

Citadel CL Series
Security and Traffic Shaping Versatile Router

ATERA
networks

Version 1.3



www.ateranetworks.com
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Introduction

This will guide you through the setup of the ATERA Networks Citadel CL series router. To learn more about ATERA Networks Citadel router, please refer to <http://www.ateranetworks.com>.

This Quick Start applies to all the four modes of ATERA Networks Citadel family:

1. Citadel CL-100
2. Citadel CL-100W
3. Citadel CL-200
4. Citadel CL-200W

Installing Hardware

Step 1: Unpack the ATERA Networks Citadel Router

Please confirm that the package includes the following items, and those items are in good condition.

1. Citadel CL Router (1)
2. AC220v 10A power cord (1)
3. Library CD-ROM (1)
4. Straight-through Ethernet cable (1)
5. 5V&3A power adapter
6. Two external antennas (This option is only available with Citadel CL-100W and Citadel CL-200W)

Step 2: Place the router correctly

Table Placement

For your convenience, please place the router horizontally on the table and ensure that the placement of the router guarantees that you can easily get a clear picture of the LED working status.

Wall Mounting

Citadel CL router can be wall mounted. In the back of the Citadel you will find two T-slots (3-directional) to help mount the router against the wall. Please ensure that the mounting location guarantees that you can easily get a clear picture of the LED working status.

Step 3: Network connection

Figure 1 illustrates the rear view of Citadel CL router. From left to right, they are respectively:

COM: Asynchronous serial port, used to do traditional Modem connection and console connection.

USB: Universal Serial Bus port (USB 1.1), used to connect USB devices, such as web camera, USB disk, etc.

LAN1, LAN2, LAN3, LAN4: Four Local Area Network ports (10/100Mbps auto-sensing Ethernet ports),

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used to connect such terminal devices as PC, notebook, etc. and such network devices as switch, hub, etc.

WAN: Wide Area Network port (10/100Mbps auto-sensing Ethernet port), used to connect ADSL Modem, Cable Modem, or other broadband connections.

DMZ / WAN2: The second Wide Area Network port (10/100Mbps auto-sensing Ethernet port), used to connect ADSL Modem, Cable Modem, or other broadband connections. This WAN port can be implemented as the second WAN connection (load-balancing & fail-over with the first WAN port), as well as DMZ (De-Militarized Zone) port (only for CL-200 and CL-200W).

RESET: Reset button. Pressing this button for more than 5 seconds will restore the router setting to factory default (Please note this only applies to the settings stored in the system itself. The contents in external USB disk will not be influenced).

5VDC: Power connector.

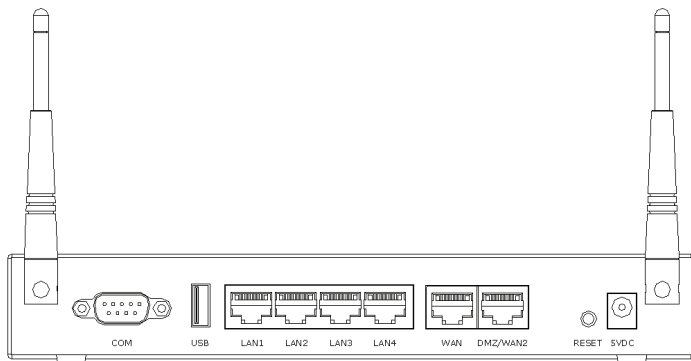


Figure 1

As a rule, you can use one UTP (Unshielded Twisted Pairs) cable (less than 100 meters in length) to connect the router to PC, notebook, switch, hub, etc.

Before you do the network connection, please ensure everything is working well (NIC-Network Interface Card, cable, etc).

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Figure 2 illustrates the front view of Citadel CL router. From left to right, the items are respectively:

DMZ: Working status indicator of DMZ / WAN2 port.

WAN: Working status indicator of WAN port.

LAN1, LAN2, LAN3, LAN4: Working status indicator of the four LAN ports.

AP: Working status indicator of Wireless LAN Access Point. Please note this only applies to Citadel CL-100W and Citadel CL-200W.

USB: Working status indicator of USB devices.

Online: Working status indicator of Internet connection.

Blinking (on for 1 second, off for 1 second): One Internet connection is present.

Blinking (on for 2 seconds, off for 1 second): Two Internet connections are present.

