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24x8 cable modem
plus AC1900 WiFi router
Model MT7711

+ **2 Xfinity®**
phone lines

User Manual

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SAFETY

This equipment is designed with the utmost care for the safety of those who install and use it. However, special attention must be paid to the dangers of electric shock and static electricity when working with electrical equipment. All guidelines of this manual and of the computer manufacturer must therefore be followed therefore be allowed at all times to ensure the safe use of the equipment.

CAUTION:
These precautions help protect you and your MT7711.

- Do not put the MT7711 or its power supply in water, since this is a shock hazard.
- The MT7711 should normally be installed indoors. If you use it outdoors, protect it from moisture and be careful about temperature.
- Your MT7711 should be operated in an environment that's between 32 and 104° Fahrenheit (0 to 40° Centigrade).
- Your MT7711 should not be in a confined space. There should be room for air flow around the top, front, and sides of the MT7711.
- Make sure to use your MT7711's power supply and a compatible electrical outlet.
- The coaxial cable's ground shield is intended to be connected to the building's Earth ground. Attachment to Earth ground is typically provided through your cable service provider's installation.
- MOTOROLA and MTRLC assume no liability for damage caused by any improper use of the cable modem.

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Table of Contents

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Configuring Alternate WiFi Security Settings 72

Troubleshooting Tips 76

Support 81

Compliance 82

Introduction

The Motorola Model MT7711 is a 24x8 DOCSIS 3.0 cable modem with a built-in AC1900 WiFi router plus 2 telephone jacks that has 4 Gigabit Ethernet ports. This model connects to Comcast Xfinity's cable Internet service with Voice. Model MT7711 can provide shared Internet access to Ethernet-capable and WiFi devices including computers, smartphones, tablets, HDTVs, game consoles, security cameras, and streaming media devices. The MT7711 is a dual-band WiFi router and supports clients that operate on both the 2.4 and 5 GHz bands.

Basic Installation instructions for Model MT7711 are in the Quick Start that comes with Model MT7711 and that is duplicated in Chapter 2 of this User Guide.

Model MT7711 has a Configuration Manager that provides a lot of technical information about Model MT7711 and that tells you how to do some useful things as summarized below. Please note that some users will never need to use the Configuration Manager.

Chapter 3: Telephone Adapter
Chapter 4: Alternate Ways to Connect Your Coax Cable
Chapter 5: Connecting Devices to Your Cable Modem/Router
Chapter 6: Setting up an HDTV, Streaming Media Device, or Other Device
Chapter 7: Accessing the Configuration Manager by Using a Browser
Chapter 8: Configuring Your MT7711 to Support Devices and Applications with Special Requirements, like Games Played on Game Consoles and PCs, and Security Cameras
Chapter 9: Changing Wireless Settings
Chapter 10: Changing Firewall Settings
Chapter 11: Tuning Wireless Performance
Chapter 12: Parental Control

Quick Start

Packaged with your MT7711

Power Supply

Ethernet Cable

RJ11 Phone Cord

Coax Wrench

Velcro® Cable
Organizer

Para una Guía de Inicio Rápido en español, por favor vaya a **www.motorolanetwork.com/MT7711ir**

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Let's get started

If you don't have cable Internet service, please order that from your cable service provider. Comcast Xfinity customers should also order phone service if they want to use the MT7711 phone lines. This phone capability works for Xfinity, but not for most other cable services since they use a different version of PacketCable to deliver their phone service.

Now connect your MT7711 as shown on the following page.

Connecting to a Coax Cable

Please see the connection photo on the next panel. You connect your MT7711 to a "live" coax cable. Sometimes a cable will already be available. Sometimes there's a coax wall jack available, and you connect to the jack with a coax cable. Your MT7711 can also share a coax cable attached to a TV by using a coax splitter. Please note that a badly chosen splitter reduces a cable modem's speed; so if you need to use a splitter, use a 2-way splitter whose top frequency is 1,000 MHz or higher.

ON/OFF button

POWER
Connect the supplied power supply between the power jack and an electrical outlet.

PHONE (TEL 1-2)   If you have Xfinity phone service, you can connect telephones to either or both of these phone jacks.

ETHERNET (LAN 1-4)
You can connect a computer, HDTV, game station, or other Ethernet-capable device to any of these 4 LAN ports.

RESET

WPS button

COAX
Connect a "live" coax cable to the modem's COAX connector as discussed above. *(Tighten the nut so it's finger tight. You may want to use the supplied wrench. Make the connection snug but not over-tight.)*

![Motorola logo]

Prepare to activate

By now you should have:

- Subscribed to cable Internet service, and possibly to Xfinity phone service.
- Connected your MT7711.
- Powered up your cable modem/router. To do this, the On/Off button needs to be On (Push the button in until it clicks). Wait for the green online connection light ⊕ to stop flashing and remain solidly lit. **This may take up to 15 minutes.**

You may need your cable service account number for product registration. A recent cable bill/statement will have this information.

If you're asked for information about the MT7711, such as the Mac Address or Serial Number, you can find this on the label on the bottom of the modem/router.

Activate

Activate your MT7711 by opening the Web browser of a computer or other device that's connected to your MT7711, and enter **xfinity.com/activate**.

Your device can be connected either wirelessly or via one of the MT7711's Ethernet ports. If you connect wirelessly, you'll need the unique Wireless Network Name and Password printed on the bottom of your MT7711. You'll use these in setting up your wireless device to connect to the MT7711. Once you've connected, you can open the browser of that wireless device.

Alternatively, call the
Comcast Xfinity number: **1-800-XFINITY**

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Once your MT7711 is activated either online or by phone, your service provider will provision your MT7711 service. Typically this takes less than 5 minutes for Internet, but in some cases this may take 30 minutes or longer. If you activate voice service for the first time, your service provider may take several days to activate that service.

Once you have been activated, try to browse the Web using a device connected via Ethernet or WiFi to the MT7711. (See the section Wireless Router below for information on connecting via WiFi). If browsing works, **Congratulations!** Your MT7711's Internet capability is working.

If you have Xfinity phone service and want to use that, make sure the MT7711's Tel1 light is ON. (You may have to wait a few minutes after power-up.) Then plug a phone into the **Tel1** port. Take the phone off-hook, and confirm there is a dial tone. Then make a call, and ask the person who answers to call you right back. Hang up so you can receive the incoming call and verify that your phone is working.

For more information about using the MT7711 telephone capability, please see the **Telephone Adapter** section. If your MT7711 is NOT working, see **Troubleshooting Tips**.

Configuration Manager

You may not need to use the MT7711's Configuration Manager. Here are some reasons for using it:

- You want to change the wireless network name and password. For instance, maybe you want a more easily remembered name, or you're replacing a router and want to use your existing WiFi Network Name (SSID) and/or WiFi Password/Key instead of the unique ones that come with the MT7711.
- You want to set up special Internet gaming settings.
- You want to get performance information about the MT7711 modem and/or built-in router. This can be helpful in diagnosing DOCSIS performance issues and/or optimizing wireless performance.

If you need to access the MT7711 Configuration Manager, open your Web browser. Type **http://192.168.0.1** in the address bar and then press the **Enter** key.

In the login dialog box type the following User Name and Password in lower case, then click OK.

User Name: **admin**

Password: **motorola**

The Basic Status and Settings page will appear. If this page doesn't appear, please see the **Troubleshooting Tips**.

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Wireless Router

As noted before, the MT7711 has a unique Wireless Network Name/SSID and Wireless Security Key/Password printed on the MT7711's bottom label. Set up your wireless devices to work with this SSID and security key, or with the SSID and security key you specified, if you changed them.

Note that wireless performance depends on a number of factors.   Please keep these things in mind:

- Where possible, put the MT7711 in a central place so that it's not too far away from your wireless devices that need Internet access.
- Try to avoid interference from Bluetooth headsets and stereos, microwave ovens, WiFi-capable printers, and 2.4 GHz cordless phones and base stations. Try not to put the MT7711 close to these interfering devices.
- Sometimes it helps to change the MT7711 wireless channel frequency to reduce interference with neighbors' wireless networks. This is discussed in the Troubleshooting section of this Quick Start.
- Wireless range can be limited by a variety of issues, including weak wireless clients and challenging building configurations. Sometimes devices with a weak wireless signal will connect to the MT7711, and often those devices can slow down your network's WiFi. If you need greater wireless range far away from your MT7711, you could add a Range Extender. For more information, please see **www.motorolanetwork.com/extenders**

If you have coaxial cable running near your router and a distant wireless access point, HDTV, or other device, MoCA is often a good way to connect the router to the device. MoCA can share the same cable used for cable TV or cable Internet. With the Motorola MM1000 MoCA Adapter, speeds are up to 1,000 Mbps. Please see **www.motorolanetwork.com/MocaWifi**

Telephone Adapter

The MT7711 includes two telephone ports that support standard (land line) telephones and other devices. The MT7711 is designed to work with Comcast Xfinity voice service only.

