

Configuring the LM Technologies LM009 wireless broadband router



The LM009 from LM Technologies is a wireless access point and Ethernet router, capable of connecting to existing cable / xDSL broadband modem and also featuring a USB port for use with a 3G HSPA modem, enabling both wired and wireless Internet access from connected clients via fixed-line and cellular service, all in one pocket-sized portable device.

The LM009 incorporates a number of feature-rich networking services providing all the functionality a small office or temporary field site may require, including:

- Firewall
- Advanced wireless encryption support
- Port Forwarding
- Port Filtering
- IP Filtering
- URL Filtering
- MAC filtering
- DMZ
- VLAN
- Virtual Server
- Route management
- QoS

The unit's USB port can also be used with a USB storage device to provide shared file server access to connected clients (both local and remote), via FTP or network file sharing protocols.

The unit also features a Dynamic DNS client for use with the DynDNS service, ideal for temporary or mobile locations requiring inbound access.

Configuration

In this article I am using the LM009 wireless broadband router with the [LM003 USB HSPA modem](#) for use as a cellular 3G wireless access point.

Insert your SIM into the LM003 and connect the LM003 to the LM009's USB port. Power on the LM009.

From your wireless client, search for available wireless networks, by default the LM009 will be listed as "MyWLAN":



Connect to the wireless network. Open your browser and connect to the unit's default IP address of <http://192.168.1.254>:

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WLAN Broadband Router

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WLAN Router Status

This page shows the current status and some basic settings of the device.

System	
Uptime	0day:0h:1m:53s
Firmware Version	u2.3.0.3.L00_eng2
Build Time	Thu Aug 5 16:58:13 CST 2010
USB Memory	Unconnected
Wireless Configuration	
Mode	AP
Band	2.4 GHz (B+G+N)
SSID	MyWLAN
Channel Number	11
Encryption	Disabled
BSSID	00:02:72:87:d0:84
Associated Clients	1
TCP/IP Configuration	
Attain IP Protocol	Fixed IP
IP Address	192.168.1.254
Subnet Mask	255.255.255.0
Default Gateway	192.168.1.254
DHCP Server	Enabled
MAC Address	00:02:72:87:d0:84
WAN Configuration	
Attain IP Protocol	Getting IP from DHCP server...
IP Address	0.0.0.0
Subnet Mask	0.0.0.0
Default Gateway	0.0.0.0
MAC Address	00:02:72:87:d0:85
WAN Link Status	LinkDown

Click on the link for the **Setup Wizard**:

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Setup Wizard

The setup wizard will guide you to configure access point for first time. Please follow the setup wizard step by step.

Welcome to Setup Wizard.

The Wizard will guide you the through following steps. Begin by clicking on Next.

1. Setup Operation Mode
2. Choose your Time Zone
3. Setup LAN Interface
4. Setup WAN Interface
5. Wireless LAN Setting
6. Wireless Security Setting

Next>>

Click **Next**:

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1. Operation Mode

You can setup different modes to LAN and WLAN interface for NAT and bridging function.
Please note that Gateway mode is ONLY choice for GSM3.5G WAN connection.

- Gateway:** In this mode, the device is supposed to connect to internet via ADSL, Cable or 3G Modem. The NAT is enabled and PCs in four LAN ports share the same IP to ISP through WAN port. The connection type can be setup in WAN page by using PPPOE, DHCP client, PPTP client, static IP or GSM 3.5G.
- Bridge:** In this mode, all ethernet ports and wireless interface are bridged together and NAT function is disabled. All the WAN related function and firewall are not supported.
- Wireless ISP:** In this mode, all ethernet ports are bridged together and the wireless client will connect to ISP access point. The NAT is enabled and PCs in ethernet ports share the same IP to ISP through wireless LAN. You must set the wireless to client mode first and connect to the ISP AP in Site-Survey page. The connection type can be setup in WAN page by using PPPOE, DHCP client, PPTP client, L2TP client or static IP.

Cancel <<Back Next>>

Select the option to use the device as a **Gateway**. Click **Next**:

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2. Time Zone Setting

You can maintain the system time by synchronizing with a public time server over the Internet.

Enable NTP client update
 Automatically Adjust Daylight Saving

Time Zone Select : (GMT+08:00)Taipei

NTP server : 192.5.41.41 – North America

Cancel <<Back Next>>

If you want the unit to update its internal clock automatically from the Internet select the option to enable NTP and select your Time Zone. Click **Next**:

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3. LAN Interface Setup

This page is used to configure the parameters for local area network which connects to the LAN port of your Access Point. Here you may change the setting for IP address, subnet mask, DHCP, etc..

