7-3 Field descriptions

Field	Description
Application	Enter the name of an application to be hosted on the virtual server.
Ext.Port	Enter the external port that will be forwarded for the WAN traffic.
Protocol	Select one of the following: <ul style="list-style-type: none"> <li>• TCP</li> <li>• UDP</li> <li>• Both</li> </ul> The type of application determines what protocol is required.
Int.Port	Enter the number of the internal port for the application. The internal port is the port used by your LAN server.

Field	Description
IP Address	Enable the radio button in the left column to select a pre-configured LAN host or enable the radio button in the right column and enter an IP address manually.
Enable	Select <b>Enable</b> to apply this virtual server configuration rule or <b>Disable</b> to turn off this virtual server configuration rule.
Apply Changes	Click to save your changes.

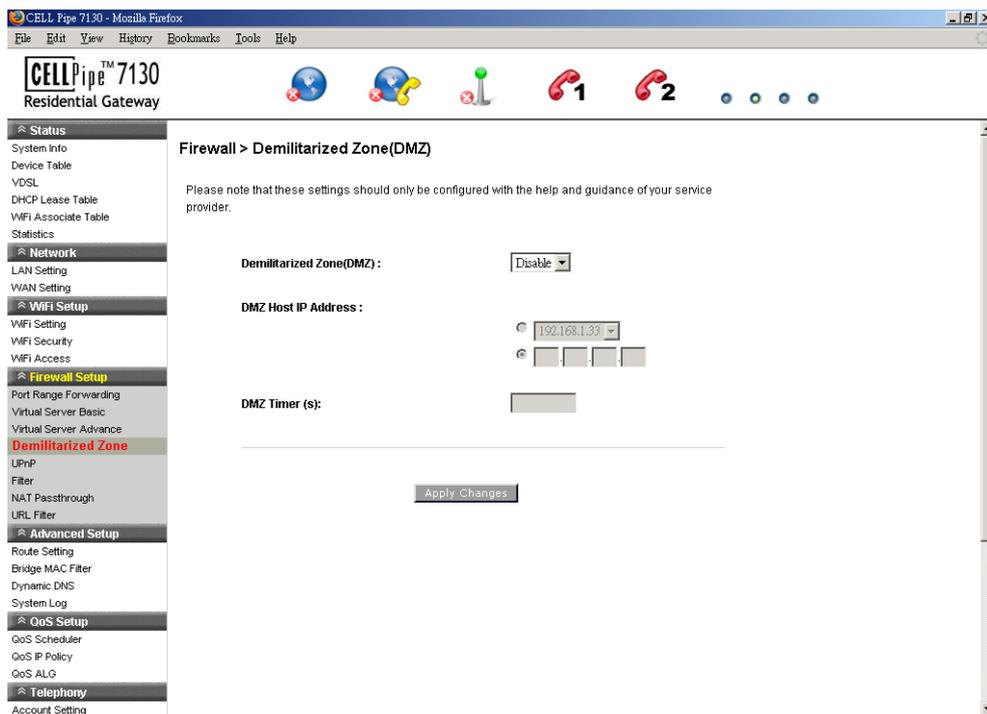
## Demilitarized Zone

The Demilitarized Zone window enables you to configure a single computer to be exposed to an unrestricted two-way communication from outside of your network; see [Table 7-4](#).

**Note:** Use the demilitarized zone setting only if the virtual server or port range forwarding options do not provide the level of access required for certain applications. It is recommended that you contact your ISP for assistance.

Select **Demilitarized Zone** in the **Firewall Setup** menu to access the demilitarized zone window; see [Figure 7-4](#).

**Figure 7-4** Demilitarized Zone window



[Table 7-4](#) describes the fields of the Demilitarized Zone window.

Table 7-4 Field descriptions

Field	Description
Demilitarized Zone (DMZ)	Select <b>Enable</b> to turn on the demilitarized zone function. Select <b>Disable</b> to turn it off.
DMZ Host IP Address	Select the first radio button and choose a pre-existing (or preset) LAN host or select the second radio button and enter an IP address manually.
DMZ Timer	To improve security, specify the length of time (in seconds) during which the DMZ is active.
Apply Changes	Click to save your changes.

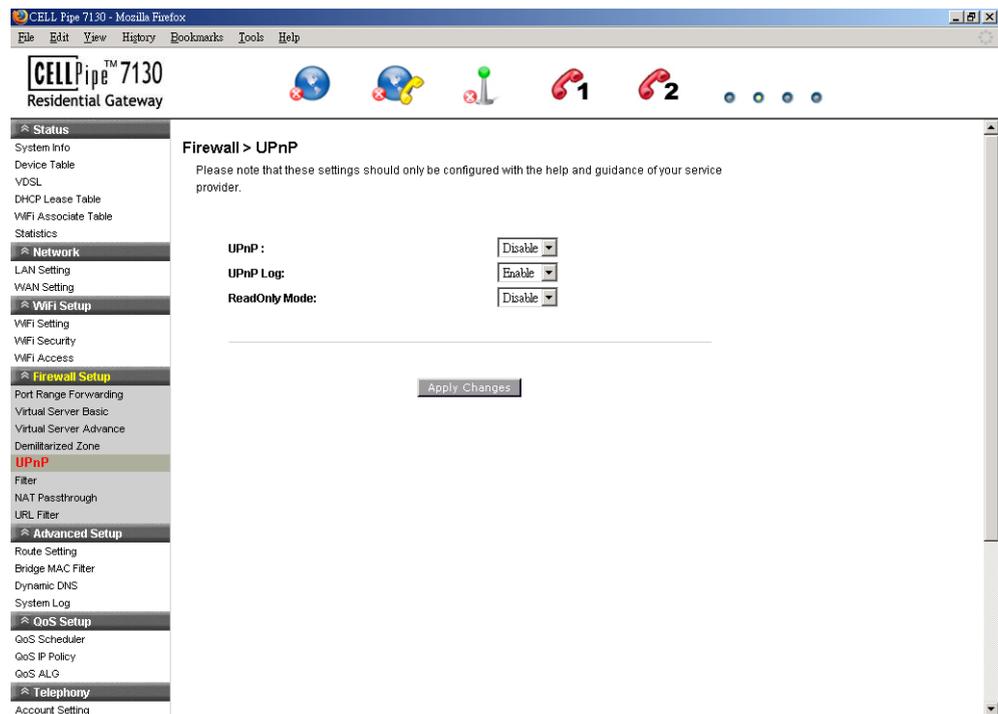
## UPnP

UPnP is an open networking standard that allows peer-to-peer network connectivity between devices. It enables software or devices, such as video game consoles, to function properly using NAT. See [Table 7-5](#) below.

**Note:** It is recommended that you contact your ISP for assistance.

Select **UPnP** in the **Firewall Setup** menu to access the UPnP window; see [Figure 7-5](#).

Figure 7-5 UPnP window



[Table 7-5](#) describes the fields of the UPnP window.

**Table 7-5 Field descriptions**

Field	Description
UPnP	Select <b>Enable</b> to connect the UPnP function. Select <b>Disable</b> to disconnect the UPnP function.
UPnP Log	Select <b>Enable</b> to enable the logging activities. Select <b>Disable</b> to disable the logging activities.
ReadOnly Mode	Select <b>Enable</b> to turn on the read-only mode. Select <b>Disable</b> to turn off the read-only mode.  <b>Note:</b> In read-only mode, users are unable to change port forwarding settings or any other UPnP enabled application settings.
Apply Changes	Click to save your changes.

## Filter

The filter enables you to disable applications and their associated service ports for specific clients.

**Note:** It is recommended that you contact your ISP for assistance configuring the filter.

Select **Filter** in the **Firewall Setup** menu to access the Filter window; see [Figure 7-6](#).

Figure 7-6 Filter window

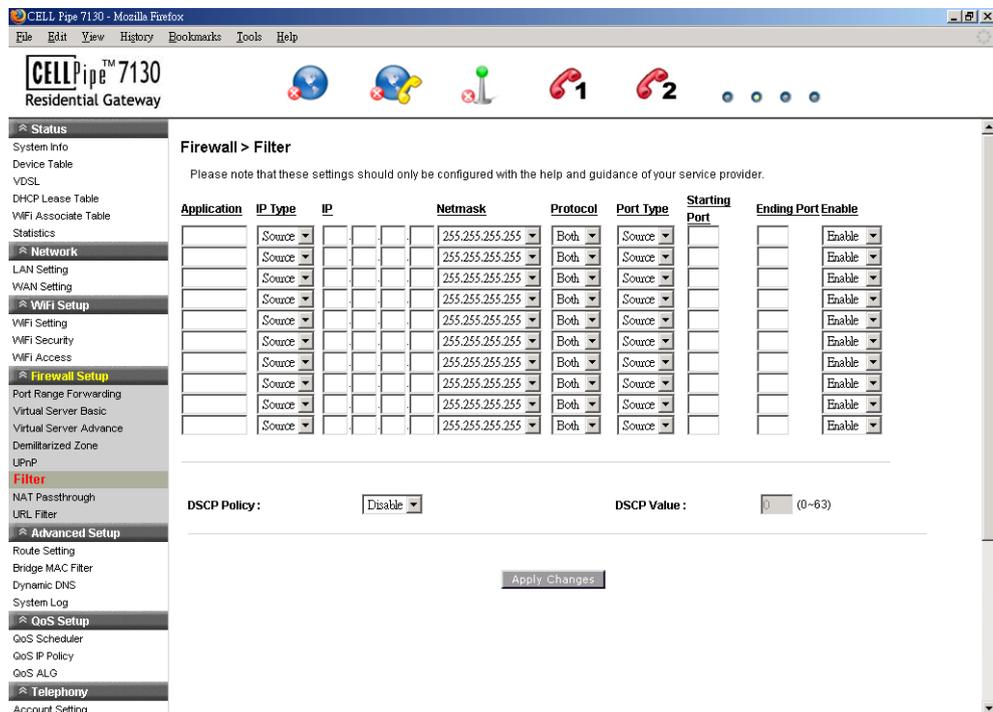


Table 7-6 describes the fields of the Filter window.

Table 7-6 Field descriptions

Field	Description
Application	Enter the name of the application to be filtered.
IP Type	Select <b>Dest</b> (destination) or <b>Source</b> depending on the how the rule has been defined.
IP	Enter the IP address of the host you are blocking from the application.
Netmask	Select the Netmask of the host you are blocking from the application.
Protocol	Select one of the following: <ul style="list-style-type: none"> <li>• TCP</li> <li>• UDP</li> <li>• Both</li> </ul> The type of application determines what protocol is required.
Port Type	Select <b>Dest</b> (destination) or <b>Source</b> depending on the type of application.
Starting Port	Enter the starting port number of the application.
Ending Port	Enter the ending port number of the application.