To use the telephone ports, first make sure you have subscribed to Xfinity voice service. This service may be provisioned to support either one line on Tel1, or two phone lines, on both Tel1 and Tel 2, with two different phone numbers.

You can connect almost any standard telephone equipment into an activated MT7711 telephone port. This includes almost anything that connects using an RJ11 phone plug — telephones, cordless phone base stations, answering machines, etc. (If you want to connect a security system, check with the security system manufacturer for compatibility.)

Additional details can be found in the Telephone Adapter chapter.

The **Battery Purchase or Replacement** section describes how you can make sure you have phone service even if your MT7711 loses power.

Front Panel Lights

During Power up, the lights will blink for several minutes.

LIGHT	COLOR	DESCRIPTION	
Power (power icon)	Green	OFF:	MT7711 power off or on battery back-up
		ON:	MT7711 power on
Downstream (down arrow icon)	Green *or* Blue	OFF:	On battery back-up
		Green Blinking:	Scanning for DS channel
		Green ON:	Connected on 1 Downstream channel
		Blue Blinking:	Negotiating bonded channel(s)[†]
		Blue ON:	Bonded with 2 or more channels
Upstream (up arrow icon)	Green *or* Blue	OFF:	Upstream not connected or on battery back-up
		Green Blinking:	Ranging in progress
		Green ON:	Connected on 1 channel
		Blue Blinking:	Negotiating bonded channel(s) [†]
		Blue ON:	Bonded with 2 or more channels
Online (globe icon)	Green	OFF:	Offline or on battery back-up
		Blinking:	Trying to go online
		ON:	Online
2.4 GHz WLAN (wifi icon)	Green	OFF:	WiFi is not enabled or on battery back-up.
		Blinking:	Data is flowing.
		ON:	WiFi is enabled.
5 GHz WLAN (5 wifi icon)	Green	OFF:	WiFi is not enabled or on battery back-up.
		Blinking:	Data is flowing.
		ON:	WiFi is enabled.

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🔒 **WPS**	Green	OFF:	After boot-up, WPS is OFF (not being used).
		Blinking:	WPS is in discovery mode.
		ON:	Light will remain solid for 5 minutes after WPS configuration is successful.
☎1 ☎2 **TEL1 & TEL2**	Green	OFF:	Phone service not provisioned.*
		Blinking:	Registration in process OR Phone off-hook / Call Active *
		ON:	Phone on-hook / Ready for calls
🔋 **Battery**	Green	OFF:	No battery installed, depleted battery, or not provisioned for phone service
		Blinking:	Battery is charging
		Fast Blinking:	Battery is not charging or depleted; or if on back-up power, battery is low.
		ON:	AC Power Fail / Battery back-up active

† If a blue light blinks continuously, this indicates partial service (at least one designated channel has not completed bonding). You should still get high Internet speeds, but your service provider may want to know so they can adjust their network.

> * Please note: In some cases, if no telephone service is provisioned, the Tel1 light may blink continuously.
>
> The Tel2 LED will only light if Tel2 is provisioned for a second phone line.

Battery Purchase or Replacement

The MT7711 has battery back-up circuitry which is for Telephone (Tel1) back-up only. The MT7711 typically does not ship with a battery included. A battery is not required for normal operation with AC power. If you lose AC power, a back-up battery allows the telephone plugged into Tel1 to still function.

If you want a back-up battery, you can purchase one separately online. The battery is **Model 98250** from MTRLC LLC.   (If you ever need to check that you have the right battery, look on the battery label for **BP-15033-22/2150 S** .)

If you have the right battery installed and power is lost, the Tel1 jack will provide up to five hours of talk time or eight hours of stand-by time. The Tel2 jack does not provide this back-up feature. Only phones that do not require their own power source will work during a power outage (unless the phones are provided with their own separate battery back-up system). It's a good idea to have at least one phone handy that just needs to plug into the MT7711, and not into a power jack.

Another way to handle loss of AC power is to plug the MT7711 into an Uninterruptible Power Supply (UPS). In that case the amount of talk time and stand-by time depends on what UPS you choose.

Telephone Adapter

The MT7711 includes two telephone ports that support standard (land line) telephones and other devices. The MT7711 is designed to work with Comcast Xfinity voice service only.

To use the telephone ports, first make sure you have subscribed to Xfinity voice service. This service may be provisioned to support either one phone line on Tel1, or   two phone lineson both Tel1 and Tel2, with two different phone numbers.

You can connect almost any standard telephone equipment to an MT7711 telephone port. This includes almost anything that connects using an RJ11 phone plug—telephones, cordless phone base stations, answering machines, etc. (If you want to connect a security system, check with the security system manufacturer for compatibility).
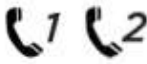
You can connect individual devices, or you can connect multiple devices that plug into the same phone line. (Their Ringer Equivalence Numbers need to add up to 5 or less.) One way to connect multiple devices is to plug the MT7711 phone port into a jack connected to existing telephone wiring. Before doing this, make sure to disconnect the wiring totally from the telephone company's network demarc. This is normally done by unplugging a phone cord at the jack nearest to where the phone line comes into your home. After you unplug that phone cord, **check that none of the phones on that line gets dial tone when you go off-hook**. If they don't get dial tone, it's safe to connect a phone cord from one of the line's jacks to an MT7711 phone jack. After you do that and power up the MT7711, all the phones on that line should get dial tone.

You may want to attach a cordless phone base station to the MT7711, and then place cordless handsets wherever you like. The **Battery Purchase or Replacement** section describes how you can make sure you have phone service even if your MT7711 loses power.

Telephone Lights

Here is a table describing the behavior of the Tel1 and Tel2 Lights:

TEL1 & TEL2	Green	Blinking:	Registration in process
		ON:	Phone on-hook / Ready for calls
		Slow Blinking:	Phone off-hook / Call active
		OFF:	Phone service not provisioned

Note the lights are solid for each line when voice service is provisioned and ready.

The lights blink slowly during active calls, and are OFF if no service is provisioned.

Note that the Tel2 port will only function if you have two phone line service from Comcast Xfinity.

Making and Receiving Calls

You can make and receive calls through connected telephone equipment just as you would with any other landline telephone service. Remember to dial 1 before long-distance calls within the United States. Check with Xfinity whether your plan supports international dialing, and for dialing instructions.

There are many services that come with Xfinity voice, including CallerID, Call Waiting, and others, depending on your plan. Please see the Xfinity voice page for details.

https://www.xfinity.com/support/articles/phone-quick-reference-guide

Operating on Battery Power after Power Loss

When an optional Motorola-supplied or a separately purchased MTRLC LLC (part number 98250) battery is installed, your MT7711 will automatically fail over to battery power if there is a power outage at your location. The battery will support standby operation for Tel1 for up to eight hours, and talk time of up to five hours. Note that attached phones such as cordless phones that require their own power will require their own backup power source. Standard corded handsets do not require their own backup power source.

When running under battery backup power, only the Tel1 and Battery lights remain lit. The battery light behaves according to this table:

Battery	Green	OFF:	No battery installed, depleted battery, or not provisioned for phone service
		Slow Blinking:	Battery is charging
		Fast Blinking:	Battery is not charging or Depleted; or if on back-up power, battery is low.
		Steady ON:	AC Power Fail / Battery back-up active

During battery backup, the Battery light will remain ON until it is almost depleted. Then it will go into a Fast Blinking mode until it is exhausted.

The **Battery Purchase or Replacement** section on page 19 describes how you can make sure you have phone service even if your MT7711 loses power.

Alternate Ways to Connect Your Coax Cable

As summarized in the Quick Start, one important connection is the coaxial cable connection that carries your cable Internet service to your MT7711. Here are the main ways you can make that connection:

1. Use the loose end of an available "live" coaxial cable from your cable service provider. Plug the loose end into the Coax jack of your cable modem.
2. If there's a "live" coax jack in your wall, connect a coax cable between that jack and the Coax jack of your cable modem.
3. Use a "live" cable that's plugged into one of your televisions. If you still want cable TV to go to that TV set, you can get a coaxial splitter and two cables of the right length.