IP Address: 192.168.1.254

Subnet Mask: 255.255.255.0

Cancel <<Back Next>>

Specify what internal LAN address you want the unit to have. Click **Next**:

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4. WAN Interface Setup

This page is used to configure the parameters for Internet network which connects to the WAN port of your Access Point. Here you may change the access method to static IP, DHCP, PPPoE, PPTP or L2TP by click the item value of WAN Access type.

WAN Access Type:

3.5G Devices:

Authentication Number:

User Name:

Password:

APN:

PIN:

Connection Type:

Set the **WAN Interface Type** to **3.5G** and select the **LM003** as the 3.5G Device.

Set the **Authentication Number** to ***99#**

Enter the appropriate APN for your mobile operator:

- Vodafone - internet
- Orange - orangeinternet
- O2 - mobile.o2.co.uk
- T-Mobile - general.t-mobile.uk
- Three - three.co.uk

NOTE these are CONTRACT APNs, PAYG settings may differ - contact your operator for the correct settings to use.

Set the Username and Password fields to "web". If your SIM card has a PIN enabled, enter the correct code.

Click **Next**:

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5. Wireless Basic Settings

This page is used to configure the parameters for wireless LAN clients which may connect to your Access Point.

Band: 2.4 GHz (B+G+N) ▾
 Mode: AP ▾
 Network Type: Infrastructure ▾
 SSID: MyWLAN
 Channel Width: 40MHz ▾
 ControlSideband: Upper ▾
 Channel Number: 11 ▾

Enable Mac Clone (Single Ethernet Client)

Cancel <<Back Next>>

Specify what SSID you want the wireless network to broadcast. Click **Next**:

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6. Wireless Security Setup

This page allows you setup the wireless security. Turn on WEP or WPA by using Encryption Keys could prevent any unauthorized access to your wireless network.

Encryption: WPA2(AES) ▾
 Pre-Shared Key Format: Passphrase ▾
 Pre-Shared Key:

Cancel <<Back Finished

Specify what wireless encryption settings you wish to use on the wireless link. Click **Finish**. The unit will now process the specified settings:

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Change setting successfully!

Do not turn off or reboot the Device during this time.

Please wait 18 seconds ...

When complete you may need to re-connect to the new wireless network (including SSID and wireless encryption settings). When connected to the Status page, verify that the WAN interface is connected to the cellular network:

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WLAN Router Status

This page shows the current status and some basic settings of the device.

System	
Uptime	0day:0h:7m:41s
Firmware Version	v2.3.0.3.L00_eng2
Build Time	Thu Aug 5 16:58:13 CST 2010
USB Memory	Unconnected
Wireless Configuration	
Mode	AP
Band	2.4 GHz (B+G+N)
SSID	MyWLAN
Channel Number	11
Encryption	Disabled
BSSID	00:02:72:87:d0:84
Associated Clients	1
TCP/IP Configuration	
Attain IP Protocol	Fixed IP
IP Address	192.168.1.254
Subnet Mask	255.255.255.0
Default Gateway	192.168.1.254
DHCP Server	Enabled
MAC Address	00:02:72:87:d0:84
WAN Configuration	
Attain IP Protocol	GSM 3.5G Connected
IP Address	10.57.24.167
Subnet Mask	255.255.255.255
Default Gateway	10.64.64.64

Your unit is now connected to the Internet and ready for use.

Should you wish to restrict access to the wireless network by client MAC address, this can be configured:

The screenshot shows the 'Wireless Access Control' configuration page. On the left is a navigation menu with 'Wireless' expanded. The main content area has a title 'Wireless Access Control' and a note: 'If you choose 'Allowed Listed', only those clients whose wireless MAC addresses are in the 'Allowed Listed' is selected, these wireless clients on the list will not be able to connect the Access Point.' Below this, there is a 'Wireless Access Control Mode' dropdown menu set to 'Disable'. There are two input fields for 'MAC Address' and 'Comment'. At the bottom of this section are 'Apply Changes' and 'Reset' buttons. The next section is titled 'Current Access Control List:' and contains a table with three columns: 'MAC Address', 'Comment', and 'Select'. Below the table are 'Delete Selected', 'Delete All', and 'Reset' buttons.

The unit also features a nice option of being able to automatically enable and disable the wireless access point on a time-based schedule:

The screenshot shows the 'Wireless Schedule' configuration page. On the left is the same navigation menu as in the previous screenshot. The main content area has a title 'Wireless Schedule' and a note: 'This page allows you setup the wireless schedule rule. Please do not forget to configure system time before enable this feature.' Below this, there is a checkbox for 'Enable Wireless Schedule'. Under 'Days:', there are checkboxes for 'Everyday', 'Sun', 'Mon', 'Tue', 'Wed', 'Thu', 'Fri', and 'Sat'. Under 'Time:', there is a radio button for '24 Hours' and a 'From' field with two time input boxes (00:00) followed by a colon and a 'To' field with two time input boxes (00:00). At the bottom are 'Apply Changes' and 'Reset' buttons.