Blinking (on for 1 second, off for 2 seconds): Two Internet connections are not present, but the asynchronous serial Internet connection is present (dial-in Internet connection via external modem).

Off: All the Internet connections are not present.

Status:

Off: Normal.

Permanently lighting: Email indicator (Email server has new email messages).

Speedy blinking: System error

Power: Power indicator.

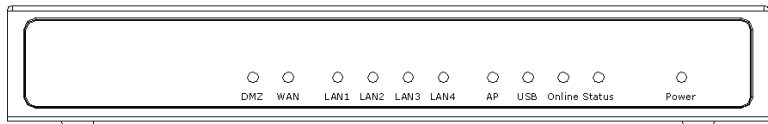


Figure 2

Step 4: Install Wireless LAN

If you have purchased Citadel CL-100W or Citadel CL -200W router, you should correctly install the two external antennas on the respective two antenna holes on the rear panel, before your Wireless LAN connection can be successfully established. It is recommended that the direction of external antenna should be kept vertical with router surface. For example, if the router is placed on the table, the external antennas should be kept vertical with table surface. If the router is mounted against the wall, the external antennas should be kept vertical with the wall surface. Please refer to Figure 3.



Figure 3

Configuring Software

Prerequisites

- A PC or notebook running Microsoft Windows (95/98/Me/2000/XP)
- An Ethernet network interface card installed.
- An 802.11g (up to 54Mbps) or an 802.11b (up to 11Mbps) Wireless LAN adapter for Wireless LAN clients (for Citadel CL-100W & Citadel CL-200W only)
- TCP/IP and an Internet browser installed
- You may need to log in with administrator privileges.

Regular network connection topology

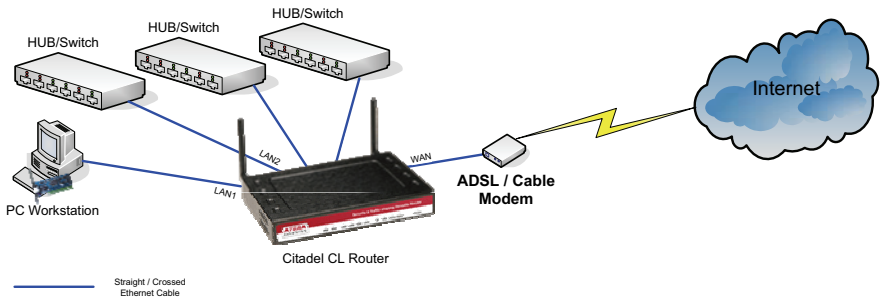


Figure 4

Please note: Figure 4 illustrates ADSL network connection. Other broadband connection methods, such as Cable Modem, direct Ethernet connection, etc. have similar topologies.

Establishing PC access to the ATERA Citadel Web Management Console

The Citadel CL router has an initial, predefined static IP address (for LAN):

IP address: **192.168.1.1**

Subnet mask: **255.255.255.0**

Please note that the WAN port is set to be using DHCP by default.

Your Citadel CL router will need an IP address suitable for your LAN before it is connected to your network. You may choose to use the Citadel CL's default network settings as a basis for setting your LAN.

Step 1:

Connect the supplied power cord to the Citadel CL, and power on the router.

Step 2:

Connect the Citadel CL's LAN port directly to your PC's NIC using a straight-through cable. Citadel CL WAN/LAN ports support MDI/MDX, thus crossed cables are also supported.

Please note if you prefer to use the Citadel CL's initial network settings as a basis for your LAN, you may connect the LAN port directly to your LAN hub using a straight-through cable. Before doing so, it is critical that you ensure there are no other devices on the LAN holding an address of 192.168.1.1.

Step 3:

Next, you must modify your PC's network settings to enable it to communicate with the Citadel CL.

Click on **Start -> Settings -> Control Panel** and double click on **Network Connections** (or in 95/98/Me, double click on **Network**).

Click on **Local Area Connection** and select **Properties**.

Please note if there are more than one existing network connections, select the one corresponding to the NIC to which the Citadel CL is connected.

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Select **Internet Protocol (TCP/IP)** and click on **Properties** (or in 95/98/Me, **TCP/IP -> the NIC name** if there are multiple entries and click on **Properties**).