Connecting Devices to Your Cable Modem/Router

You can connect computers, smartphones, tablets, game consoles, security cameras, streaming media devices (like Roku, Chromecast & AppleTV), Internet-enabled HDTVs and other devices to your cable modem/router.

You can connect these devices either with an Ethernet cable (a wired connection), or via WiFi (a wireless connection).

An Ethernet connection is normally a faster, more reliable connection than a wireless connection. To make an Ethernet connection, you need a device with an Ethernet connector and a cable to connect between that device and your cable modem. In some cases, this may be impossible because of the location of the devices. In those cases, or if the device doesn't have an Ethernet connector, you will need to create a wireless connection as described on the next page.

Connecting a Device via Ethernet

To make the connection at the Ethernet-capable device, simply plug in one end of the Ethernet cable to an Ethernet jack on the device. At the cable modem, plug the other end of the cable into any of the cable modem's LAN jacks. You can connect up to four devices by using the four LAN jacks.

Connecting a Smartphone, Tablet or Other Wireless Device via Wireless

You will need to enter one or both of your wireless network names (SSIDs) and passwords into each client device that you want to connect to your network. Typically, you should enter SSIDs and Passwords for both the 2.4 and 5 GHz bands into client devices that support both bands. If you haven't changed the factory settings, you can find these on a label on the bottom of your modem's stand. If you have changed the network names and/or passwords, use your new values. (See Chapter 9 if you want to change your wireless settings).

If you want to connect devices to a Guest Network, use the Network Name and Password for that network. (See Chapter 9: Changing Wireless Settings if you want to set up a Guest Network).

Wireless devices vary, but they all have a Wireless Settings area. There you should first select the wireless network you want, namely the wireless network name or Guest network name of the MT7711. Now enter the password for your wireless network. Make sure to turn wireless ON on your client devices. Normally that's all you need to do.

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Setting up an HDTV, Streaming Media Device, or Other Device

A typical HDTV, for instance, has an Input or Setup section. Within that section there's normally a Network section. In that section you may need to specify that you have an Ethernet connection if that's how you connect to the MT7711. If you want to connect wirelessly to the MT7711, you'll need to select its wireless network name and then enter its wireless password.

Accessing the Configuration Manager by Using a Browser

Model MT7711 has a Configuration Manager that provides a lot of technical information about Model MT7711 and that tells you how to do some useful things. Please note that some users will never need to use the Configuration Manager.

You can access the Configuration Manager from a computer or any other device that has a browser and that is connected via Ethernet or wirelessly to your cable modem. If you will be changing wireless settings, it's much better to use a device that connects via Ethernet while you make these changes.

To access the Configuration Manager, do the following:
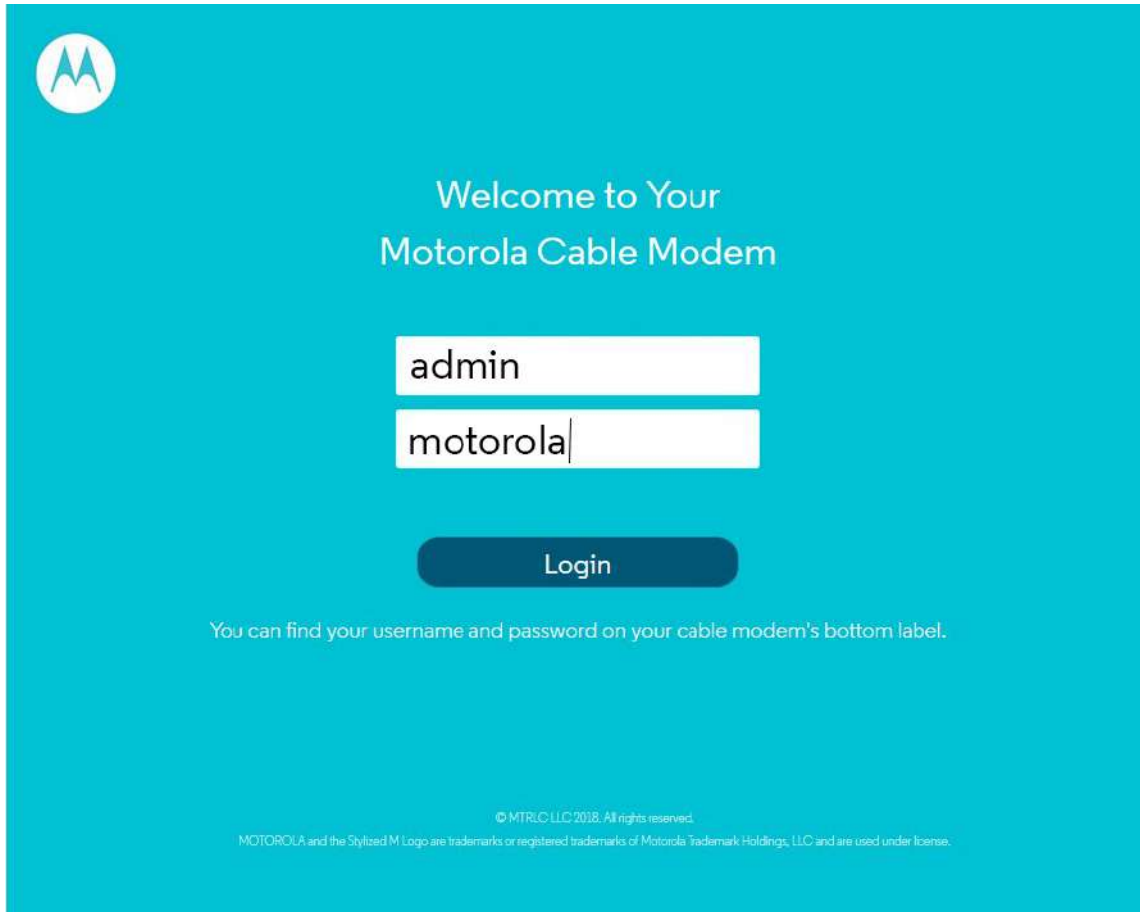
1. Open your browser.
2. Type **192.168.0.1** into your browser's address bar and press Enter.

You should see this page:
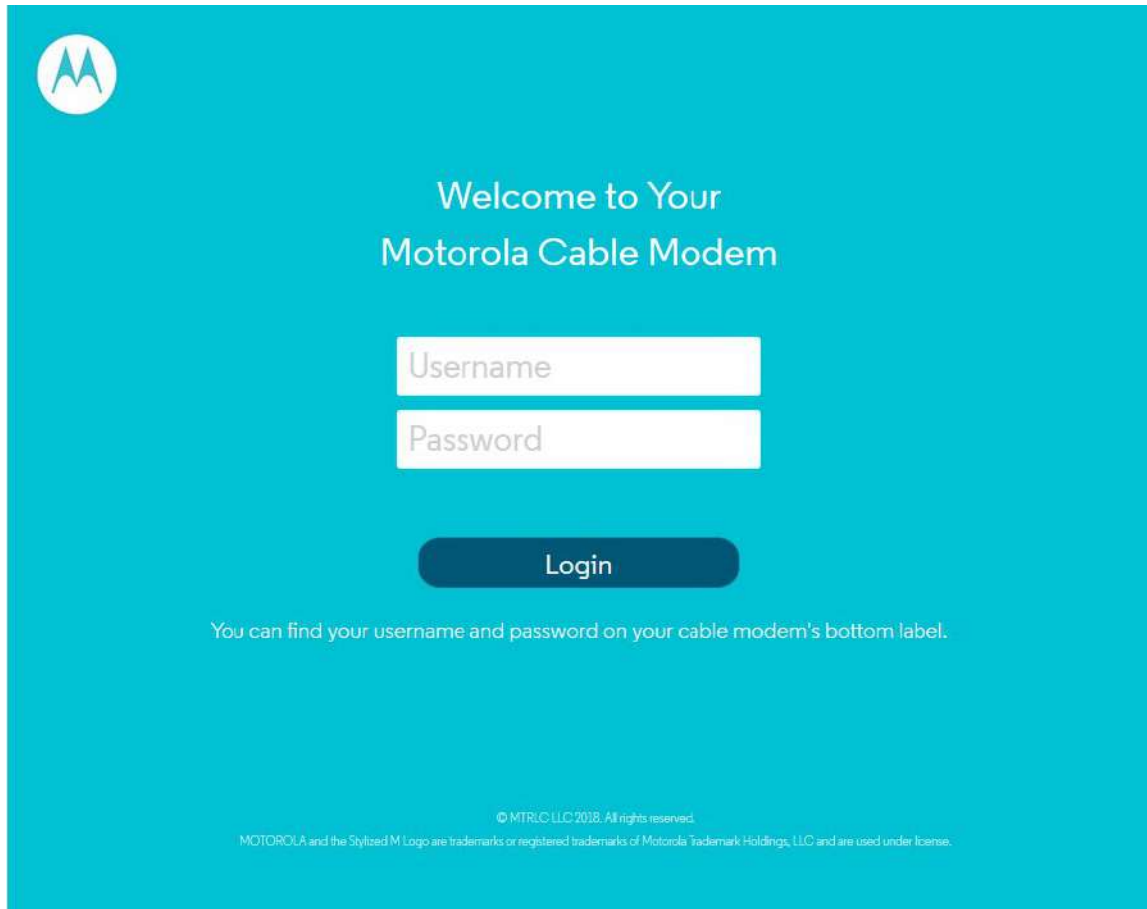
3. Type **admin** in the Username field.
4. Type **motorola** in the Password field.