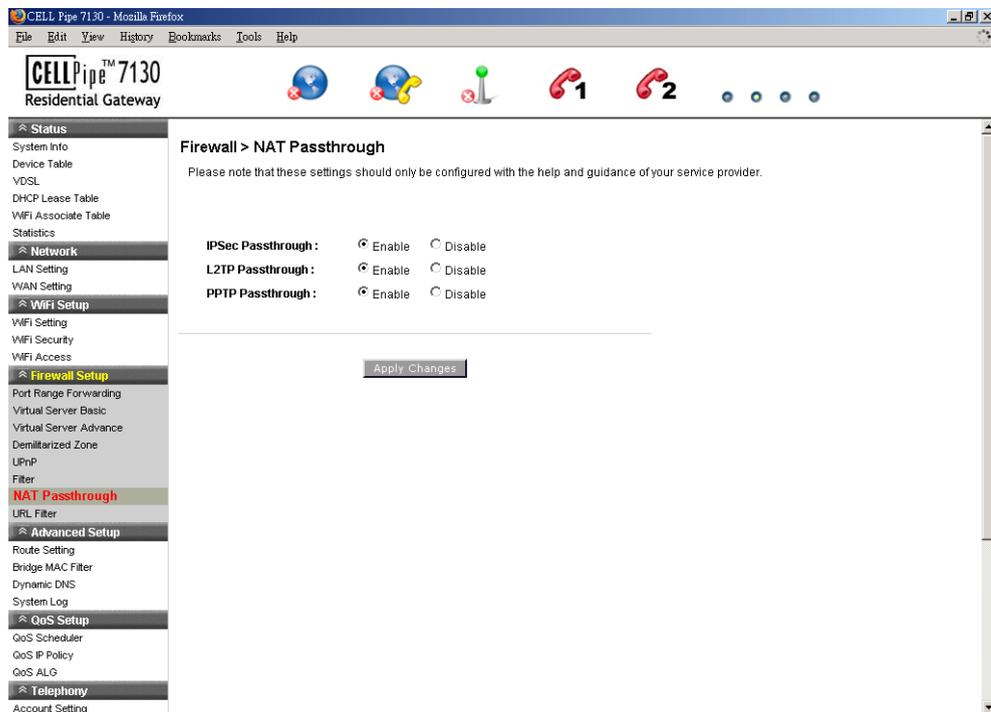
Field	Description
Enable	Select <b>Enable</b> to apply this filter configuration rule or <b>Disable</b> to turn off this filter configuration rule.
DSCP Policy	Select <b>Disable</b> to disable the DSCP policy. Select <b>Deny</b> to deny packets with the specified IP header DSCP value to access the internet or select <b>Allow</b> to allow packets with the specified IP header DSCP value to access the internet.
DSCP Value	Enter your DSCP value between 0 to 63.
Apply Changes	Click to save your changes.

## NAT Passthrough

The NAT Passthrough window allows you to enable and disable specific protocols from passing through the gateway.

Select **NAT Passthrough** in the **Firewall Setup** menu to access the NAT Passthrough window; see [Figure 7-7](#).

**Figure 7-7** NAT Passthrough window



[Table 7-7](#) describes the fields of the NAT Passthrough window.

**Table 7-7** Field descriptions

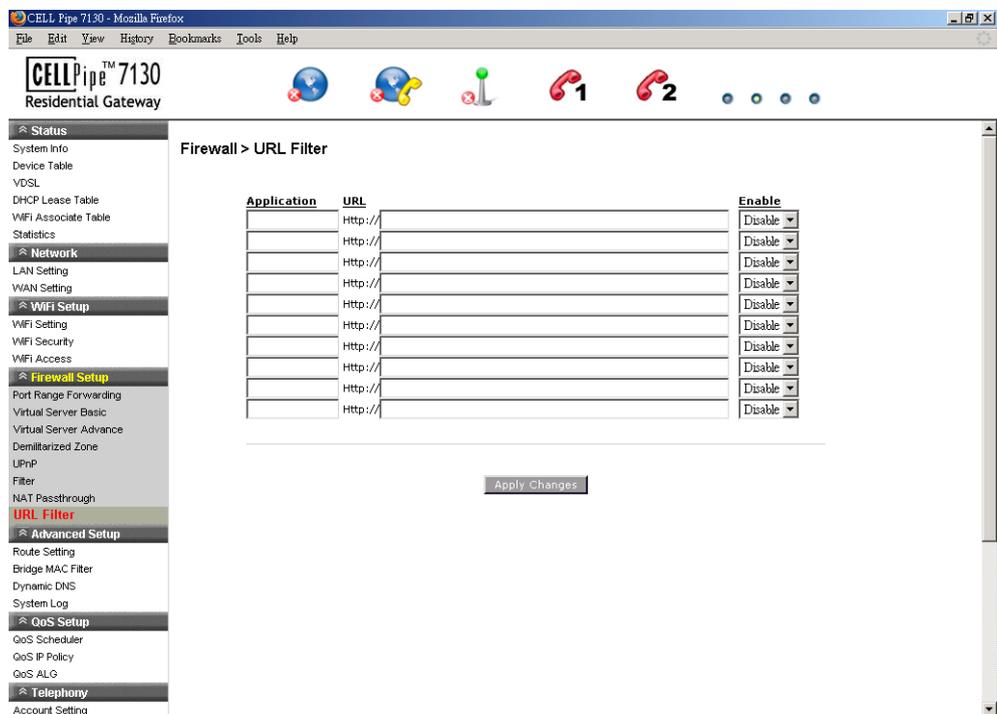
Field	Description
IPSec Passthrough	Select the <b>Enable</b> radio button to allow IPSec passthrough. Select <b>Disable</b> to not allow the IPSec passthrough.
L2TP Passthrough	Select the <b>Enable</b> radio button to allow L2TP passthrough. Select <b>Disable</b> to not allow L2TP passthrough.
PPTP Passthrough	Select the <b>Enable</b> radio button to allow PPTP passthrough. Select <b>Disable</b> to not allow PPTP passthrough.
Apply Changes	Click to save your changes.

## URL Filter

The URL Filter window enables you to block access to specific websites.

Select **URL Filter** in the **Firewall Setup** menu to access the URL Filter window; see [Figure 7-8](#).

**Figure 7-8** URL Filter window



[Table 7-8](#) describes the fields for the URL Filter window.

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**Table 7-8 Field descriptions**

Field	Description
Application	Enter a name for the URL filter.
URL	Enter a URL or keyword of the URL you are blocking. If the keyword is too general, you might inadvertently block other websites. You can enter multiple URLs and keywords.
Enable	Select <b>Enable</b> to apply the URL filter. Select <b>Disable</b> to turn off the URL filter.
Apply Changes	Click to save your changes.

# 8 Advanced Setup



## Overview

This chapter explains how to configure the advanced settings of the CellPipe 7130 RG such as the route setting, bridge MAC filter, dynamic DNS, and system log.

Click the **Advanced Setup** drop-down menu to open the **Advanced Setup** menu.

## Contents

This chapter covers the following topics:

<a href="#">Route Setting</a>	8-1
<a href="#">Bridge MAC Filter</a>	8-3
<a href="#">Dynamic DNS</a>	8-4
<a href="#">System Log</a>	8-5

## Route Setting

The Route Setting window enables you to configure static and dynamic routes for routing packets from one network to another network.

Select **Route Setting** in the **Advanced Setup** menu to access the Route Setting window; see [Figure 8-1](#).

Figure 8-1 Route Setting window

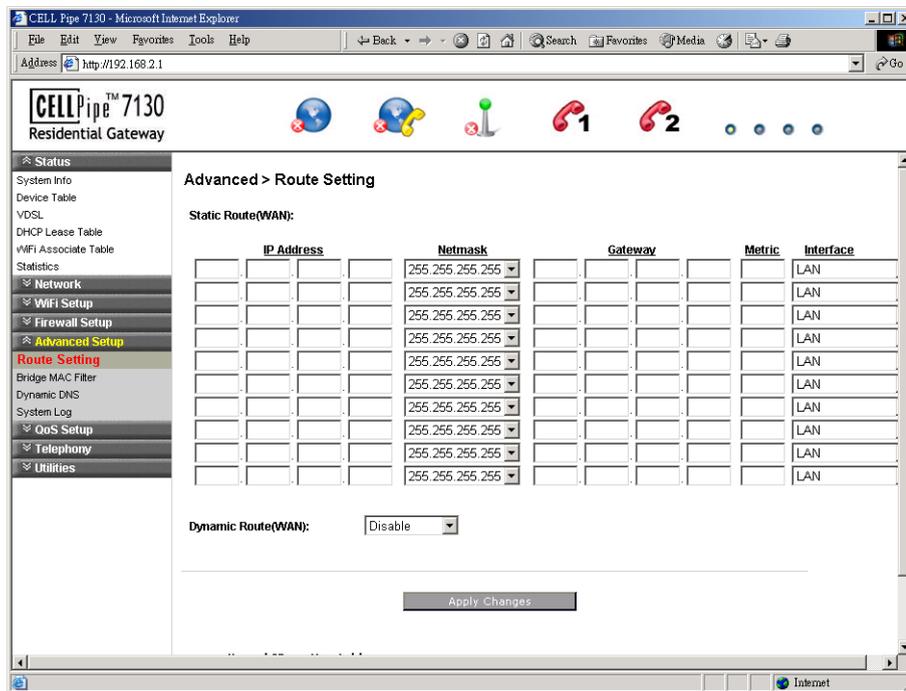


Table 8-1 describes the fields of the Route Setting window.

Table 8-1 Field descriptions

Field	Description
<b>Static Route (WAN)</b>	Static routing enables you to choose a fixed path to another network.
IP Address	Enter the IP address of the destination network.
Netmask	Select and the subnet mask of the destination network.
Gateway	Enter the IP address of the gateway for the destination network.
Metric	In order to determine the best route, a value is used to specify the cost of the route (the metric value). Enter the metric value in the metric field. IP routing uses hop count as measurement of the metric.
Interface	Select the <b>LAN</b> or <b>WAN</b> interface. The packets sent to the addresses of the destination IP address are reached through the interface, however, for the WAN interface it depends on the WAN configuration.

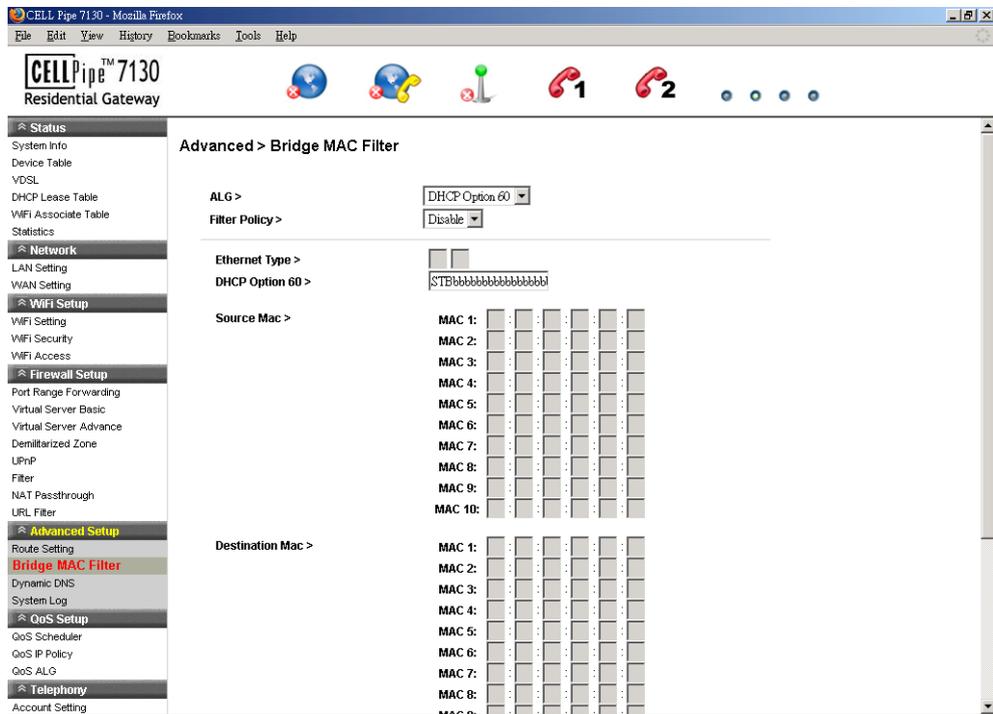
Field	Description
Dynamic Route (WAN)	Select <b>Enable</b> to use dynamic routing instead of static. Dynamic routing enables the router to adapt to changes in the path to the other network. Select <b>Disable</b> to turn off dynamic routing.
Apply Changes	Click to save your changes.

## Bridge MAC Filter

The Bridge MAC Filter enables you to control access to and from specific MAC addresses.

Select **Bridge MAC filter** in the **Advanced Setup** menu to access the bridge MAC filter window; see [Figure 8-2](#).

**Figure 8-2** Bridge MAC Filter window



[Table 8-2](#) describes the fields of the Bridge MAC Filter window.