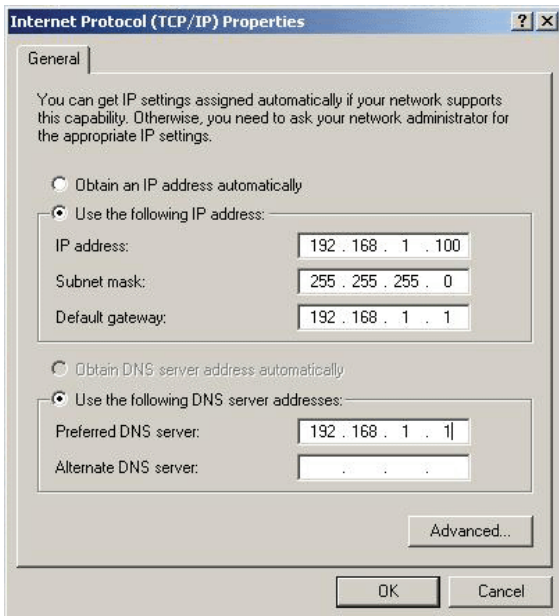


Figure 5

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Select **Use the following IP address** and enter the following details (Assuming that you are using the default setting of Citadel CL):

IP address: **192.168.1.100**

Subnet mask: **255.255.255.0**

Default gateway: **192.168.1.1**

Select **Use the following DNS server addresses** and enter:

Preferred DNS server: **192.168.1.1**

Finally, you can test the connectivity by using **Ping** utility.

Please note if you wish to retain your existing IP settings, click on Advanced and add the secondary IP address of 192.168.1.100, subnet mask 255.255.255.0.

Using ATERA Citadel Wizard™ quick setup wizard

Step 4:

Launch Internet Explorer (or other web browser) and locate it to the IP address you had assigned to Citadel CL (please note the default port is 10000).



Figure 6

First, a dialogue box pops up to prompt you to enter the user name and password. By default, the user name and password are both "admin" (case-sensitive).



Figure 7

Please note if you are unable to access the Web Management Console at 192.168.1.1, or the default username and password are not working, press the Reset button on the rear panel for more than 5 seconds, and then release the button. Doing so returns the Citadel CL to its factory default.

After you correctly input the user name and password, the Citadel CL Web Management Console will display. The front page contains a summary of system information and statistics, as well as a link to Citadel Wizard™ quick setup wizard.

To begin configuring this system now, use the menu to the left, or **Citadel Wizard™** 

System Information

Model : Citadel CL-200
Serial No. : 00100470-06-0003-1000029
Software Version : 2.10 Build 0107

System time : Tue Jun 28 05:11:38 2005 (GMT) England
System up time : 0 days 22 hours 40 minutes 13 seconds
Flash : 8MB total, 0.21MB free
SDRAM : 32MB total, 17.18MB free
USB port : No USB device connected
System load : 1 min: 0.06, 5 min: 0.06, 15 min: 0.00
Default gateway : 192.168.0.104
DNS servers : 192.168.0.104
Internet status : Connected

Interface	IP address	KB in:out	Packets in:out	Status
LAN	192.168.1.1	2814 : 17198	19996 : 61614	Link UP [100M, Full duplex]
WAN	192.168.0.175	20605 : 5561	74858 : 49095	Link UP [100M, Full duplex] DHCP
WAN2	-	0 : 0	0 : 0	Link DOWN DHCP
MODEM	-	-	-	-

Figure 8

You can begin to configure the router from the main menu on the left, or click on **Citadel Wizard** to complete the basic settings quickly.

Step 5:

Click on **Citadel Wizard**.

The Citadel Wizard quick setup will display.