![Motorola login screen]

Welcome to Your
Motorola Cable Modem

admin

motorola

Login

You can find your username and password on your cable modem's bottom label.

5.   Click the Login button.

This should bring you to the Basic Status and Settings page shown below.

The Basic Status and Settings page gives you information about your Internet connection, lets you view and modify your WiFi privacy settings, and shows you basic information about your cable modem's addresses and software version. The logout link lets you end your session with the Configuration Manager.

The Advanced button at the top of the page takes you to pages with more extensive information and options to configure your cable modem/router.

You can return to the Basic Status and Settings page from any Advanced page by clicking the Motorola stylized M Logo in the upper left-hand corner of the page.

Click the Motorola logo to return to the Basic page.

Note the circled (i) 'information' icons to the right of the page. You can click the icons for descriptions of entries:

Click the information icon for a description of the entry.

The information icons appear on every page, including Advanced pages.

The Advanced pages include more detailed status information, as well as exhaustive configuration options for the WiFi, Router and Firewall functions of your device. In addition, there is a Parental Control page, and pages to set up Virtual Private Networks (VPNs).

Click the Advanced button. Note the Menus and Submenus at the top of the page. The currently selected menu item is highlighted (top row), and submenu items corresponding to the selected menu item are displayed in the second row. The currently selected submenu item is indicated by a small white pointer underneath it.

In this screenshot, the menu item Status and submenu item Software are selected.

The following sections in this guide will walk you through the features that users most often want to configure.

Configuring Your MT7711 to Support Devices and Applications with Special Requirements
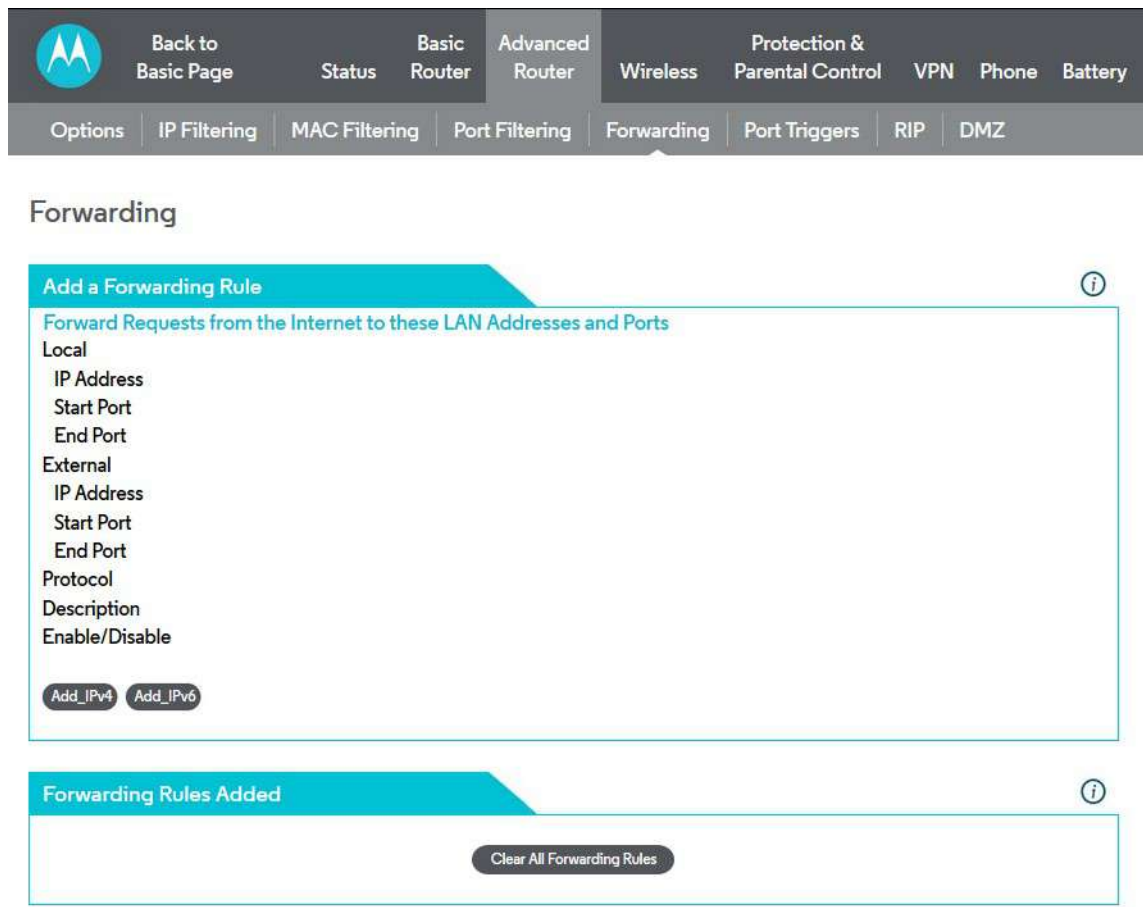
For Games Played on Game Consoles and PCs, and Security Cameras

Devices including game consoles and security cameras often require special router settings to work correctly. This may also be true of games that you play on a PC or another device. For gaming, you probably want to use special settings if you're playing another person or a computer over the Internet. You don't need special settings for games that don't involve connecting to another player or computer over the Internet.

Typically, you will have to open ports on your router to support these devices. There may be other settings that you need to change.

To open ports, first log into the Configuration Manager as described in chapter 4. In summary, you type **192.168.0.1** in the address bar of your browser, go to that address, enter the Username **admin** and Password **motorola**, then click the Login button.

This will bring you to the Basic Status and Settings page. Click the Advanced button in the upper right. This will bring you to the Status → Software page. Hover over the Advanced Router menu item, and select the Forwarding submenu:
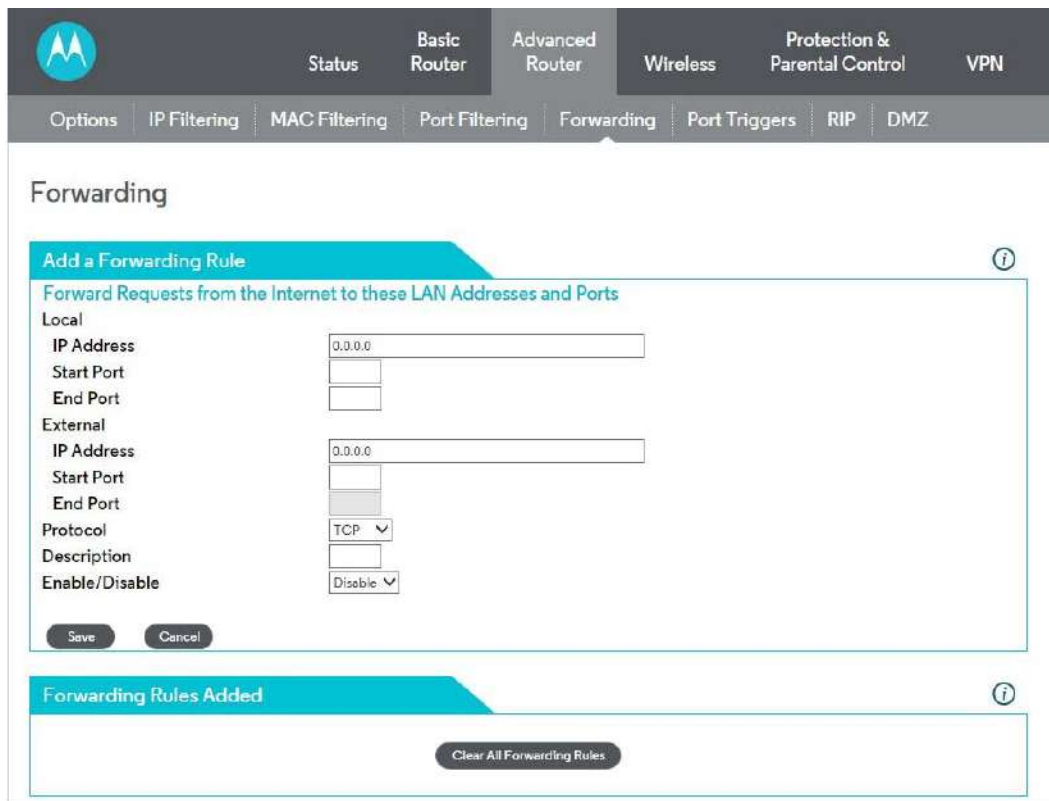
You can create forwarding rules for both IPv4 and IPv6 environments. These rules determine how data flows from the address to specified LAN addresses and ports. In this document we will describe how to create a rule for an IPv4 network. The steps are similar for IPv6.