Table 8-2 Field descriptions

Field	Description
ALG	Select the filtering algorithm: <ul style="list-style-type: none"> <li>• <b>Source MAC</b></li> <li>• <b>Destination MAC</b></li> <li>• <b>DHCP Option 60</b></li> <li>• <b>Ethernet Type</b></li> </ul>
Filter Policy	Select the filter: <ul style="list-style-type: none"> <li>• <b>Allow</b></li> <li>• <b>Deny</b></li> <li>• <b>Disable</b></li> </ul>
Ethernet Type	If you selected Ethernet Type as the filtering algorithm, enter the applicable Ethernet Type code.
DHCP Option 60	If you selected DHCP Option 60 as the filtering algorithm, enter the alphanumeric identification.
Source MAC (MAC 1 to 10)	Enter the source MAC address of the filter.
Destination MAC (MAC 1 to 10)	Enter the destination MAC address of the filter.
Apply Changes	Click to save your changes.

## Dynamic DNS

The Dynamic DNS (DDNS) window enables you to configure your registered domain name with a dynamic IP address.

**Note:** Before you can use this feature, you need to sign up for DDNS service at one of two DDNS service providers; see [DynDNS.org](http://DynDNS.org) or [ChangeIP.com](http://ChangeIP.com).

Click on **Dynamic DNS** in the **Advanced Setup** menu to access the dynamic DNS window; see [Figure 8-3](#).

Figure 8-3 Dynamic DNS window

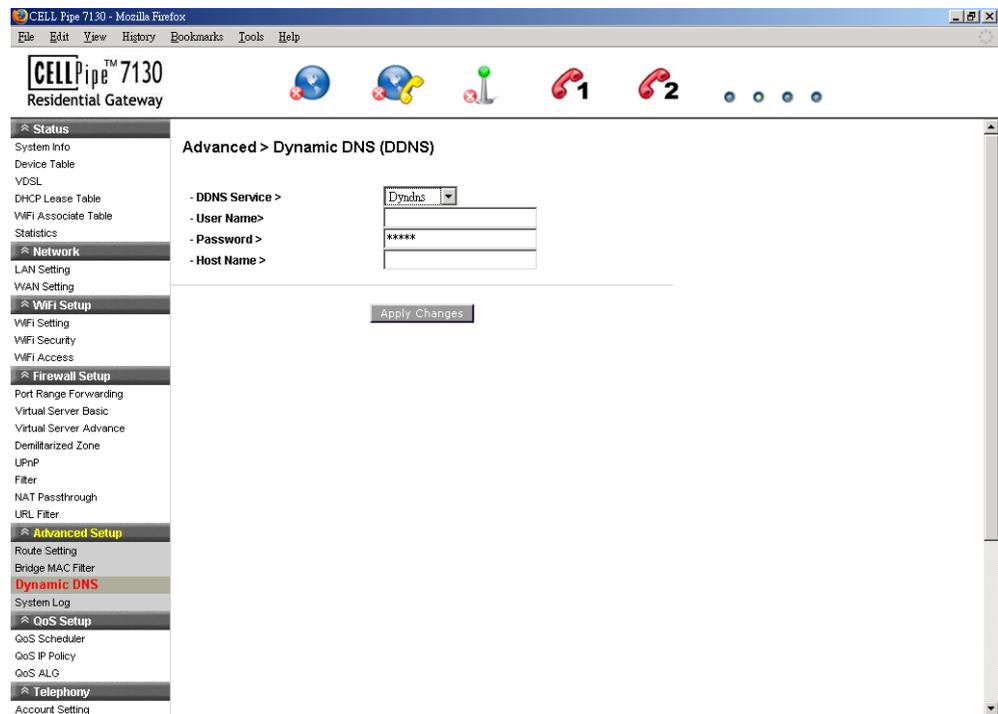


Table 8-3 describes the fields of the Dynamic DNS window.

Table 8-3 Field descriptions

Field	Description
DDNS Service	If you have enabled your DDNS, select your DDNS service.
User Name	Enter the username for your DDNS account.
Password	Enter the password for your DDNS account.
Host Name	Enter the host name.
Apply Changes	Click to save your changes.

## System Log

The System Log window enables you to view the system logs and to send them to a remote system log server.

Click on **System Log** in the **Advanced Setup** menu to access the system log window; see [Figure 8-4](#).

Figure 8-4 System Log window

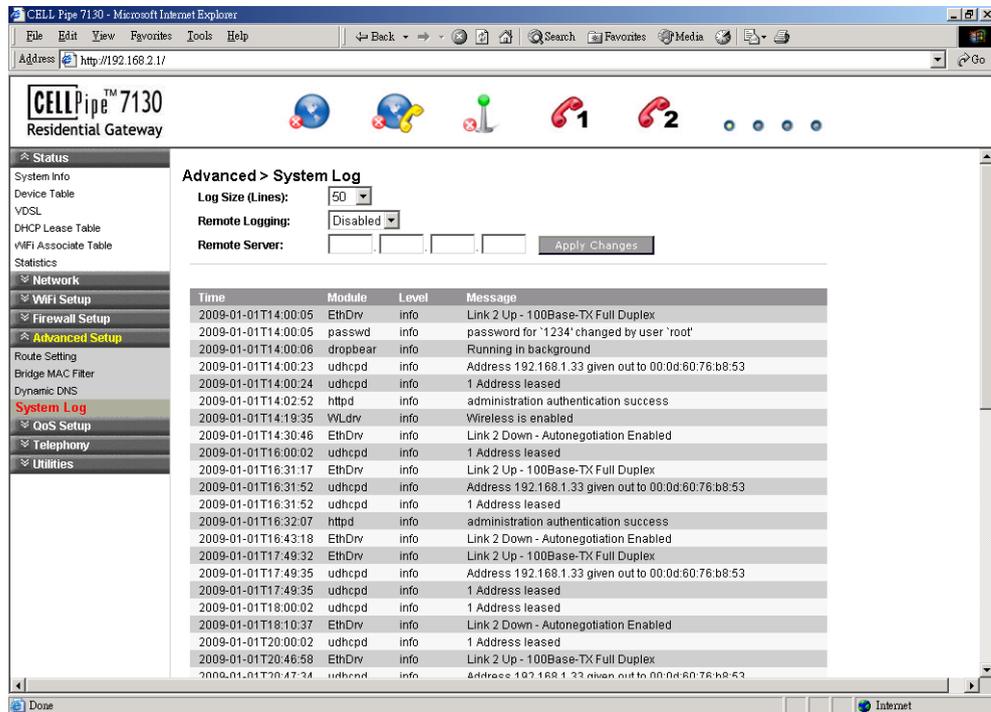


Table 8-4 describes the fields of the System Log window.

Table 8-4 Field descriptions

Field	Description
Log Size (Lines)	Select the number of lines to display in your log.
Remote Logging	Select <b>LAN</b> or <b>WAN</b> for the remote logging server. Select <b>Disable</b> to turn off remote logging.
Remote Server	Enter the IP address of the remote logging server.
Apply Changes	Click to save your changes and to view the log.  <b>Note:</b> You can click <b>Apply Changes</b> to see your report in the section of the window below the system log fields (this is optional).  If you are configuring remote logging, click <b>Apply Changes</b> after configuring the remote logging and remote server fields.
Time	The time that the action was performed.
Module	The type of module the action involved.
Level	Select the level of logging activity: <ul style="list-style-type: none"> <li>• <b>Info</b></li> <li>• <b>Error</b></li> <li>• <b>Debug</b></li> </ul>

---

Field	Description
Message	The details of the action that was performed.



# 9 QoS Setup



## Overview

This chapter explains how to configure the quality of service (QoS) settings of the CellPipe 7130 RG. QoS is the ability to provide better service to selected applications and data flows.

Click the **QoS Setup** drop-down menu to open the **QoS Setup** menu.

## Contents

This chapter covers the following topics:

<a href="#">QoS Scheduler</a>	9-1
<a href="#">QoS IP Policy</a>	9-2
<a href="#">QoS ALG</a>	9-4

## QoS Scheduler

The QoS Scheduler window allows you to enable and disable the scheduler protocol and to determine the upstream bandwidth.

Select **QoS Scheduler** in the **QoS Setup** menu to access the QoS scheduler window; see [Figure 9-1](#).

Figure 9-1 QoS Scheduler window

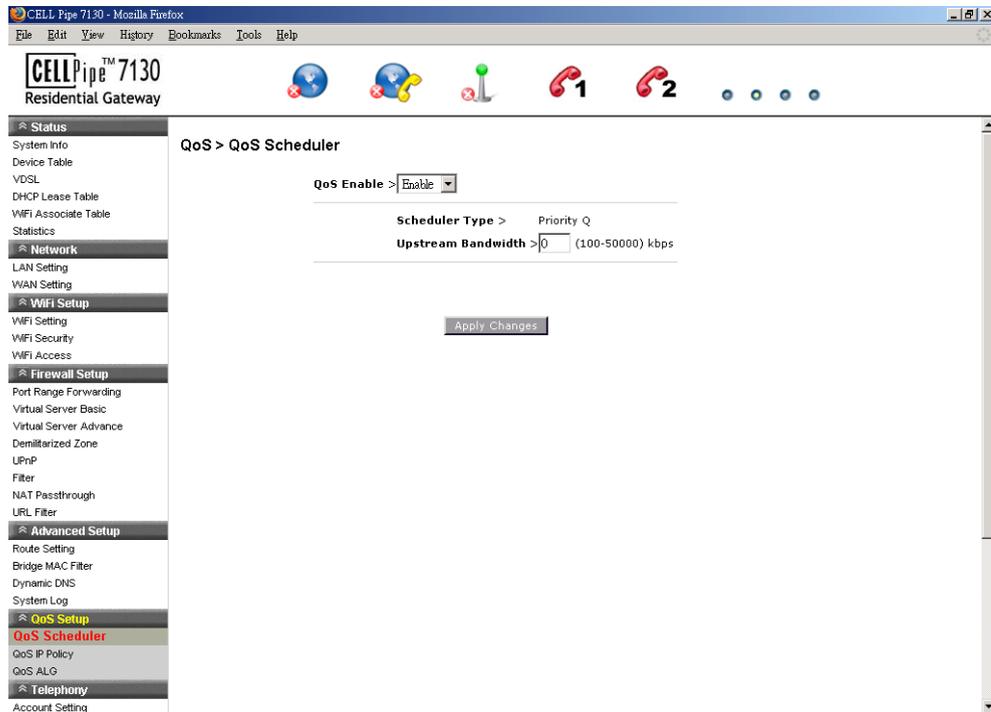


Table 9-1 describes the fields of the QoS Scheduler window.

Table 9-1 Field descriptions

Field	Description
QoS Enable	Select <b>Enable</b> to activate the QoS scheduler. Select <b>Disable</b> to turn off the QoS scheduler.
Scheduler Type	The QoS scheduler type is set to Priority Q. Priority Q scheduling delivers high priority traffic first and lower priority traffic when the queue is empty.
Upstream Bandwidth	Enter an upstream bandwidth value from 100 to 50000 kb/s.
Apply Changes	Click to save your changes.

## QoS IP Policy

The QoS IP Policy window enables you to group upstream traffic into data flows according to the source address, destination address, source port, and destination port.

Select **QoS IP Policy** in the **QoS Setup** menu to access the QoS IP Policy window; see [Figure 9-2](#).

Figure 9-2 QoS IP Policy window

The screenshot shows the 'QoS > QoS Policy' configuration window. It includes a sidebar with navigation options like Status, Network, WiFi Setup, Firewall Setup, and QoS Setup. The main area contains configuration fields for Source and Destination IP addresses, Subnet Mask (set to 255.255.255.255), Start Port, and End Port. A Protocol dropdown is set to TCP. Under 'QoS Mapping by', the 'Original Tos Tag (First 3 bits of DSCP)' option is selected. Other options include 'Specified Queue' (0-7), 'Keep Original Tos', 'New Tos value' (0-7), 'New DSCP value' (0-63), and 'Set Cos' (Disable, Tos, User Specify). An 'Add' button is located below the mapping options. At the bottom, a table header is visible with columns: No., Source IP, Subnet Mask, Source Port, Destination IP, Subnet Mask, Destination Port, Protocol, Priority, Cos Tos/DSCP, and a note '(Maximum 10 Rules)'.

Table 9-2 describes the fields of the QoS IP Policy window.