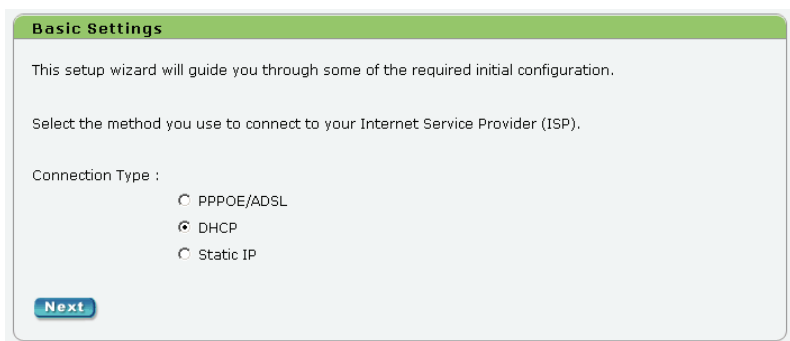


Figure 9

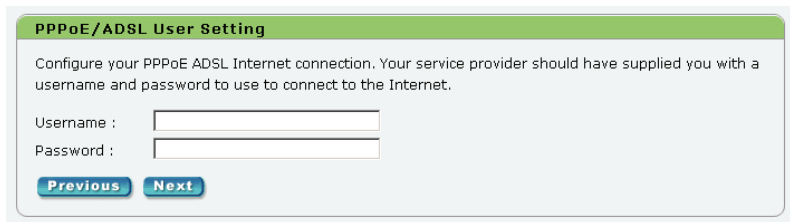
Citadel CL supports three kinds of connection to Internet through its WAN port (PPPoE, DHCP and Static IP). Please select the connection type you need. L2TP connection is also supported, in order to provide connectivity through a Cable modem. In order to set up an L2TP connection, choose “DHCP” as the Connection Type (see Figure 9) and refer to **L2TP VPN** Configuration section.

In addition, before getting on Internet, please make sure you have connected Citadel CL’s WAN port to Internet devices correctly.

Under the following situations, you need to choose PPPoE/ADSL to the access Internet (Please refer to Figure 4 to get the network connection topology):

- (1) You are using xDSL Internet connection, such as ADSL/VDSL, via an xDSL modem (usually attached to the WAN port).
- (2) You are using direct broadband Ethernet connection to access Internet, and a client-end dial-up (virtual PPPoE dial-up) program is needed to do user account authentication.

If you choose PPPoE/ADSL Internet connection type, please click on <<Next>> to enter PPPoE/ADSL user account configuration page. You can input user name and password provided by your ISP in this page.



PPPoE/ADSL User Setting

Configure your PPPoE ADSL Internet connection. Your service provider should have supplied you with a username and password to use to connect to the Internet.

Username :

Password :

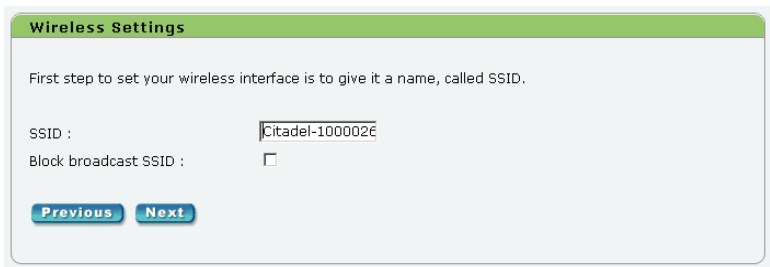
[Previous](#) [Next](#)

Figure 10

After the user name and password are inputted, please click on <<Next>> to enter Wireless LAN configuration page. You can set SSID, and choose whether to disable SSID broadcast in this page. Click on <<Previous>> to return to the previous page. (Please note this step applies to Citadel CL-100W & Citadel CL-200W)

SSID (Service Set Identifier)

The SSID is a character string up to 32 ASCII characters that differentiates Wireless LAN APs (Access Point) from each other. You can use the default SSID (ATERA-SN) unless more than one Wireless LAN Access Points are deployed across your LAN. If more than one Wireless LAN APs are deployed, you should use a different SSID for each Wireless LAN Access Point. The Wireless LAN AP and client Wireless LAN adapters must have the same SSID to allow Wireless LAN users to share information between each other. And SSID also helps user roam between the Wireless LAN APs (the Wireless LAN client must have multiple SSIDs matching different Wireless LAN APs). By default, the SSID is set to "ATERA-SN". (SN is the serial number of your Citadel CL router).



Wireless Settings

First step to set your wireless interface is to give it a name, called SSID.

SSID :

Block broadcast SSID :

[Previous](#) [Next](#)

Figure 11

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After Wireless LAN configured, click on <<Next>> to enter configuration confirmation page. The previous made configurations are outlined in this page. You can confirm and apply all the settings by clicking on <<Apply>>, or return to the previous page by clicking on <<Previous>>.

End Tips

The quick setup procedure has finished and your Citadel router should now be connected to the Internet. Any additional configuration can be done via left side bar in the main web page. Click Apply from this page will return you to the main configuration page.