To create an IPv4 Forwarding Rule, first click the Add_IPv4 button. You can now enter your port forwarding information.

Review your game or device documentation to find the port or ports that need to be forwarded. Also, determine the IP Address that your device is using. You game or device documentation should show you where to find this.

Your game or device may need more than one port to be forwarded. In some cases, the ports will be numbered sequentially, in a range. In other cases, the ports may be separated. In this case, you will have to set up a separate forwarding rule for each port.
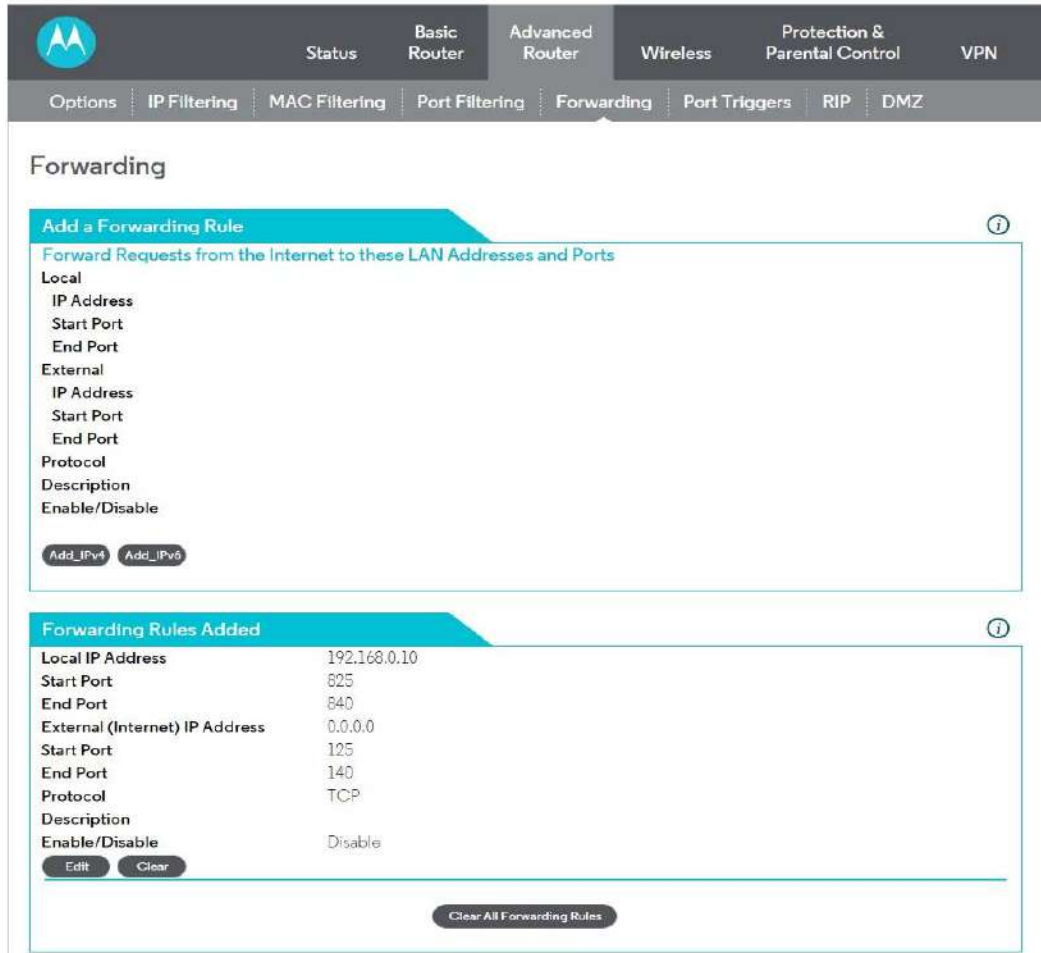
To Create a Port Forwarding Rule

1. Under Local IP Address, enter the address of the game station, PC or other device. In the case of a security camera, enter the address of the camera's DVR.
2. Under Local Start Port, enter the starting port that your device or game needs.
3. Under Local End Port, if your device uses a sequential range of port numbers, enter the highest number in the range. Otherwise, if there is only one number, enter the start port number again.
4. Unless instructed otherwise in your game or device documentation, leave the External entries blank. They will fill in automatically.
5. Select the protocol, TCP, UDP or Both, indicated in your documentation.
6. Select Enable in the Enable/Disable pulldown.
7. Click Save.

Repeat these steps as necessary to create rules for multiple ports or port ranges.

The rule or rules you create will appear at the bottom of the page, as shown below. Note that you can clear individual rules, or all rules.

For games and game consoles, you may also need to enable UPnP and to set the Firewall to OFF.

Check the UPnP Enable box, and click Save at the top of the Router
Selections box.

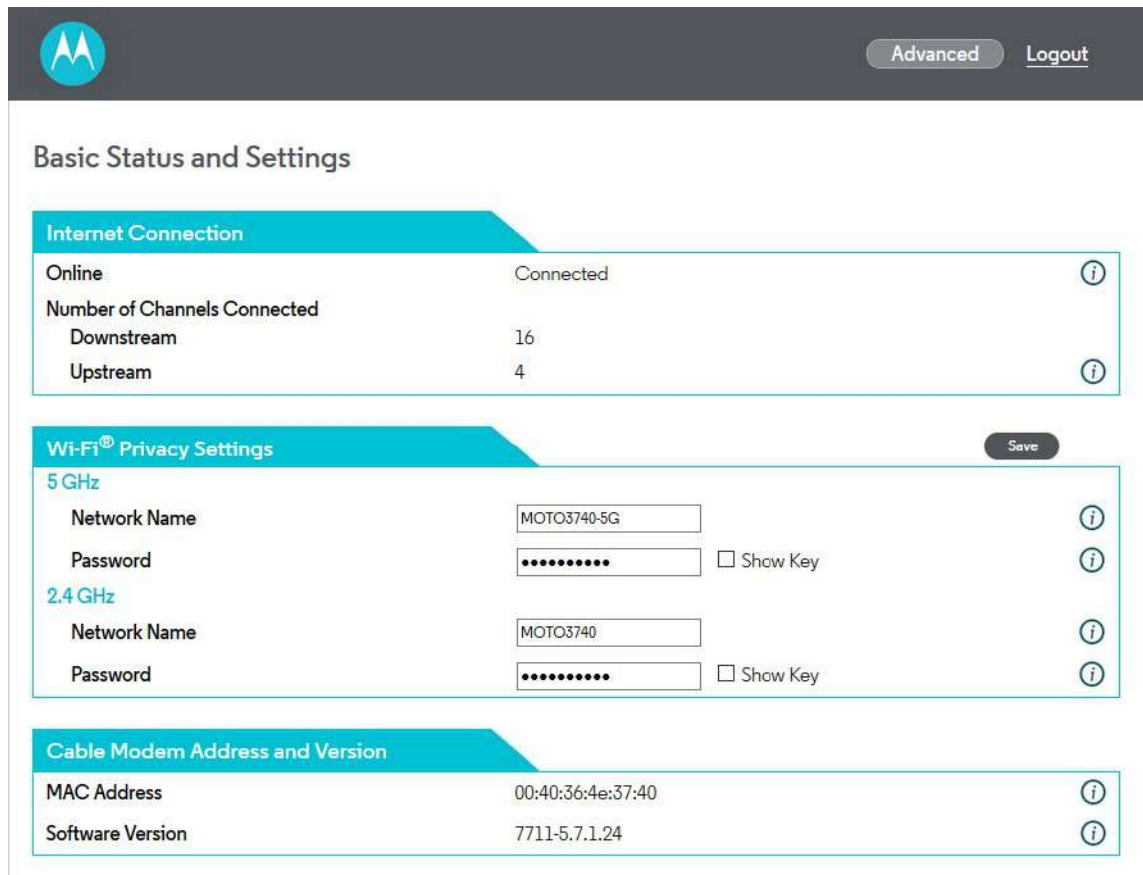Select OFF in the IPv4 Firewall Protection pulldown, and click Save.