Table 9-2 Field descriptions

Field	Description
IP	Enter the IP address of the source host and the destination host.
Subnet Mask	Select the subnet mask of the source host and the destination host.
Start Port	Enter the start port of the source host and the destination host.
End Port	Enter the end port of the source host and the destination host.
Protocol	Select the necessary protocol: <ul style="list-style-type: none"> <li>TCP</li> <li>UDP</li> </ul>
Original Tos Tag (First 3 bits of DSCP)	Enable <b>Original Tos Tag</b> (type of service) to assign the queue according to the incoming Tos value.
Specified Queue	Enable <b>Specified Queue</b> and enter a queue number (0 to 7) to assign to the incoming traffic.
Keep Original Tos	Enable <b>Keep Original Tos</b> to retain the original value.

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Field	Description
New Tos Value	Enable <b>New Tos Value</b> and enter a queue number (0 to 7) to assign to the incoming traffic.
New DSCP Value	Enable <b>New DSCP Value</b> and enter a DSCP value (0 to 63).
Set Cos	Select <b>Enable</b> to apply the set CoS (class of service). Select <b>Disable</b> to turn off CoS.
Tos	Enable <b>Tos</b> to assign the queue according to the incoming traffic.
User Specify	Enable <b>User Specify</b> and enter a queue number (0 to 7) to assign to the incoming traffic.
Add	Click to save your changes.

## QoS ALG

The QoS application level gateway (ALG) window enables you to configure the session initiated protocol (SIP) and the real-time transport protocol (RTP). SIP is used for the implementation of VoIP, and RTP is the protocol for data with real-time features (such as interactive audio and video).

Select **QoS ALG** in the **QoS Setup** menu to access the QoS ALG window; see [Figure 9-3](#).

Figure 9-3 QoS ALG window

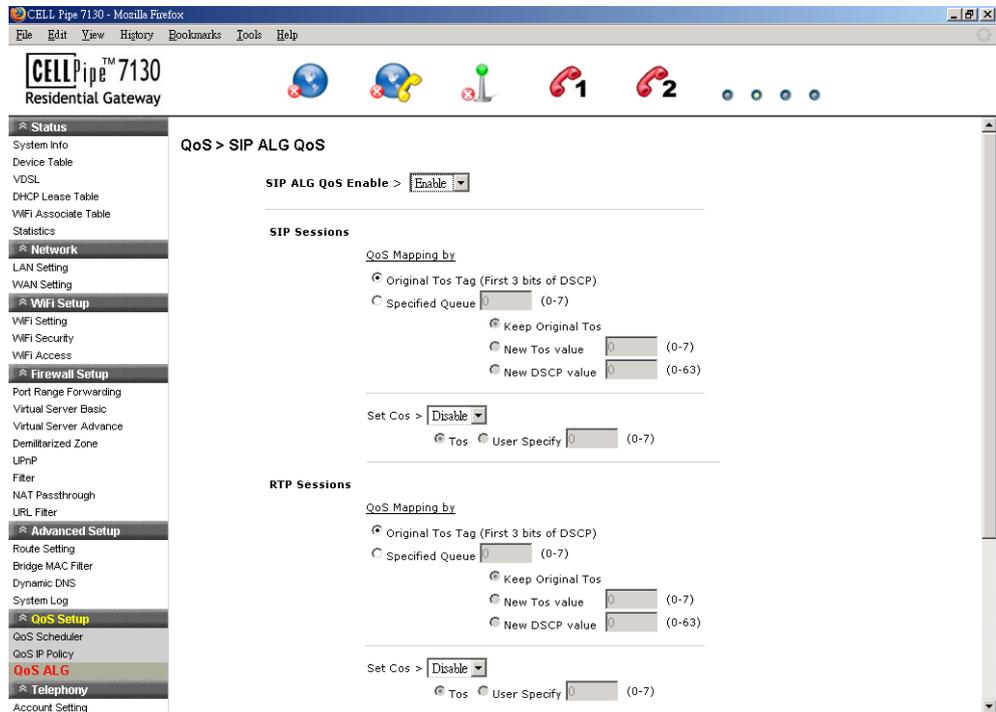


Table 9-3 describes the fields of the QoS ALG window.

Table 9-3 Field descriptions

Field	Description
SIP ALG QoS Enable	Select <b>Enable</b> to turn on the SIP and ALG QoS. Select <b>Disable</b> to turn off the SIP and ALG QoS.
Original Tos Tag (First 3 bits of DSCP)	Enable <b>Original Tos Tag</b> (type of service) to assign the queue according to the incoming Tos value.
Specified Queue	Enable <b>Specified Queue</b> and enter a queue number (0 to 7) to assign to the incoming traffic.
Keep Original Tos	Enable <b>Keep Original Tos</b> to retain the original value.
New Tos Value	Enable <b>New Tos Value</b> and enter a queue number (0 to 7) to assign to the incoming traffic.
New DSCP Value	Enable <b>New DSCP Value</b> and enter a DSCP value (0 to 63).
Set Cos	Select <b>Enable</b> to apply the set CoS (class of service). Select <b>Disable</b> to turn off the set CoS.
Tos	Enable <b>Tos</b> to assign the queue according to the incoming traffic.
User Specify	Enable <b>User Specify</b> and enter a queue number (0 to 7) to assign to the incoming traffic.

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Field	Description
Apply Changes	Click to save your changes.

# 10 Telephony



## Overview

The CellPipe 7130 RG Telephony menu enables you to configure the settings for your VoIP account, service, server, and call list.

Click the **Telephony** drop-down menu to open the **Telephony** menu.

## Contents

This chapter covers the following topics.

<a href="#">Account Setting</a>	10-1
<a href="#">Service Setting</a>	10-2
<a href="#">Server Setting</a>	10-4
<a href="#">Call List</a>	10-6

## Account Setting

The VoIP account settings can be configured from the account setting section of the telephony menu.

**Note:** Some account information, such as the phone number and username, is provided by your VoIP service provider. Please have all provided information readily available when configuring your accounts.

Select **Account Setting** in the **Telephony** menu to access the Account Setting window; see [Figure 10-1](#).

**Figure 10-1 Account setting window**

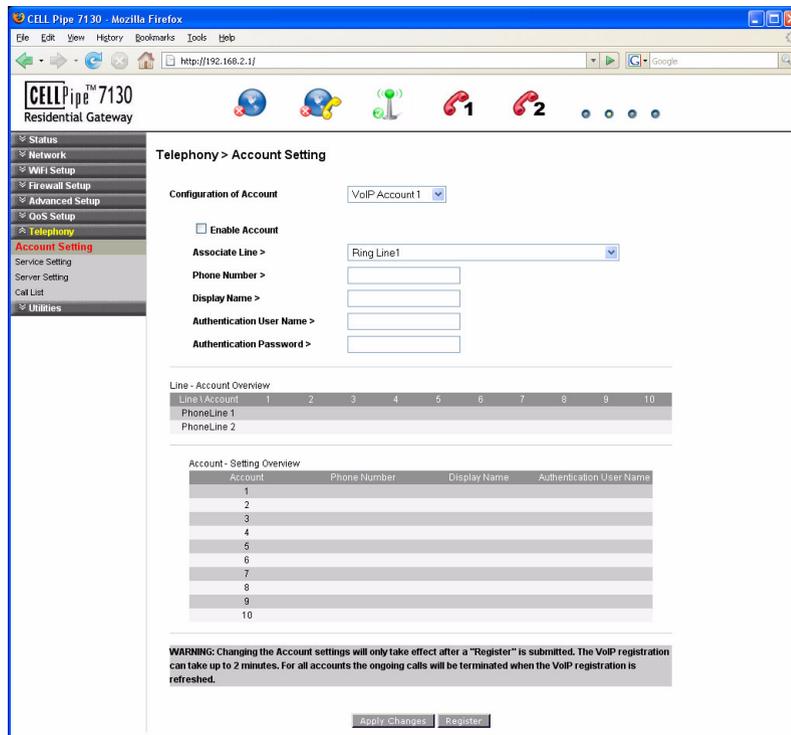


Table 10-1 describes the fields of the Account Setting window.

**Table 10-1 Field descriptions**

Field	Description
Configuration of Account	Select a VoIP account to configure.
Enable Account	Enable the check box to enable the account registered to the SIP of the VoIP service provider.
Associate Line	Select the phone line for the account.
Phone Number	Enter the account phone number.
Display Name	Enter the display name for the account.
Authentication User Name	Enter the account username.
Authentication Password	Enter the account password.
Apply Changes	Click to save your changes.
Register	Click to register your account.

## Service Setting

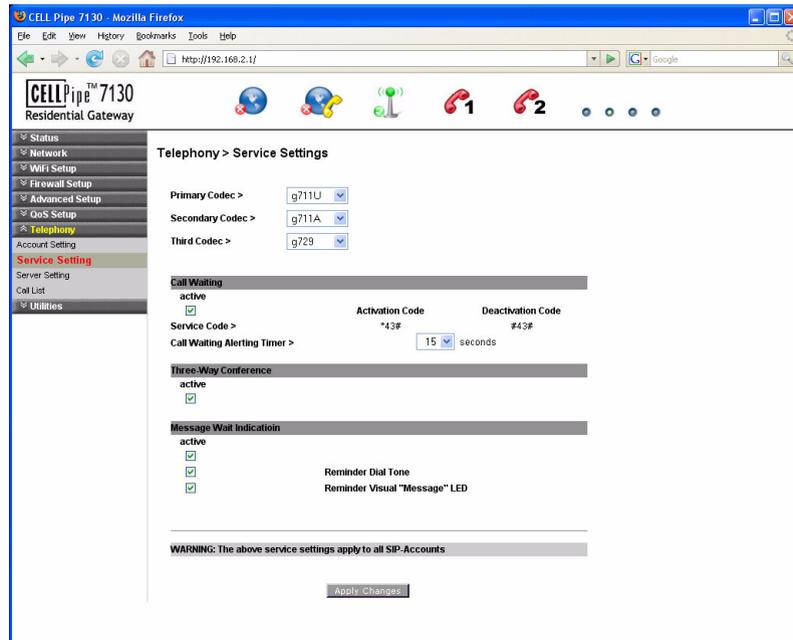
The Service Settings window enables you to configure advanced settings for the VoIP accounts such as call waiting and three-way conference call.

**Note:** Changes made to the service settings apply to all VoIP accounts.

It is recommended that you contact your VoIP service provider for assistance with configuring the service settings. Depending on your account, some features might not be included.

Select **Service Setting** in the **Telephony** menu to access the Service Setting window; see [Figure 10-2](#).

**Figure 10-2** Service Setting window



[Table 10-2](#) describes the fields of the Service Setting window.

**Table 10-2** Field descriptions

Field	Description
Primary Codec	Select a voice coding mechanism.
Secondary Codec	Select a voice coding mechanism.
Third Codec	Select a voice coding mechanism.
Call Waiting	Enable <b>Active</b> to enable the call waiting feature.
Service Code	The service codes for activation and deactivation.
Activation Code	The activation code for your call waiting service.
Deactivation Code	The deactivation code for your call waiting service.
Call Waiting Alerting Timer	Select a time interval for the call waiting alert.

---

Field	Description
Three-Way Conference	Enable <b>Active</b> to enable the conference call.
Message Wait Indication	Enable <b>Active</b> to turn on the message wait indicator. Enable one of the following as the message wait indication: <ul style="list-style-type: none"><li>• <b>Reminder Dial Tone</b></li><li>• <b>Reminder Visual “Message” LED</b></li></ul> If Reminder Dial Tone is selected, the alert is set as a dial tone. If Reminder Visual Message LED is selected, the alert is set as an LED.
Apply Changes	Click to save your changes.

## Server Setting

The Server Setting window enables you to configure the session initiated protocol (SIP) settings for the VoIP accounts.

**Note:** It is recommended that you contact your VoIP service provider for assistance with configuring the server settings.

Select **Server Setting** in the **Telephony** menu to access the Server Setting window; see [Figure 10-3](#).