Your have configured

Setting	Value
Connection type	PPPoE
ISP User	admin

[Previous](#) [Apply](#)

Figure 12

The screenshot shows the Atera Networks web interface. On the left is a navigation menu with options: HOME, INTERFACE, DHCP SERVER, DNS, FIREWALL, NAT, PPPoE, L2TP VPN, IPSEC VPN, QoS, ADVANCED, SYSTEM, and SETTINGS. The main content area is titled "HOME - System Information". A "Citadel Wizard" icon is visible in the top right. A "Microsoft Internet Explorer" dialog box is open in the center, displaying a yellow warning icon and the message "Quick Setup completed successfully." with an "OK" button. Below the dialog, system information is listed:

- System time: Tue Jun 28 05:24:04 2005 (GMT) England
- System up time: 0 days 22 hours 52 minutes 39 seconds
- Flash: 8MB total, 0.21MB free
- SDRAM: 32MB total, 15.73MB free
- USB port: No USB device connected
- System load: 1 min: 0.12, 5 min: 0.07, 15 min: 0.01
- Default gateway:
- DNS servers:
- Internet status: Disconnected

Figure 13

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Under the following situations, you need to choose DHCP to access the Internet (Please refer to Figure 4 to get the network connection topology):

You are using direct broadband Ethernet connection, which gets IP address dynamically from a DHCP server resided in your ISP area, and no user account authentication procedure is needed.

- (1) You are using direct broadband Ethernet connection, which gets IP addresses dynamically from a DHCP server resided in your ISP area, and web user account authentication procedure is needed (once the router gets an IP address from the DHCP server, a web page pops up to prompt you to enter user name and password).
- (2) You are using xDSL Internet connection, which gets IP address dynamically from a DHCP server, resided in your ISP area, and no user account authentication procedure is needed.
- (3) You are using L2TP Client in order to establish broadband internet connection (Usually for connecting through Cable modem).

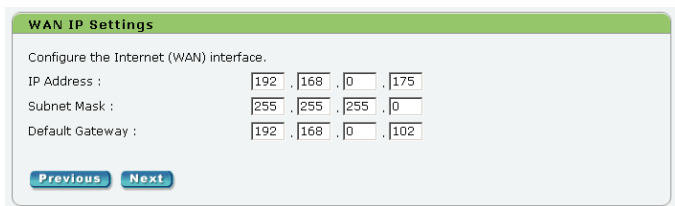
If you choose DHCP Internet connection type, please click on <<Next>> to enter Wireless LAN configuration page. You can set SSID, and choose whether to disable SSID broadcast in this page. Click on <<Previous>> to return to the previous page. Please refer to Figure 11. (Please note this step applies to Citadel CL-100W & Citadel CL-200W)

After the Wireless LAN is configured, click on <<Next>> to enter configuration confirmation page. The previous made configurations are outlined in this page. You can confirm and apply all the settings by clicking on <<Apply>>, or return to the previous page by clicking on <<Previous>>. Please refer to Figure 12 and Figure 13.

Under the following situations, you need to choose Static IP to access the Internet (Please refer to Figure 4 to get the network connection topology):

- (1) You are using direct broadband Ethernet connection, and manually inputting IP address is demanded.
- (2) You are using xDSL Internet connection, and manually inputting IP address is demanded.

If you choose Static IP Internet connection type, please click on <<Next>> to enter WAN IP parameters setting page. You can specify WAN IP address and subnet mask, as well as default gateway.



The screenshot shows a configuration window titled "WAN IP Settings" with a green header. Below the title, it says "Configure the Internet (WAN) interface." There are three rows of input fields: "IP Address" with values 192, 168, 0, 175; "Subnet Mask" with values 255, 255, 255, 0; and "Default Gateway" with values 192, 168, 0, 102. At the bottom, there are two buttons: "Previous" and "Next".

Field	1	2	3	4
IP Address :	192	168	0	175
Subnet Mask :	255	255	255	0
Default Gateway :	192	168	0	102

Figure 14

After WAN IP parameters are configured, please click on <<Next>> to enter Wireless LAN configuration page. You can set SSID, and choose whether to disable SSID broadcast in this page. Click on <<Previous>> to return to the previous page. Please refer to Figure 11. (Please note this step applies to Citadel CL-100W & Citadel CL-200W)

After the Wireless LAN configured, click on <<Next>> to enter configuration confirmation page. The previous made configurations are outlined in this page. You can confirm and apply all the settings by clicking on <<Apply>>, or return to the previous page by clicking on <<Previous>>. Please refer to Figure 12 and Figure 13.