Changing Wireless Settings

The MT7711 comes set up for wireless-N (2.4 GHz band) and wireless-AC (5 GHz band) with WPA2 security, with unique wireless network names (SSIDs) for each band, and a unique password. Both bands use this password. There's a good chance that you'll want to use these settings. In that case you will need to configure client wireless devices (laptops, smartphones, etc.) with your MT7711's wireless network names and password to connect the devices to the Primary Network on your MT7711. (You may want to enable a separate Guest Network or Networks for visitors and others for whom you want to provide Internet access without also providing access to your computers and other devices connected to your network.)

You may want to change the wireless settings on the Primary Network. The most common reason is that you're replacing a cable modem/router and you want to use the same wireless network names and passwords that you've had. If you change the wireless settings on your MT7711 to match your previous settings, you won't have to change the settings of wireless devices that worked with your previous router. Unless there's a good reason to change your wireless settings, you should use the unique ones assigned at the factory.

To change the wireless settings, first log into the Configuration Manager as described in chapter 6. In summary, you type **192.168.0.1** in the address bar of your browser, go to that address, enter the Username **admin** and Password **motorola**, then click the Login button.

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This will bring you to the Basic Status and Settings page where you can change your network name and password:

Basic Status and Settings

Internet Connection

Online	Connected	ⓘ
Number of Channels Connected		
Downstream	16	
Upstream	4	ⓘ

Wi-Fi® Privacy Settings   Save

5 GHz

Network Name	MOTO3740-5G	ⓘ
Password	•••••••••• ☐ Show Key	ⓘ

2.4 GHz

Network Name	MOTO3740	ⓘ
Password	•••••••••• ☐ Show Key	ⓘ

Cable Modem Address and Version

MAC Address	00:40:36:4e:37:40	ⓘ
Software Version	7711-5.7.1.24	ⓘ

Advanced   Logout

To Change the Network Name and Password

For the 5 GHz band:
1   Select and delete the old Network Name in the Wi-Fi Privacy Settings section, then type in the new Network Name.
2   Click the Save button.
3   You can click the Show Key box to check your typing for Password.
4   Select and delete the old Password, then type in the new Password.
5   Click the Save button.

For the 2.4 GHz band:
1   Select and delete the old Network Name in the Wi-Fi Privacy Settings section, then type in the new Network Name.
2   Click the Save button.
3   You can click the Show Key box to check your typing for Password.
4   Select and delete the old Password, then type in the new Password.
5   Click the Save button.

Network Name can be from 6 - 32 characters long. You can use the upper and lower case letters (a – z and A – Z), numbers (0 - 9) and special characters (e.g. $_/& etc.) except the single quote '   .

Password can be from 8 - 63 characters long. You can use upper and lower case letters (a – z and A – Z), numbers (0 - 9) and special characters (e.g. $_/& etc.) except the single quote '   .

Be sure to write down and save the new wireless network names and passwords in a place where you can easily find it. One approach is to write them on a small piece of paper and tape it on the bottom of your cable modem. Some people like to take a picture of the settings with their phone, which is fine as long as long as they save it in a place where they are sure to find it when they need it.

Wireless Guest Networks

You can enable one or more Guest Networks to let friends use your Internet connection without giving them access to other devices on your network.

To set up a Guest Network, first log into the Configuration Manager as described in chapter 5. In summary, you type **192.168.0.1** in the address bar of your browser, go to that address, enter the Username **admin** and Password **motorola**, then click the Login button.

This will bring you to the Basic Status and Settings page. Click the Advanced button in the upper right. This will bring you to the Status → Software page. Hover over the Wireless menu item, and select the Guest submenu:

To configure and enable a Guest Network on the 2.4 GHz band, first select the 2.4 GHz tab, and then:

1 Select the desired Guest Network (there are two available for each band).
2 Click the Save button.
3 Select Enabled and click Save to enable the selected Guest Network.

The following steps are optional. Follow them if you want to change the default Guest Network Name and Password:

4 Select and delete the old Guest Network Name, then type in the new Guest Network Name and click Save.
5 You can click the Show Key box to check your typing for Password.
6 Select and delete the old Password, then type in the new Password.
7 Click the Save button.

To configure and enable a Guest Network on the 5 GHz band, first select the 5 GHz tab, and then repeat the steps above.

Network Name can be from 6 - 32 characters long.   You can use the upper and lower case letters (a – z and A – Z), numbers (0 - 9) and special characters (e.g. $_/& etc.) except the single quote '   .

Password can be from 8 - 63 characters long.   You can use upper and lower case letters (a – z and A – Z), numbers (0 - 9) and special characters (e.g. $_/& etc.) except the single quote '   .

Changing Firewall Settings

A Firewall helps protect your Model MT7711 and the devices attached to it from harm from outsiders connecting via the Internet. Model MT7711 comes with reasonable firewall settings. The firewall allows all normal traffic to pass, but protects against well-known attacks. Normally you just leave the firewall settings in place. If you want to change them, you go to the Protection → Firewall section of the Configuration Manager. First log into the Configuration Manager as described in chapter 7. In summary, you type **192.168.0.1** in the address bar of your browser, go to that address, enter the Username **admin** and Password **motorola**, then click the Login button.

This will bring you to the Basic Status and Settings page. Click the Advanced button in the upper right. This will bring you to the Status → Software page. Hover over the Protection & Parental Control menu item, and select the Firewall submenu.

The firewall lets you set your protection level through IPv4 Firewall Protection, for example. By default, with the Low setting, all services are allowed. If you select Medium or High protection, the firewall will block all outgoing services except those listed in the List of Allowed Services at the bottom of the page. Select the desired protection level, and click Save.

The higher protection levels will make it harder for attackers to penetrate your network. You may find that if you select one of these levels, that some Internet activities may fail. If that is the case, you may need to use a lower level of protection during those activities.

Note that in order to play some games, you may need to turn protection off.

When enabled, Port Scan Detection and IP Flood Detection will generate reports in the Firewall Log if they detect their respective attacks.

Tuning Wireless Performance

This chapter discusses steps to tune wireless performance. These steps can optimize wireless performance in many cases.

First, note that placement of your MT7711 can be very important. Make sure it is not too close to other wireless devices like Bluetooth transmitters (e.g. for headsets), or a neighbor's wireless router. For example, in an apartment an MT7711 could be only feet away from a neighbor's device on the other side of a shared wall.

There are also optimizations you can make by using the MT7711's Configuration Manager.

Log into the Configuration Manager as described in chapter 4. In summary, you type **192.168.0.1** in the address bar of your browser, go to that address, enter the Username **admin** and Password **motorola**, then click the Login button.

This will bring you to the Basic Status and Settings page. When the Basic Status and Settings page comes up, click the Advanced button at the top right.

Remember that you can go back to the Basic Status and Settings page at any time by clicking the Motorola 'M' logo at the upper left of the page.

To optimize wireless performance, check channel usage of neighboring devices. This is more likely to be an issue in the 2.4 GHz band than in the 5 GHz band, but we will show you how to check both bands. You can do this by looking at the wireless Scan Results table.

Select the Wireless Scan/Bridge page. Hover over the Wireless menu item to bring the Wireless submenu options into view, then click the Scan/Bridge submenu option. This brings you to the Wireless Scan/Bridge page:

Select the tab for the band you want to scan, 2.4 GHz or 5 GHz. Then click the "Scan Wireless APs" button at the bottom of the page. This will pop up the wireless Scan Results table:

Note that as in these sample Scan Results, you may need to scroll down to see all neighboring networks.

For the 2.4 GHz band:

Look at the Channel column. This shows the channels that your neighboring networks use. Available channels are 1 through 11. Many installations use only channels 1, 6 or 11, because ideally wireless devices should be separated by 5 channels.

If there are very few neighboring wireless devices in your location, you should follow the rule of choosing a channel separated by 5 from all other channels. For example, if there are two neighboring networks using channels 6 and 11, you should choose channel 1.