Figure 10-3 Server Setting window

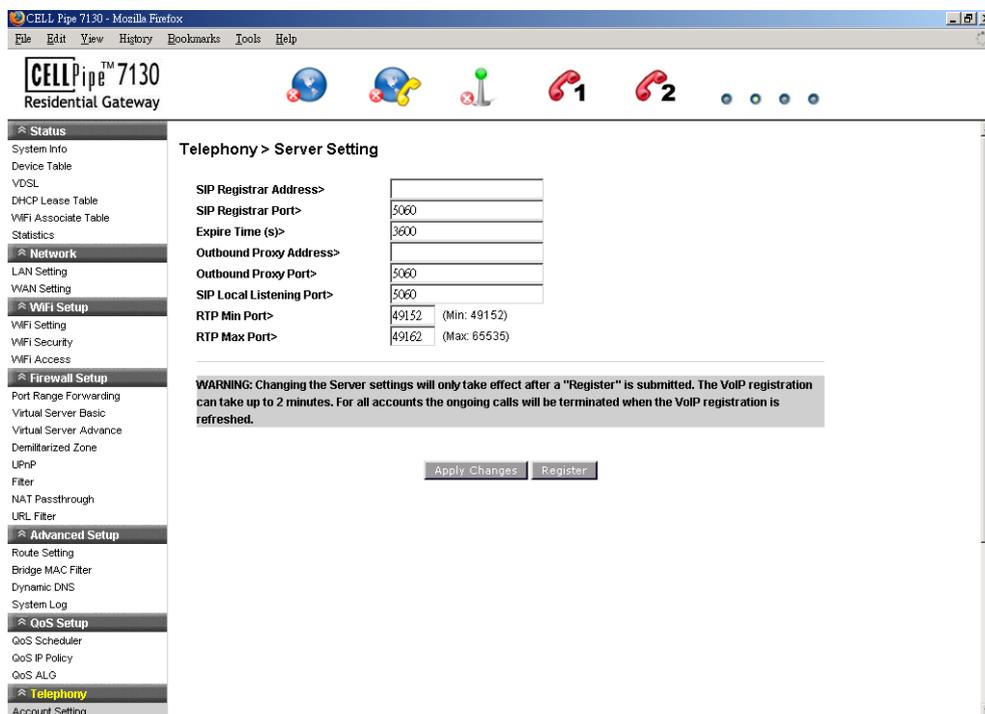


Table 10-3 describes the fields of the Server Setting window.

Table 10-3 Field descriptions

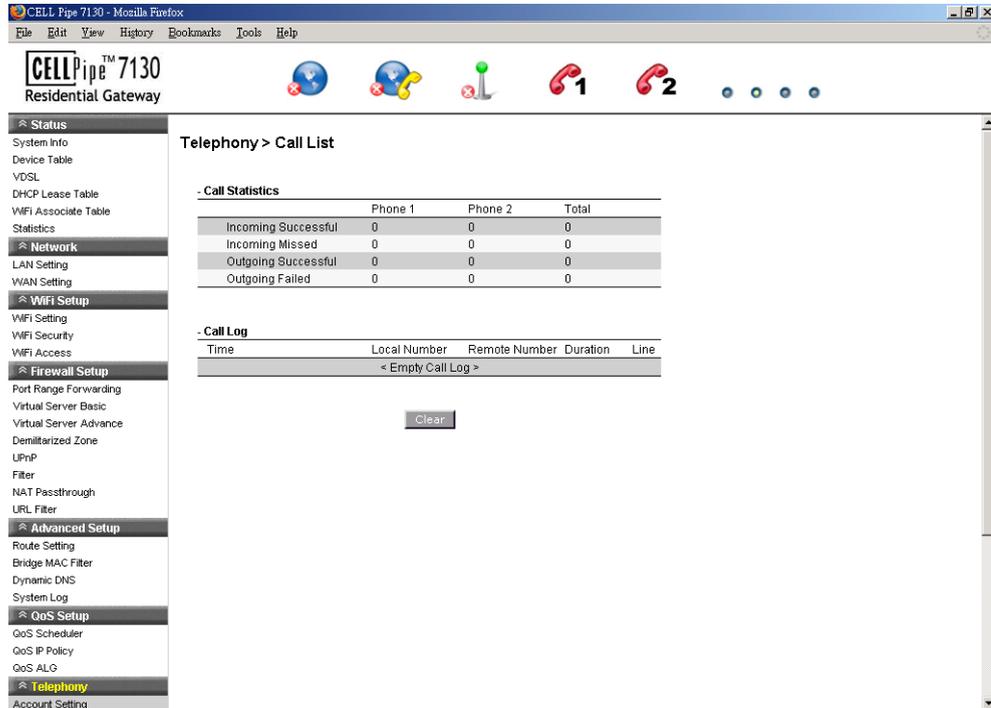
Field	Description
SIP Registrar Address	Enter the IP address of the SIP registration server.
SIP Registrar Port	Enter the port number of the SIP registration server.
Expire Time (s)	Enter the number of seconds that your SIP account is registered with the SIP register server before it is deleted. The default value is 3600.
Outbound Proxy Address	Enter the IP address of the outbound proxy server.
Outbound Proxy Port	Enter the port number of the outbound proxy server.
SIP Local Listening Port	Enter the local port to listen for SIP message.
RTP Min Port	Enter the minimum port range of the RTP listening port.
RTP Max Port	Enter the maximum port range of the RTP listening port.
Apply Changes	Click to save your changes.
Register	Click to register the changes with your service provider.

# Call List

The Call List window displays the call statistics and call log of your VoIP accounts.

Select **Call List** in the **Telephony** menu to access the Call List window; see [Figure 10-4](#).

**Figure 10-4** Call List window



[Table 10-4](#) describes the fields of the Call List window.

**Table 10-4** Field descriptions

Field	Description
Call Statistics	Displays the statistics for the incoming and outgoing calls for VoIP accounts.
Call Log	Displays the information of individual incoming and outgoing calls.
Clear	Click to clear the call statistics and call log.

# 11 Utilities



## Overview

This chapter explains how to configure the utilities of the CellPipe 7130 RG. Click the **Utilities** drop-down menu to open the **Utilities** menu.

## Contents

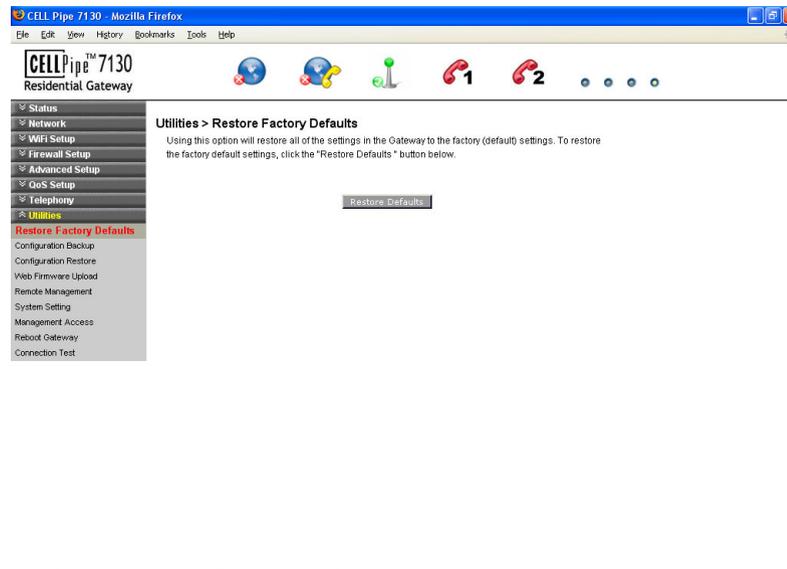
This chapter covers the following topics:

<a href="#">Restore Factory Defaults</a>	11-1
<a href="#">Configuration Backup</a>	11-2
<a href="#">Configuration Restore</a>	11-3
<a href="#">Web Firmware Upload</a>	11-4
<a href="#">Remote Management</a>	11-5
<a href="#">System Setting</a>	11-7
<a href="#">Management Access</a>	11-8
<a href="#">Reboot Gateway</a>	11-9
<a href="#">Connection Test</a>	11-10

## Restore Factory Defaults

The Restore Factory Defaults window enables you to restore the default settings of the CellPipe 7130 RG.

Select **Restore Factory Defaults** in the **Utilities** menu to access the Restore Factory Defaults window; see [Figure 11-1](#).

**Figure 11-1 Restore Factory Defaults window**

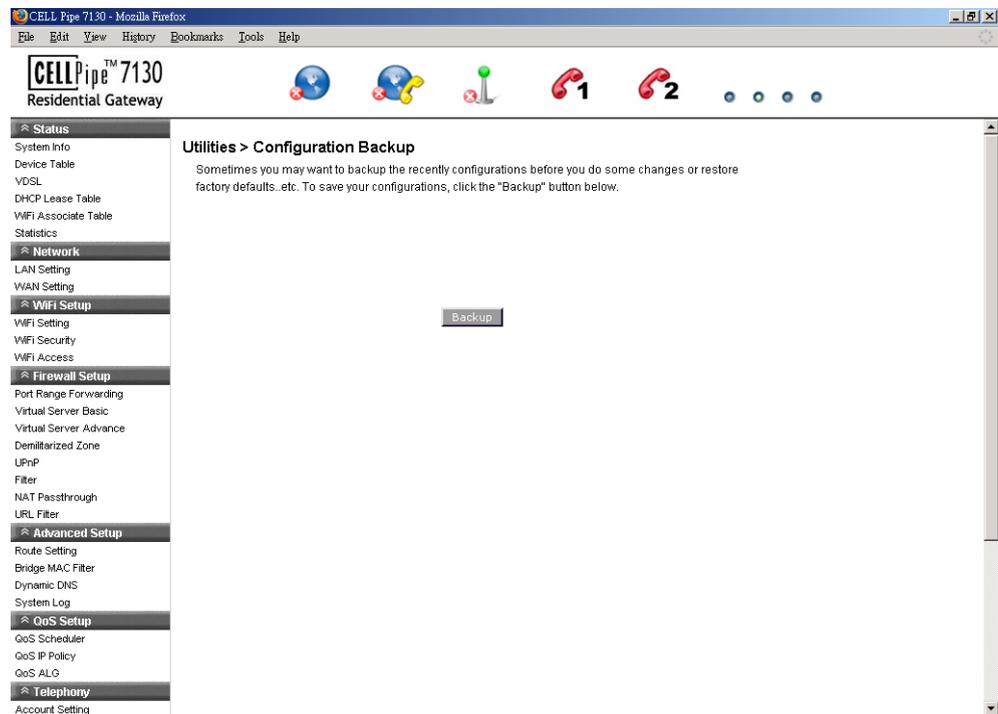
Click on **Restore Defaults** to restore the CellPipe 7130 RG to the factory default settings.

## Configuration Backup

The Configuration Backup window enables you to backup your configuration of the CellPipe 7130 RG.

Select **Configuration Backup** in the **Utilities** menu to access the Configuration Backup window; see [Figure 11-2](#).

Figure 11-2 Configuration Backup window



Click on **Backup** to save your system configuration.

## Configuration Restore

The Configuration Restore window enables you to restore your configuration of the CellPipe 7130 RG.

Select **Configuration Restore** in the **Utilities** menu to access the Configuration Restore window; see [Figure 11-3](#).