L2TP VPN

Citadel CL supports L2TP client, allowing user to connect to the third-party L2TP server to establish VPN connection.

Click on **L2TP VPN** tab from the left main menu to enter L2TP VPN configuration page.

L2TP Client

Enable L2TP Client :

Make VPN the Default Route (single VPN only) :

Apply **Cancel**

L2TP Tunnel

Tunnel Name :

Server IP Address :

Username :

Password :

Confirm Password :

NAT :

Enabled :

Add **Modify** **Cancel**

Select	Tunnel Name	Server IP Address	Username	Status	IP Address	Default Gateway	DNS Servers	Up Time	Idle Time	NAT	Enabled/Disabled
<p>Delete Edit Enabled/Disabled Refresh</p>											

Figure 15

Please note: before a user begins to configure L2TP client in Citadel CL, he needs to configure L2TP server with a user account and other relevant parameters. The configuration of L2TP server is usually performed by your ISP, which should provide you with all the details. The configuration of L2TP server is beyond the scope of this manual.

L2TP client Configuration

Enable L2TP Client

Check this checkbox to enable L2TP client function. Leave it blank if you want to disable L2TP client function.

Make VPN the default route (mark VPN only)

Checking this checkbox will turn this L2TP VPN connection the default route for the Citadel CL (it is available when there is only one L2TP VPN connection). In most cases you should enable this option, but you may consult your ISP for the appropriate configuration regarding its network topology.

When forwarding packets, Citadel CL will look up route in the routing table to determine through which route to forward the packets. If there is no destination route of the forwarded packets, Citadel CL will use a default route to forward the packets. By default, this option is disabled. If this option has been disabled, user needs to add static route to the destination network.

L2TP tunnel

Tunnel name

Input a character string as name of the L2TP tunnel.

Server IP address

Public IP address or valid domain name of the L2TP server.

Username

User name of the L2TP account, which is established in the L2TP server.

Password

Password of the above mentioned L2TP account, which is also established in the L2TP server.

Confirm password

Input the password again to confirm it.

NAT

Check this checkbox to enable NAT for this L2TP VPN link. Once NAT enabled, the source IP address of packets transmitted over this L2TP VPN link will be masqueraded as IP address of this L2TP tunnel.

Enabled

Check this checkbox to activate this L2TP link and establish L2TP tunnel when adding this L2TP connection. Otherwise, the L2TP link will not be activated and the L2TP tunnel will not be established when adding this L2TP connection.

When all the configurations are done, user can click on <<Add>> to add a L2TP connection, <<Modify>> to change settings, or <<Cancel>> to undo all the changes.

All the established L2TP tunnels, along with their parameters, will be displayed in a table below. User can delete a L2TP tunnel by clicking on <<Delete>>, change settings of a L2TP tunnel by clicking on <<Edit>>, or change status of a L2TP tunnel by clicking on <<Enabled/Disabled>>. User can get the latest information of the established L2TP tunnels by clicking on <<Refresh>>.

Configure PCs on your LAN to Access the Internet

This section describes how to set up the PCs on your local network to access the Citadel CL and the Internet.

Connect your Citadel CL's LAN interface directly to your LAN hub/switch or a PC using a straight through cable.

To access Internet, the PCs on your local network must be set to use the IP address of Citadel CL's LAN port as their default gateway. This can be done in different ways depending on how your LAN is set up.

Please note:

If your LAN has a DHCP server already, proceed to LAN with a DHCP server. If your LAN does not have a DHCP server, proceed to LAN with no DHCP server.

LAN with a DHCP server

Configure the IP address pool of your existing DHCP server to exclude the IP address you set for the Citadel CL's LAN connection.

If you choose to set the Citadel CL's LAN connection manually, you may simply remove this address from the pool of available addresses.

Enter the IP address of gateway (LAN IP address of Citadel CL) and DNS server (LAN IP address of Citadel CL or other DNS server you prefer) to be used by the DHCP clients.

Repeat the above steps on every computer in you LAN. And then, restart all the computers on the network to make the computers gain a new DHCP lease (gateway and DNS server).