If there are many neighboring networks, you may find that most use channels 1, 6 and 11. In that case, you may find you achieve better performance by choosing an unused channel between the most-used channels, for example one of channels 3, 4, 8 or 9. You may need to experiment to find the best channel. Note good candidate channels to use for your network. Then, navigate to the Wireless Basic page.

For the 5 GHz band:

Look at the Channel column. This shows the channels that your neighboring networks use. Available channels include 36 – 48 and 149 – 165.

As of this writing (2018), it is unusual for the 5 GHz band to be crowded. If it is crowded in your location, choose a channel or channels that are unused or little used by neighbors. Then, navigate to the Wireless Basic page.

Hover over the Wireless menu item to bring the Wireless submenu options into view, then click the Basic submenu option. This brings you to the Wireless Basic page:

Select the tab for the band you want to change. Then select the desired channel from the Channel pulldown, and click Save. Wait for a minute or so for client devices to resynchronize to the new channel.

Check to see whether wireless performance has improved. If not, you can try another channel selection.

motorola

WiFi Multimedia (WMM)

Another possible way to improve performance is to change WiFi Multimedia (WMM) settings. From the Wireless menu, click the WMM submenu:

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Wi-Fi Multimedia (WMM)

2.4 GHz   5 GHz

WMM Setup

WMM Support	On	Save (i)
No-Acknowledgement	Off	Save (i)
Power Save Support	On	Save (i)

EDCA and WMM Parameters   Save

EDCA AP Parameters	CWmin	CWmax	AIFSN	TXOP(b) Limit (usec)	TXOP(a/g) Limit (usec)	Discard Oldest First
AC_BE	15	63	3	0	0	Off
AC_BK	15	1023	7	0	0	Off
AC_VI	7	15	1	6016	3008	Off
AC_VO	3	7	1	3264	1504	Off
EDCA STA Parameters						
AC_BE	15	1023	3	0	0	
AC_BK	15	1023	7	0	0	
AC_VI	7	15	2	6016	3008	
AC_VO	3	7	2	3264	1504	

WMM TXOP Parameters	Short Retry Limit	Short Fallbk Limit	Long Retry Limit	Long Fallbk Limit	Max Rate in 500kbps
AC_BE	7	3	4	2	0
AC_BK	7	3	4	2	0
AC_VI	7	3	4	2	0
AC_VO	7	3	4	2	0

WMM is designed to provide Quality of Service (QoS) support for multi-media traffic on your network. The multi-media applications must also support WMM. When they do, WMM facilitates smoother traffic flow for these traffic types. WMM cannot be turned off.

If you find wireless traffic is not flowing well, you can turn on No-Acknowledgement. No-Acknowledgement improves packet throughput with the trade-off of higher error rates. In many cases this can result in an overall improvement in performance.

Power Save Support is designed to support client devices with the Power Save feature. The Power Save feature extends battery life by reducing power consumption. However, sometimes this feature results in suboptimal wireless performance. You can turn Power Save Support Off and see if that improves performance in your network. Select the tab for the band you are experiencing suboptimal performance with. Then select Off and click Save.
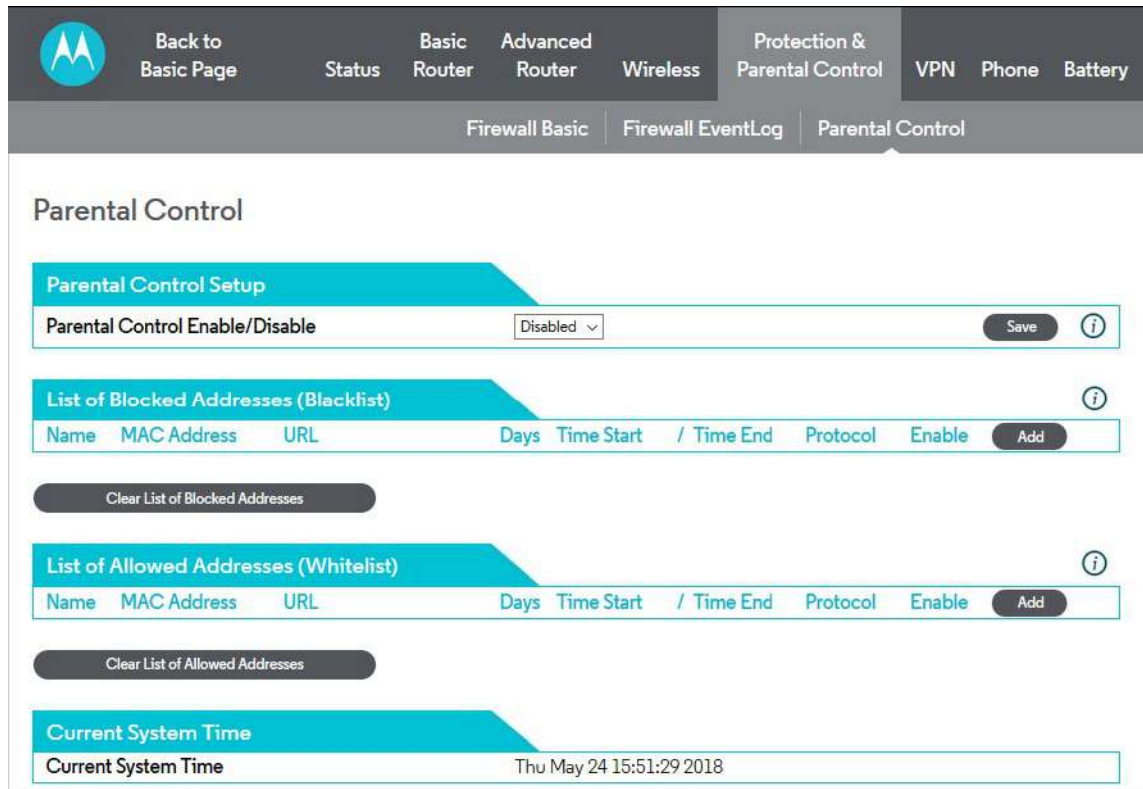
Parental Control

Note that the Parental Control feature only works with unsecure websites. It does not work with secure websites (sites with URLs starting with https://).

Parental Control lets you limit access to the Internet from particular devices on your network. For a device like a child's computer or tablet, you can create lists of websites that the device is allowed to visit, blocking all others (whitelists). Alternatively, you can create lists of websites that the device may not visit, allowing all others (blacklists). You can also set times where Internet access is allowed and not allowed.

To make Parental Control settings, go to the Protection & Parental Control section of the Configuration Manager. First log into the Configuration Manager as described in chapter 6. In summary, you type **192.168.0.1** in the address bar of your browser, go to that address, enter the Username **admin** and Password **motorola**, then click the Login button.

This will bring you to the Basic Status and Settings page. Click the Advanced button in the upper right. This will bring you to the Status → Software page. Hover over the Protection & Parental Control menu item, and select the Parental Control submenu:

Note that Parental Control is <u>Disabled</u> by default. You should leave it disabled until you have set up all desired Whitelists and Blacklists. Enable Parental Control once the Whitelist and Blacklist settings are complete. Select Enable, and then Save.

If you need to modify the Whitelists or Blacklists, first Disable Parental Control and Save. Then, Enable Parental Control when the changes are complete, and Save again.

To set up either a Whitelist or a Blacklist, you will need to first find the MAC Address of the device you want to control. On some devices, this may be found on a label. On others, there may be a way to query the device to display this. Check your user documentation for that device.

You may also find the device's MAC Address by looking at the client list on your MT7711. Click Basic Router → DHCP and look at the MAC Addresses in the DHCP Client List:

You may have to do a little sleuthing to find your device's MAC Address, for example by turning the device off and on again to see which MAC Address is removed and then restored to the list.

Setting up a Blacklist

Before you make any changes, make sure Parental Control at the top of the page is Disabled, and click Save if you had to change this.

Under the tab List of Blocked Addresses (Blacklist), click the Add button to the right. A set of fields will appear. Give your Blacklist a name, and then type in the MAC Address of the device you want your Blacklist to apply to. Use the format XX:YY:ZZ:WW:VV:UU.
Next, enter the URL of the first domain that you want to block, for example BadSite.com.

If you want to the Blacklist to apply only during certain hours, enter the start and stop times for the period you want the Blacklist to apply. If you want the Blacklist to apply always, make sure to set the start time to 12:00 am and the end time to 11:59 pm.