Figure 11-3 Configuration Restore window

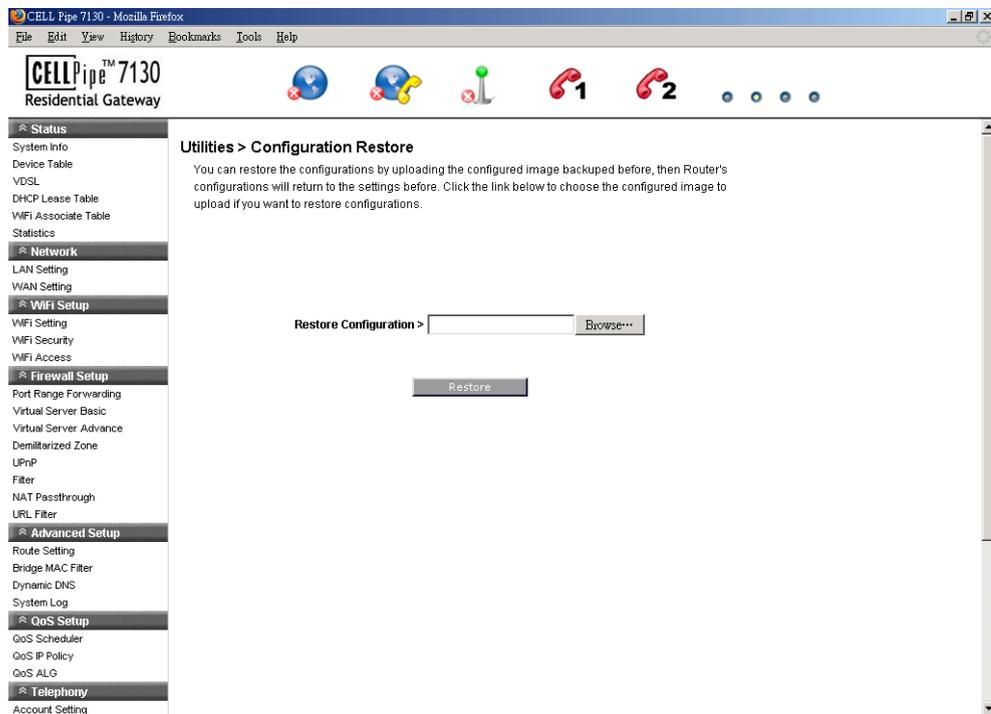


Table 11-1 describes the fields of the Configuration Restore window.

Table 11-1 Field descriptions

Field	Description
Restore Configuration	Click <b>Browse</b> and then locate and select the configuration backup file to restore.
Restore	Click to restore the selected configuration.

## Web Firmware Upload

The Web Firmware Upload window enables you to update the firmware for the CellPipe 7130 RG.

### WARNING

Do not turn off the power or disturb the system during a firmware upgrade.

Select **Web Firmware Upload** in the **Utilities** menu to access the Web Firmware Upload window; see [Figure 11-4](#).

Figure 11-4 Web Firmware Upload window

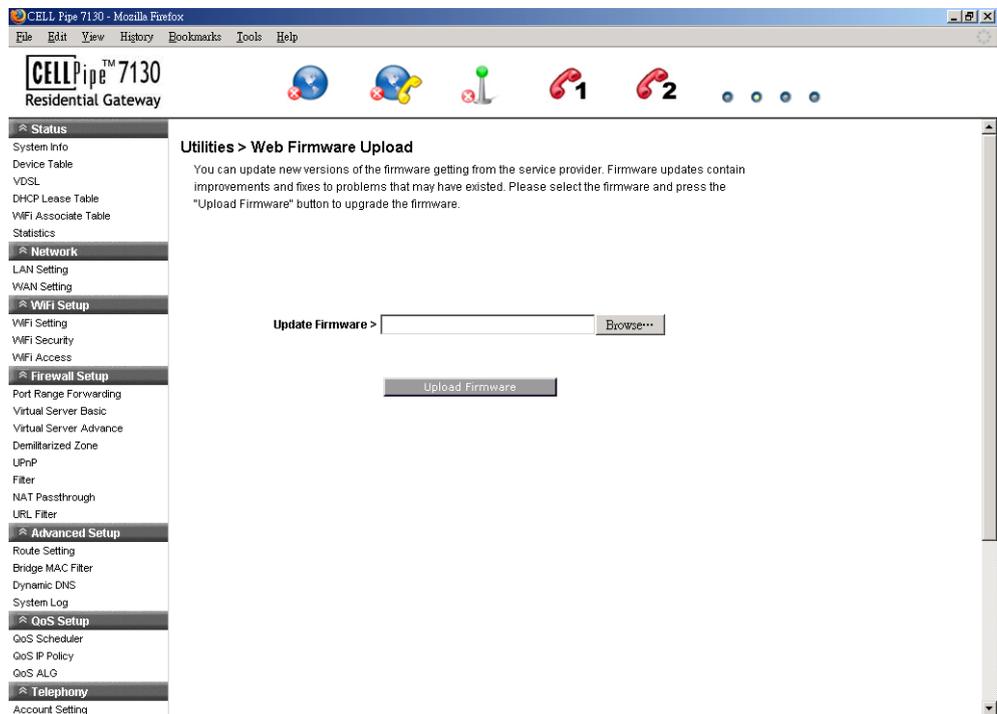


Table 11-2 describes the fields of the Web Firmware Upload window.

Table 11-2 Field descriptions

Field	Description
Update Firmware	Click <b>Browse</b> to locate and select the firmware upgrade file to upload.  <b>Note:</b> Firmware upgrades are available at <a href="http://www.alcatel-lucent.com/wps/portal/support">http://www.alcatel-lucent.com/wps/portal/support</a> . You must obtain the upgrade file before uploading.
Upload Firmware	Click to upload the firmware update.

## Remote Management

The Remote Management window enables you to configure remote access of the CellPipe 7130 RG.

Select **Remote Management** in the **Utilities** menu to access the Remote Management window; see [Figure 11-5](#).

Figure 11-5 Remote Management window

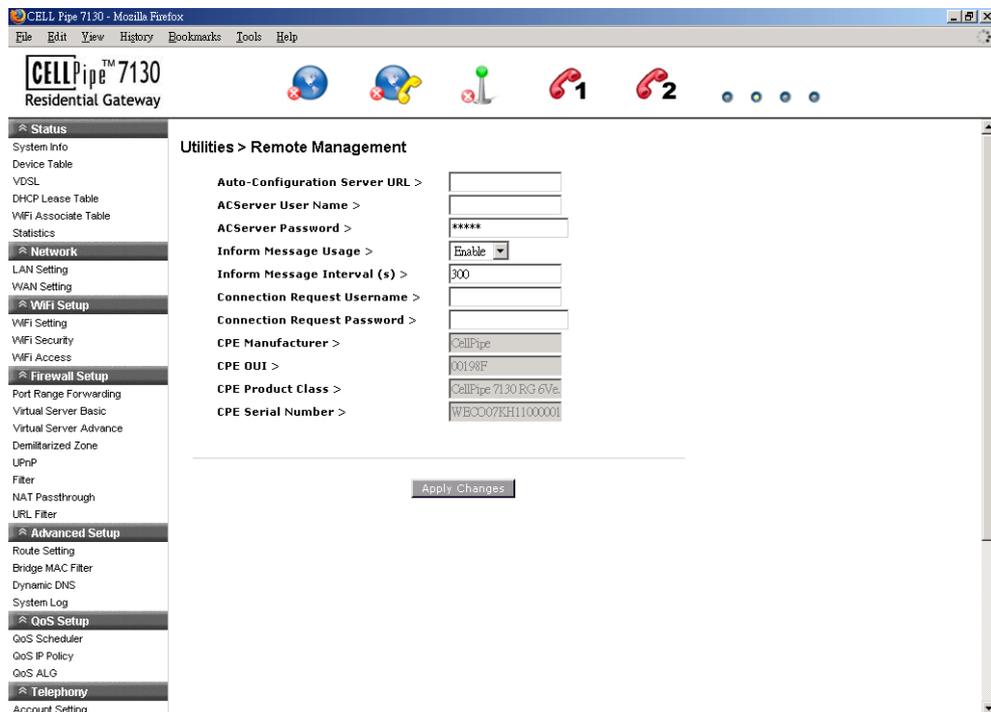


Table 11-3 describes the fields of the Remote Management window.

Table 11-3 Field descriptions

Field	Description
Auto-Configuration Server URL	Enter the URL of the auto-configuration server.
ACServer User Name	Enter the username of the auto-configuration server.
ACServer Password	Enter the password for the auto-configuration server.
Inform Message Usage	Select <b>Enable</b> to have the device information sent to the auto-configuration server. Select <b>Disable</b> not to send the information to the auto-configuration server.
Inform Message Interval (s)	Enter an interval of time in seconds.
Connection Request User Name	Enter the username for the connection request of the auto-configuration server to the device.
Connection Request Password	Enter the password for the connection request of the auto-configuration server to the device.
CPE Manufacturer	The manufacturer of the device.
CPE OUI	The organizational unique identifier of the device.
CPE Product Class	The model of the device.
CPE Serial Number	The serial number of the device.

Field	Description
Apply Changes	Click to save your changes.

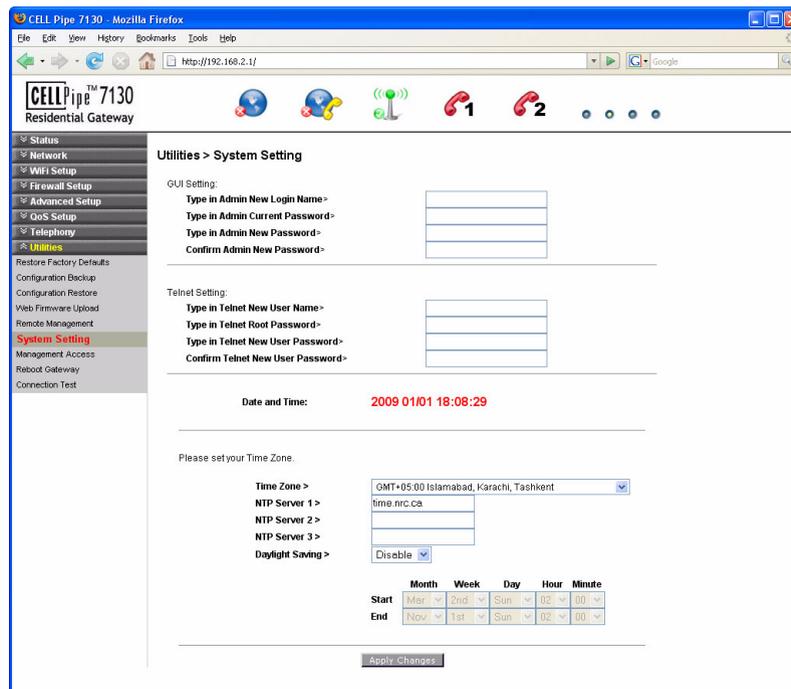
## System Setting

The System Setting window enables you to change the web administrator username and password, and configure settings such as the time zone, NTP, and daylight savings.

**Note:** It is highly recommended that you change the admin default username and password and the Telnet default username and password.

Select **System Setting** in the **Utilities** menu to access the System Setting window; see [Figure 11-6](#).

**Figure 11-6** System Setting window



[Table 11-4](#) describes the fields of the System Setting window.

**Table 11-4** Field descriptions

Field	Description
<b>GUI Setting</b>	
Type in Admin New Login Name	Enter the new username.

Field	Description
Type in Admin Current Password	Enter the current admin password. <b>Note:</b> If this is the first time the admin password is changed, the default admin password is <b>admin</b> .
Type in Admin New Password	Enter the new password.
Confirm Admin New Password	Retype the new password to confirm.
<b>Telnet Setting</b>	
Type in Telnet New User Name	Enter the new username.
Type in Telnet Root Password	Enter the current Telnet root password. <b>Note:</b> If this is the first time the root password is changed, the default root password is <b>c@a*sh=G!</b> .
Type in Telnet New User Password	Enter the new password.
Confirm Telnet New User Password	Retype the new password to confirm.
<b>Please set your Time Zone</b>	
Date and Time	Displays the current date and time according to the time zone configuration.
Time Zone	Select your time zone.
NTP Server 1 to 3	Enter the IP address or URL of the network time protocol server.
Daylight Saving	Select <b>Enable</b> to turn on daylight savings time. Select <b>Disable</b> to turn off daylight savings time.
Start/End	If you have enabled daylight savings time, select the required <b>Month, Week, Day, Hour, and Minute</b> for the daylight savings time to take effect.
Apply Changes	Click to save your changes.

## Management Access

The Management Access window enables you to control the types of services that pass through the router and provide a layer of security.