Please note that you can use the utility such as ipconfig to release and renew a DHCP lease.

LAN with no DHCP server

If your network does not have a DHCP server configured, you may either manually set up each PC on your network, or enable Citadel CL's DHCP server to assign IP configuration information to your computers.

Please note if there are only several PCs in your LAN, it is suggested that you set up your PC manually. If there are more PCs or you want a scalable LAN, please use the Citadel CL's DHCP server.

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Here is a guide of how to set up a Windows PC on your LAN manually:

Click on **Start -> Settings -> Control Panel** and double click on **Network Connections** (or in 95/98/Me, double click on **Network**).

If multiple connections exist, right click on **Local Area Connection** (or the network connection corresponding to the NIC connected to your LAN) and select **Properties**.

Select **Internet Protocol (TCP/IP)** and click on **Properties** (or in 95/98/Me, **TCP/IP -> [NIC's Name]** if there are multiple entries).

Explanations of every option:

IP address is an IP address matching the Citadel CL's LAN connection setting (e.g. if Citadel CL's default setting is used, the PC should fall in the IP address range of 192.168.1.2 – 192.168.1.254 with subnet mask 255.255.255.0).

Subnet mask is the subnet mask of your LAN.

Default gateway is the IP address of the Citadel CL's LAN connection.

Preferred DNS server is the IP address of the Citadel CL's LAN connection while your Citadel CL acts as a DNS proxy by default. However, you can choose a different DNS server if necessary.

Click on **OK** (or in 95/98/Me, **Add** then **OK**, reboot the PC if prompted to do so).

So far, you have completed one PC's setting. Repeat the above steps on every computer in your LAN.

Alternatively, you can set your Citadel CL as DHCP server to assign IP configuration information to your computers:

Launch web browser and navigate to the IP address of the Citadel CL's LAN connection, and then, enter into Web Management Console.

Select **DHCP Server** from the left menu bar and enable this function by checking the checkbox. Then Input the first IP address into "IP Pool Starting Address" column and input the last IP address into "IP Pool Ending Address" column. If not necessary, please leave the settings of "Default Lease Time" and "Default Gateway" as their default values. Finally, choose "Automatic DNS Assignment" to finish setting up DHCP server.

For details of configuring DHCP Server, please refer to User Manual.

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Now, each PC on your LAN must be set to use DHCP to obtain the configuration information. For each PC on your LAN:

Click on **Start -> Settings -> Control Panel** and double click on **Network Connections** (or in 95/98/Me, double click on **Network**).

If multiple connections exist, right click on appropriate **Local Area Connection** and select **Properties**.

Select **Internet Protocol (TCP/IP)** and click on **Properties** (or in 95/98/Me, **TCP/IP -> [NIC's name]** if there are multiple entries) and click on **Properties**

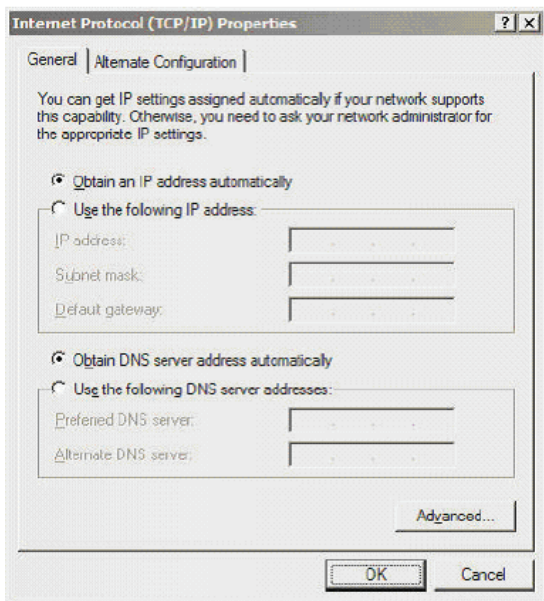


Figure 16

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Select **Obtain an IP address automatically** and **Obtain DNS server address automatically**. Click on **OK** to return to the previous screen, and then click on **OK**. (In 95/98/Me, reboot the PC if prompted to do so).

Repeat the above steps on every computer in your LAN. By far, you have completed your PC's setting. And you can connect your PC to Internet through Citadel CL as a gateway

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