Further configuration options can be applied to the 3G cellular WAN interface such as DNS server settings as well as VPN passthrough:

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This page is used to configure the parameters for Internet network which connects to the WAN port of your Access IP, DHCP, PPPoE, PPTP, L2TP or GSM 3.5G by click the item value of WAN Access type.

WAN Access Type:

3.5G Devices:

Authentication Number:

User Name:

Password:

APN:

PIN:

Band Selection:

Connection Type:

Enable 3G Info

Attain DNS Automatically

Set DNS Manually

DNS 1:

DNS 2:

DNS 3:

Clone MAC Address:

Enable uPNP

Enable IGMP Proxy

Enable Ping Access on WAN

Enable Web Server Access on WAN

Enable FTP Server Access on WAN

Enable IPsec pass through on VPN connection

Enable PPTP pass through on VPN connection

Enable L2TP pass through on VPN connection

Port Forwarding can be configured if using the device with incoming connections from the Internet destined for (W)LAN-based clients:

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Port Forwarding

Entries in this table allow you to automatically redirect common network services to a specific machine behind the NAT firewall. These settings are only necessary if you wish to host some sort of server like a web server or mail server on the private local network behind your Gateway's NAT firewall.

Enable Port Forwarding

Enable NAT Loopback

IP Address: Protocol: Port Range: - Comment:

Current Port Forwarding Table:

Local IP Address	Protocol	Port Range	Comment	Select
<input type="button" value="Delete Selected"/> <input type="button" value="Delete All"/> <input type="button" value="Reset"/>				

USB storage can be enabled and disabled as well as file sharing and access protocols:



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USB Storage

This function is for Router's USB port and it can support plug-in a USB mass storage and through address is ftp://192.168.1.254, and FTP server address is depend on your LAN IP address.

USB Storage Information

USB Storage List:	
USB Storage status:	Unconnected

Network File Sharing information

Enable Network File Sharing

Select Shared Folder:	▼	Current Shared Folder:
NetBIOS Name:	AP	
Share Folder Name:	USB	

FTP Server information

Enable FTP Server

Select Shared Folder:	▼	Current Shared Folder:
FTP Username:	root	Read/Write Account
FTP Password:	root1234	Set to * (star) requires no password
FTP Username:	guest	Read Only Account
FTP Password:	guest1234	Set to * (star) requires no password

Format USB Device

Enable USB Format

Select Format Folder:	▼
-----------------------	---

And the DynDNS client can also be configured if required:



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 - Save/Reload Setting
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 - Password

Dynamic DNS Setting

Dynamic DNS is a service, that provides you with a valid, unchanging, internet domain name (an URI)

Enable DDNS

Service Provider : DynDNS ▼

Domain Name : host.dyndns.org

User Name/Email:

Password/Key:

Note:
 For TZO, you can have a 30 days free trial [here](#) or manage your TZO account in [control panel](#)
 For DynDNS, you can create your DynDNS account [here](#)

Modem Compatibility

The following USB modems can be used with the LM009:

LM Technologies

- LM Technologies LM003

A-Link

- A-Link 3GU
- A-Link TITAN

Huawei

- Huawei E220
- Huawei E169
- Huawei E180
- Huawei E172
- Huawei E160
- Huawei E270
- Huawei E230
- Huawei E1552
- Huawei E156
- Huawei E226
- Huawei EC168C
- Huawei E1750
- Huawei E1762
- Huawei E1752
- Huawei E182E
- Huawei K3715
- Huawei E170
- Huawei E1550

Novatel

- Novatel MC950D
- Novatel XU870

Option

- Option Icon 225
- Option Icon 401
- Option Icon 505

Sierra Wireless

- Sierra MC8700
- Sierra MC8775
- Sierra MC8792V
- Sierra MC8790
- Sierra MC8795V

Solomon

- Solomon S3GM-690
- Solomon S3GM-646
- Solomon S3GM-645-11

ZTE

- ZTE MF622
- ZTE MF626
- ZTE MF636
- ZTE MF668

Sony Ericsson

- Sony Ericsson MD300
- Sony Ericsson MD400

Other

- Aiko 82D
- Datang D201
- Giant D301
- Nokia CS-15
- SIPTune LM-75
- Webee
- AnyData ADU 500A
- BandLuxe C120