**Note:** It is recommended that you consult your ISP before configuring the access.

Select **Management Access** in the **Utilities** menu to access the Management Access window; see [Figure 11-7](#).

Figure 11-7 Management Access window

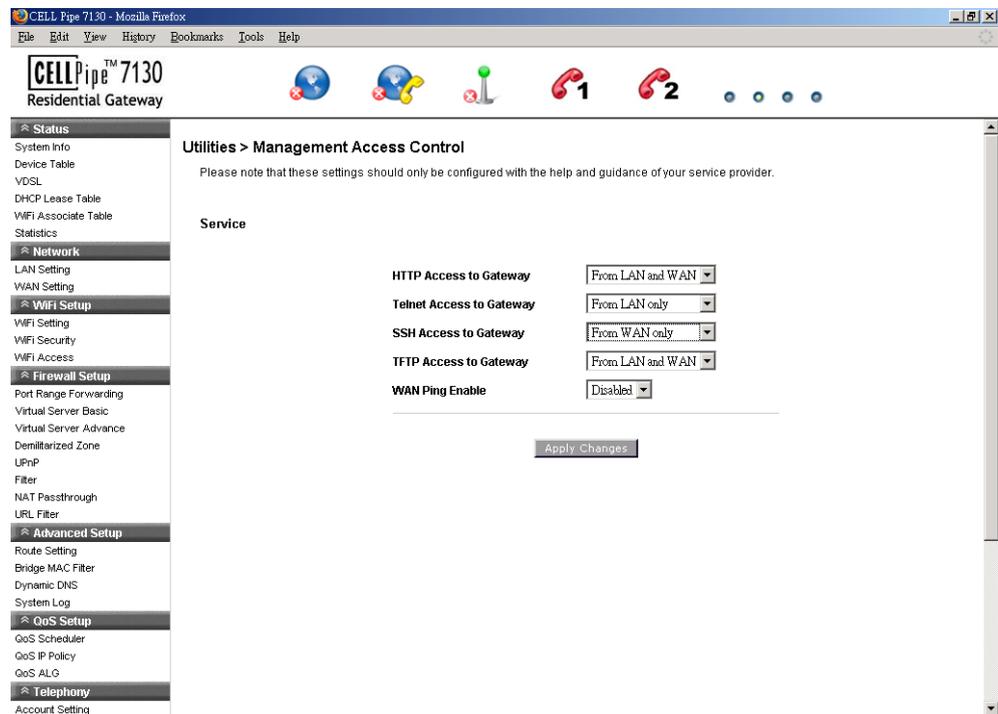


Table 11-5 describes the fields of the Management Access window.

Table 11-5 Field descriptions

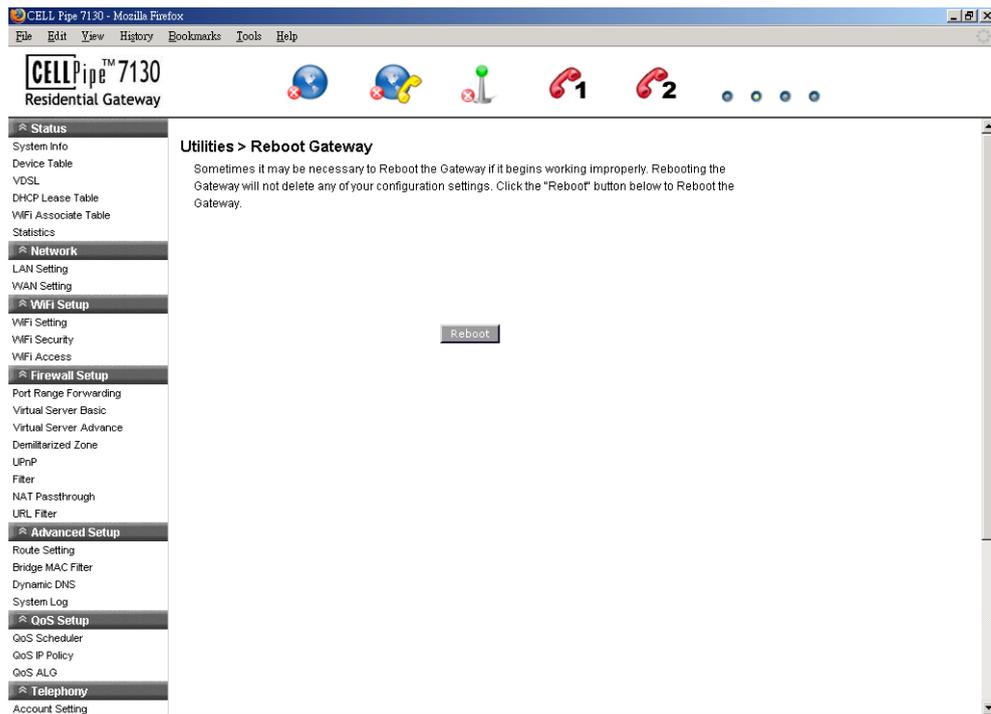
Field	Description
HTTP Access to Gateway Telnet Access to Gateway SSH Access to Gateway TFTP Access to Gateway	Select one of the following settings: <ul style="list-style-type: none"> <li>• <b>Disable</b></li> <li>• <b>From LAN only</b></li> <li>• <b>From WAN only</b></li> <li>• <b>From LAN and WAN</b></li> </ul>
WAN Ping Enable	Select <b>Enable</b> to allow the WAN interface to respond to the ICMP request from the Internet. Select <b>Disable</b> to deny the WAN interface from responding to the ICMP request from the Internet.
Apply Changes	Click to save your changes.

## Reboot Gateway

The Reboot Gateway window enables you to reboot the CellPipe 7130 RG. Rebooting the gateway does not reset your settings.

Select **Reboot Gateway** in the **Utilities** menu to access the Reboot Gateway window; see [Figure 11-8](#).

**Figure 11-8** Reboot Gateway window



Click on **Reboot** to restart the CellPipe 7130 RG.

## Connection Test

The Connection Test screen enables you to test the connectivity with other network devices.

Select **Connection Test** in the **Utilities** menu to access the Connection Test window; see [Figure 11-9](#).

Figure 11-9 Connection Test window

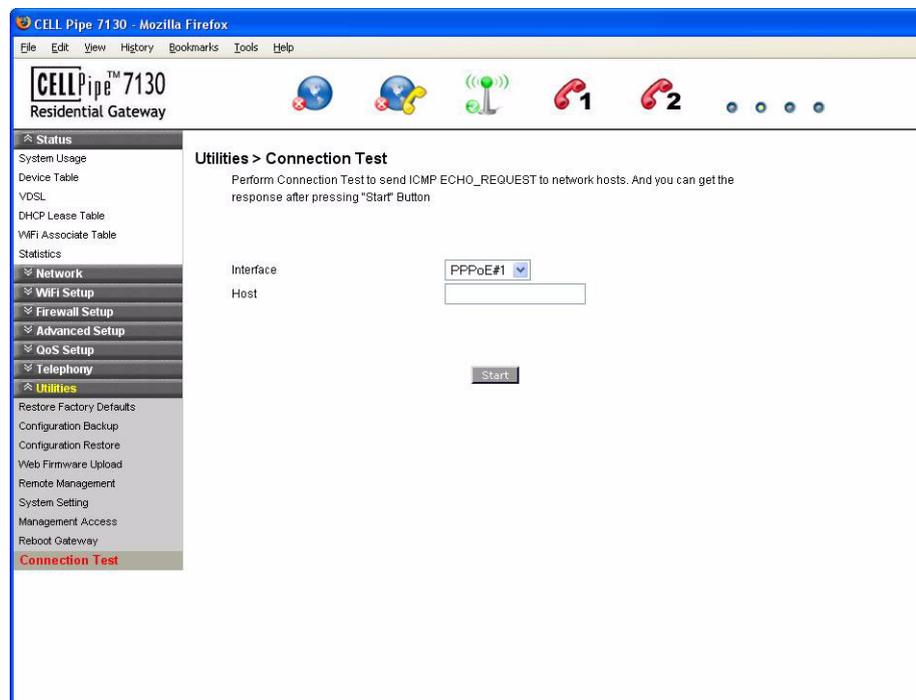


Figure 11-6 describes the fields of the Connection Test window.

Table 11-6 Field descriptions

Field	Description
Interface	From the drop-down menu, select the interface to which the device to be tested is connected.
Host	Please enter the IP address of the device to be tested.
Start	Click <b>Start</b> to test the connection of the selected device.



# A Troubleshooting



## Overview

This section identifies common problems that can arise during the use of the CellPipe 7130 RG (and offers solutions). Most issues are identified by the LEDs on the front panel of the CellPipe 7130 RG.

### Troubleshooting Table

Symptom	Possible cause	Solution
Power LED does not come on after power is switched on.	Outlet, power cord, or power adapter might be defective.	<ul style="list-style-type: none"><li>• Check the outlet by plugging in another electronic device.</li><li>• Call the customer service number or return the device to the vendor.</li></ul>
DSL LED flashes slowly after connection is established.	The VDSL port on the gateway or the cable might be defective.	<ul style="list-style-type: none"><li>• Switch the power off and then switch the power on.</li><li>• Verify that the cable is connected properly to the VDSL wall line and the VDSL connector on the CellPipe 7130 RG.</li></ul>
LAN LED does not come on after connection is established.	The LAN port on the gateway, the network interface, or a network cable may be defective or not connected.	<ul style="list-style-type: none"><li>• Verify that the power is switched on.</li><li>• Ensure that the cable is plugged into the CellPipe 7130 RG and the device.</li><li>• Check the network adapter or the cable connections for defects.</li></ul>
VDSL Diag LED is flashing.	A firmware upgrade is in progress.	<ul style="list-style-type: none"><li>• Verify that a firmware upgrade is in progress.</li><li>• Wait until the firmware upgrade is finished.</li></ul>

Symptom	Possible cause	Solution
<p>Internet LED is off.</p>	<p>Your device is unable to connect to the Internet. The device might not be configured properly or the network adapter driver might need to be updated.</p>	<ul style="list-style-type: none"> <li>• Verify that your device is properly configured for TCP/IP.</li> <li>• Ensure that the correct network adapter driver is installed for your operating system. If necessary, reinstall the driver.</li> <li>• Check that the speed of the network adapter or duplex mode has not been configured manually. It is recommended that the adapter be set to auto-negotiation.</li> <li>• Ensure that the network connection is established before launching the browser.</li> <li>• In the network connection tab, verify that your user name and password are correct.</li> </ul>

# B TCP/IP configuration



## Overview

The following procedures provide TCP/IP configuration instructions for all supported operating systems.

### Windows Vista

1. Open **Network and sharing Center** from the Control Panel.
2. Open **Manage network connections** from the **Network and sharing Center**.
3. Right-click **Ethernet connection** and select **Properties**.
4. Under the **General** tab, select **Internet Protocol (TCP/IPv4)**, and click **Properties**.
5. Select the **Obtain an IP address automatically** radio button.
6. Select the **Obtain DNS server address automatically** radio button.
7. Click **OK** to save the settings.

END OF STEPS

---

### Windows XP

1. Open **Network Connections** from the Control Panel.
2. Right-click **Ethernet connection** and select **Properties**.
3. Under the **General** tab, select **Internet Protocol (TCP/IP)**, and click **Properties**. The Internet Protocol (TCP/IP) properties window appears.
4. Select the **Obtain an IP address automatically** radio button.
5. Select the **Obtain DNS server address automatically** radio button.
6. Click **OK** to save the settings.

END OF STEPS

---

### Windows Me/2000/98/95

1. Open **Network and Dialing Connections** from the Control Panel.
2. Right click the **Ethernet connection** icon and select **Properties**.
3. Select **Internet Protocol (TCP/IP)** component, and click **Properties**. The Internet Protocol (TCP/IP) properties window appears.

4. Select the **Obtain an IP address automatically** radio button.
5. Select the **Obtain DNS server address automatically** radio button.
6. Click **OK** to save the settings.

END OF STEPS

---

## Windows NT

1. Open **Network** from the Control Panel.
2. From the **Protocol** tab, select the **Internet Protocol (TCP/IP)** component, and click the **Properties** button.
3. From the **IP Address** tab, select the **Obtain an IP address automatically** radio button.
4. From the **DNS** tab, verify that no DNS server is defined in the **DNS Service Search Order** box and no suffix is defined in the **Domain Suffix Search Order** box.

END OF STEPS

---

## Mac OS

1. Open **System Preferences** from the Panel.
2. Choose **Network** from **Internet & Network**.
3. Make sure the window is unlocked. If it is locked, click the lock to make changes and enter the password for authentication.
4. From the **TCP/IP** tab, choose the **Using DHCP on Configure IPv4** field.
5. Click on the **Apply Now** button to obtain an IP address from the DHCP server.

END OF STEPS

---

# C Product conformance



## Overview

This section lists the product conformance requirements for the EU.

## EU declaration of conformity

This device complies with the essential requirements of the R&TTE Directive 1999/5/EC. The following test methods have been applied in order to prove presumption of conformity with the essential requirements of the R&TTE Directive 1999/5/EC:

- EN60950-1:2001 A11:2004  
Safety of Information Technology Equipment
- EN50385 : (2002-08)  
Product standard to demonstrate the compliance of radio base stations and fixed terminal stations for wireless telecommunication systems with the basic restrictions or the reference levels related to human exposure to radio frequency electromagnetic fields (110MHz - 40 GHz) - General public
- EN 300 328 V1.7.1: (2006-10)  
Electromagnetic compatibility and Radio spectrum Matters (ERM); Wideband Transmission systems; Data transmission equipment operating in the 2,4 GHz ISM band and using spread spectrum modulation techniques; Harmonized EN covering essential requirements under article 3.2 of the R&TTE Directive
- EN 301 489-1 V1.6.1: (2005-09)  
Electromagnetic compatibility and Radio Spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements
- EN 301 489-17 V1.2.1 (2002-08)  
Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 17: Specific conditions for 2,4 GHz wideband transmission systems and 5 GHz high performance RLAN equipment

This device is a 2.4 GHz wideband transmission system (transceiver), intended for use in all EU member states and EFTA countries, except in France and Italy where restrictive use applies.

In Italy the end-user should apply for a license at the national spectrum authorities in order to obtain authorization to use the device for setting up outdoor radio links and/or for supplying public access to telecommunications and/or network services.

This device may not be used for setting up outdoor radio links in France and in some areas the RF output power may be limited to 10 mW EIRP in the frequency range of 2454 – 2483.5 MHz. For detailed information the end-user should contact the national spectrum authority in France.

# CE 0560

 Česky [Czech]	<i>[Jméno výrobce]</i> tímto prohlašuje, že tento <i>[typ zařízení]</i> je ve shodě se základními požadavky a dalšími příslušnými ustanoveními směrnice 1999/5/ES.
 Dansk [Danish]	Undertegnede <i>[fabrikantens navn]</i> erklærer herved, at følgende udstyr <i>[udstyrets typebetegnelse]</i> overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF.
 Deutsch [German]	Hiermit erkläre <i>[Name des Herstellers]</i> , dass sich das Gerät <i>[Gerätetyp]</i> in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 1999/5/EG befindet.
 Eesti [Estonian]	Käesolevaga kinnitab <i>[tootja nimi = name of manufacturer]</i> seadme <i>[seadme tüüp = type of equipment]</i> vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.
 English	Hereby, <i>[name of manufacturer]</i> , declares that this <i>[type of equipment]</i> is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.
 Español [Spanish]	Por medio de la presente <i>[nombre del fabricante]</i> declara que el <i>[clase de equipo]</i> cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE.
 Ελληνική [Greek]	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ <i>[name of manufacturer]</i> ΔΗΛΩΝΕΙ ΟΤΙ <i>[type of equipment]</i> ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/ΕΚ.
 Français [French]	Par la présente <i>[nom du fabricant]</i> déclare que l'appareil <i>[type d'appareil]</i> est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE.
 Italiano [Italian]	Con la presente <i>[nome del costruttore]</i> dichiara che questo <i>[tipo di apparecchio]</i> è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.
 Latviski [Latvian]	Ar šo <i>[name of manufacturer / izgatavotāja nosaukums]</i> deklarē, ka <i>[type of equipment / iekārtas tips]</i> atbilst Direktīvas 1999/5/EK būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.
 Lietuvių [Lithuanian]	Šiuo <i>[manufacturer name]</i> deklaruoją, kad šis <i>[equipment type]</i> atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.
 Nederlands [Dutch]	Hierbij verklaart <i>[naam van de fabrikant]</i> dat het toestel <i>[type van toestel]</i> in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG.
 Malti [Maltese]	Hawnhekk, <i>[isem tal-manifattur]</i> , jiddikjara li dan <i>[il-mudell tal-prodott]</i> jikkonforma mal-ftigijiet essenzjali u ma provvedimenti oħrajn relevanti li hemm fid-Direttiva 1999/5/EC.
 Magyar [Hungarian]	Alulírott, <i>[gyártó neve]</i> nyilatkozom, hogy a <i>[... típus]</i> megfelel a vonatkozó alapvető követelményeknek és az 1999/5/EC irányelv egyéb előírásainak.
 Polski [Polish]	Niniejszym <i>[nazwa producenta]</i> oświadczam, że <i>[nazwa wyrobu]</i> jest zgodny z zasadniczymi wymogami oraz pozostałymi stosownymi postanowieniami Dyrektywy 1999/5/EC.
 Português [Portuguese]	<i>[Nome do fabricante]</i> declara que este <i>[tipo de equipamento]</i> está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.
 Slovensko [Slovenian]	<i>[Ime proizvajalca]</i> izjavlja, da je ta <i>[tip opreme]</i> v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 1999/5/ES.
 Slovensky [Slovak]	<i>[Meno výrobcu]</i> týmto vyhlasuje, že <i>[typ zariadenia]</i> spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.
 Suomi [Finnish]	<i>[Valmistaja = manufacturer]</i> vakuuttaa täten että <i>[type of equipment = laitteen tyyppimerkintä]</i> tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
 Svenska [Swedish]	Härmed intygar <i>[företag]</i> att denna <i>[utrustningstyp]</i> står i överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.

## **Federal Communication Commission Interference Statement**

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

### **IMPORTANT NOTE:**

#### **FCC Radiation Exposure Statement:**

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance **20** cm between the radiator & your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

The availability of some specific channels and/or operational frequency bands are country dependent and are firmware programmed at the factory to match the intended destination. The firmware setting is not accessible by the end user.

## FCC REQUIREMENTS

This equipment complies with Part 68 of FCC Rules and the requirements adopted by the ACTA.. On the bass unit of this equipment is a label that contains, among other information, a product identifier in the format **US: GEMDL01B WVDK118**. If requested, this number must be provided to the telephone company. The REN for this product is part of the product identifier that has the format **US: GEMDL01B WVDK118**. The digits represented by **01** are the REN without a decimal point.

The REN is useful to determine the quantity of devices you may connect to your telephone line and still have those devices ring when your telephone number is called. In most, but not all areas, the sum of the REN of all devices connected to one line should not exceed five (5.0). To be certain of the number of devices you may connect to your line, as determined by the REN, you should contact your local telephone company to determine the maximum REN for your calling area.

If your equipment causes harm to the telephone network, the telephone company may discontinue your service temporarily. If possible, they will notify you in advance. If advance notice is not practical, you will be notified as soon as possible. You will be informed of your right to file a complaint with the FCC. Your telephone company may make changes in its facilities, equipment, operations or procedures that could affect the proper functioning of your equipment. If they do, you will be notified in advance to give you an opportunity to maintain uninterrupted telephone service.

If you experience trouble with this telephone equipment, please contact the following address and phone number for information on obtaining service or repairs:

The telephone company may ask that you disconnect this equipment from the network until the problem has been corrected or until you are sure that the equipment is not malfunctioning.

This equipment may not be used on coin service provided by the telephone company. Connection to party lines is subject to state tariffs.

# Glossary



## Numerics

### **10/100Base-T**

The most widely used standard for Ethernet over twisted pair or copper-based computer networking. Runs at 10 Mb/s, 100 Mb/s, and 1000 Mb/s (1 Gb/s) respectively.

### **802.1 Q/P**

The standard that allows multiple bridged networks to transparently share the same physical network link without leakage of information between networks.

## A

### **ACS**

Auto-Configuration Server

### **ALG**

Application-Level Gateway

### **AP**

Access Point

### **API**

Application Programming Interface

## C

### **CHAP**

Challenge-Handshake Authentication Protocol

### **Codec**

A device or computer program capable of encoding and/or decoding a digital data stream or signal.

### **CoS**

Class of Service

### **CPE**

Customer Premises Equipment

## D

### **DDNS**

Dynamic Domain Name System

### **DHCP**

Dynamic Host Configuration Protocol

### **DMZ**

Demilitarized Zone

**DNS**

Domain Name System

**DSCP**

Differentiated Services Code Point

**DSL**

Digital Subscriber Line

**DTIM**

Delivery Traffic Indication Message

**Dynamic Routing**

The capability of a system, through which routes are characterised by their destination, to alter the path that the route takes through the system in response to a change in conditions.

**E**

**Ethernet**

A family of frame-based computer networking technologies for local area networks (LANs).

**F**

**Firewall**

An integrated collection of security measures designed to prevent unauthorized electronic access to a networked computer system.

**G**

**Gateway**

A network node equipped for interfacing with another network that uses different protocols.

**H**

**HTML**

Hyper Text Markup Language

**I**

**IP**

Internet Protocol

**IPSec**

Internet Protocol Security

**ISP**

Internet Service Provider

**K**

**kb/s**

Kilobit per second; a data rate unit.

**L**

**L2TP**

Layer 2 tunneling protocol; a tunneling protocol used to support virtual private networks (VPNs).

**LAN**

Local Area Network

**M**

**MAC**

Media Access Control

**Mb**

Megabit; a unit of information commonly used to express the rate data is transferred.

**MTU**

Maximum Transmission Unit

**N**

**NAT**

Network Address Translation

**Netmask**

The designated IP address routing prefix for a network of computers and devices.

**NIC**

Network Interface Controller

**NTP**

Network Time Protocol

**O**

**OUI**

Organizationally Unique Identifier

**Outbound Proxy Server**

The server responsible for handling calls made behind the NAT device by examining and translating the IP addresses.

**P**

**PAP**

Password Authentication Protocol

**Ping**

A computer network tool used to test whether a particular host is reachable across an IP network.

**PPPoE**

Point-to-Point Protocol over Ethernet

**PPTP**

Point-to-Point Tunneling Protocol

**PSK**  
Pre-Shared Key

**Q**

**QoS**  
Quality of Service

**R**

**RJ-11**  
A physical interface often used for terminating telephone wires.

**RJ-45**  
Most regularly used as an Ethernet connector. RJ-45 connectors are typically used to terminate twisted pair cable.

**RTP**  
Real-time Transport Protocol; handles voice data transfer making VOIP call using SIP.

**S**

**SSH**  
Secure Shell

**SIP**  
Session Initiation Protocol; an application layer control protocol that handles the setting up, altering and tearing down of voice and multimedia sessions over the Internet.

**SSID**  
Service Set Identifier

**Subnet**  
See *Netmask*.

**T**

**TCP**  
Transmission Control Protocol

**Telnet**  
Telecommunications network; a network protocol used on the internet or local area network (LAN) connections.

**TFTP**  
Trivial File Transfer Protocol

**ToS**  
Type of Service

**U**

**UDP**  
User Datagram Protocol

**UPnP**

Universal Plug and Play

**URL**

Uniform Resource Locator

**V**

**VDSL**

Very High Bitrate Digital Subscriber Line

**VLAN**

Virtual Local Area Network

**VoIP**

Voice over Internet Protocol

**W**

**WAN**

Wide Area Network

**WDS**

Wireless Distribution System

**WEP**

Wired Equivalent Privacy

**WiFi**

Wireless networking compatibility

**WLAN**

Wireless Local Area Network

**WPA**

WiFi Protected Access

**WPS**

WiFi Protected Setup