Next, select which protocols the Blacklist should apply to. If you're not sure,

leave this selection at the default setting, BOTH.

Here is an example entry to block access to BadSite.com at all times:

Finally, make sure to check the Enable box, and click the Save button.

Click the + sign to add another site to block for this device:

Now you can add another site, for example WorseSite.com, to the Blacklist:

Remember to click Save.

Click the + sign again to add more sites if you like.

Click the Add button to configure a blacklist for another device, if you like.

When you have completed all Blacklists, remember to Enable Parental Control at the top of the page, and click Save.

Setting up a Whitelist

Before you make any changes, make sure Parental Control at the top of the page is Disabled, and click Save if you had to change this.

Under the tab List of Blocked Addresses (Whitelist), click the Add button to the right. A set of fields will appear. Give your Whitelist a name, and then type in the MAC Address of the device you want your Whitelist to apply to. Use the format XX:YY:ZZ:WW:VV:UU.
Next, enter the URL of the first domain that you want to allow, for example Jill _Site_1.com.

If you want the Whitelist to apply only during certain hours, enter the start and stop times for the period you want the Whitelist to apply. If you want the Whitelist to apply always, make sure to set the start time to 12:00 am and the end time to 11:59 pm.

Next, select which protocols the Whitelist should apply to. If you're not sure, leave this selection at the default setting, BOTH.

Finally, make sure to check the Enable box, and click the Save button.

Here is an example entry to allow access to Jill_Site.com from 4:00 pm to 8:00 pm:

Now you can add another device, for example Joey's PC, to the Whitelist. First click the Add button.

Then enter the entry name, device MAC Address, site to allow, and start and end time for the entry. In the example below, we have named the entry Joeys_PC, and the site Joey_Safe_1.com, with active time from 10:00 am to 2:00 pm.

Remember to click Save.

Click the + sign to add another site to allow for this device:

Click the + sign to add another site to the Whitelist.

Click the Add button to configure a Whitelist for yet another device, if you like.

When you have completed all Whitelists, remember to Enable Parental Control at the top of the page, and click Save.

Setting up Times When Internet Access is Allowed and Not Allowed

Before you make any changes, make sure Parental Control at the top of the page is Disabled, and click Save if you had to change this.

You can set up times when Internet is allowed by configuring a Whitelist entry with a universal URL. By doing this, you can allow Internet access for a particular device only during hours that you specify. Access will be allowed to all Internet sites. Internet access will not be allowed to any site outside of the hours that you specify.

Under the tab, List of Allowed Addresses (Whitelist), click the Add button to the right. A set of fields will appear. Give your Whitelist a name, and then type in the MAC Address of the device you want your Whitelist to apply to. Use the format XX:YY:ZZ:WW:VV:UU.
In this case, enter **.** (that is, the single character 'dot' or 'period') as the URL. Parental Control will interpret this to apply to all websites.

Now set the start and end times of when you want to allow the device to have Internet access. Here is an example of entries to allow Internet access in an after-school period from 5:00 pm to 10:00 pm. We have named the sample entry AfterSch:

Make sure to check the Enable box, and click the Save button.

Click the Add button to configure a Whitelist entry for an allowed schedule for another device, if you like.

When you have completed all Whitelists, remember to Enable Parental Control at the top of the page, and click Save.

VPN (Virtual Private Network)

Virtual Private Networks (VPNs) provide protected connections across the Internet. Some companies and other organizations provide remote access to their internal networks via a VPN. Employees are typically provided with software that makes the VPN connection from a computer.

When a computer provisioned for this type of VPN connection is connected behind the MT7711, the MT7711 must pass through the VPN traffic. The MT7711 is configured by default for VPN pass-through. (The IPsec and PPTP Pass-through settings on the Advanced→Options page respectively enable IPsec and PPTP VPN pass-through. IPsec and PPTP are protocols used in different VPN implementations. The pass-through settings for both are enabled by default).

The most common type of VPN connection that MT7711 users will encounter is the type of VPN described above, that simply needs to pass through the MT7711. The VPN pages support features that allow you to terminate VPN connections on the MT7711 itself.

The MT7711 can terminate PPTP, L2TP and IPsec connections in specific scenarios. It can act as a VPN server to terminate PPTP and L2TP connections, for example from remote client computers. It can act as a VPN endpoint for IPsec connections, for example from a remote office to a central office ("site-to-site"). It cannot act as a VPN server to terminate IPsec connections from remote client computers.

To summarize, the MT7711 supports:

- VPN Pass-through (for clients connected behind the device that need to access for example a corporate network)
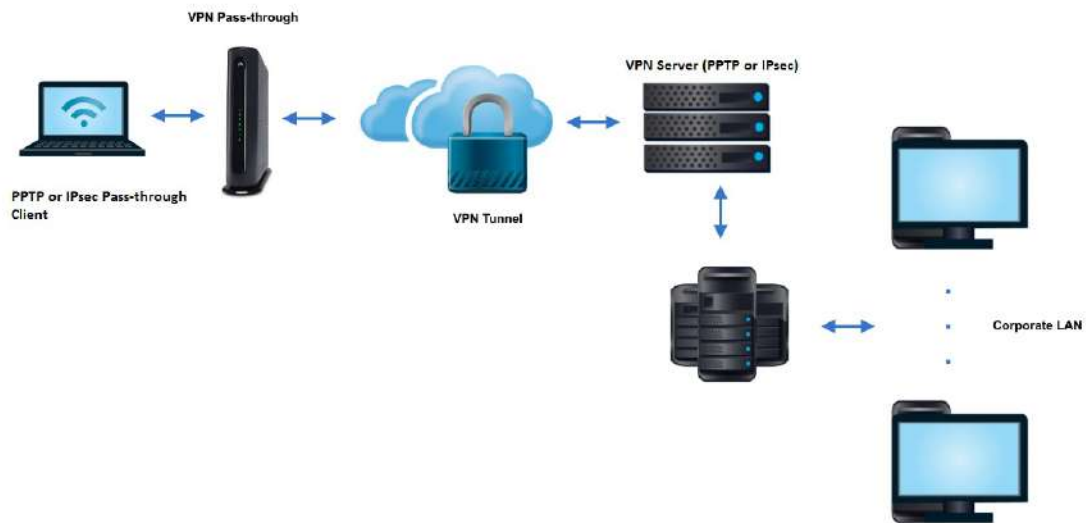
- Termination of VPN clients via PPTP & L2TP (The MT7711 can be configured as a VPN server in a small office or similar environment. Clients located on the Internet can connect to the small office network through VPN tunnels terminated at the MT7711.)

VPN Server (PPTP or L2TP)

PPTP or L2TP Client

VPN Tunnel

Office LAN
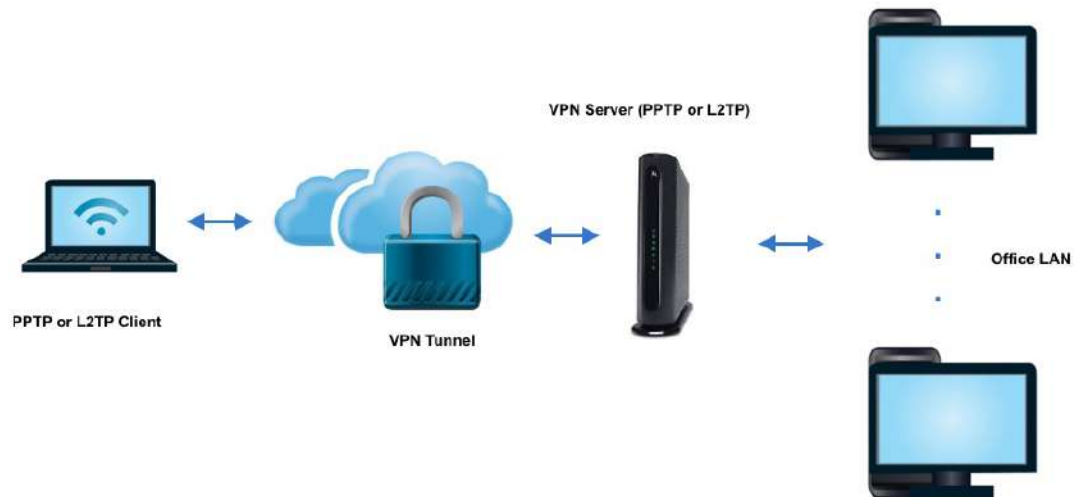
- Site-to-Site VPN via IPsec (the MT7711 can be configured to create a tunnel for all devices on the MT7711's LAN side to connect to a corporate network).
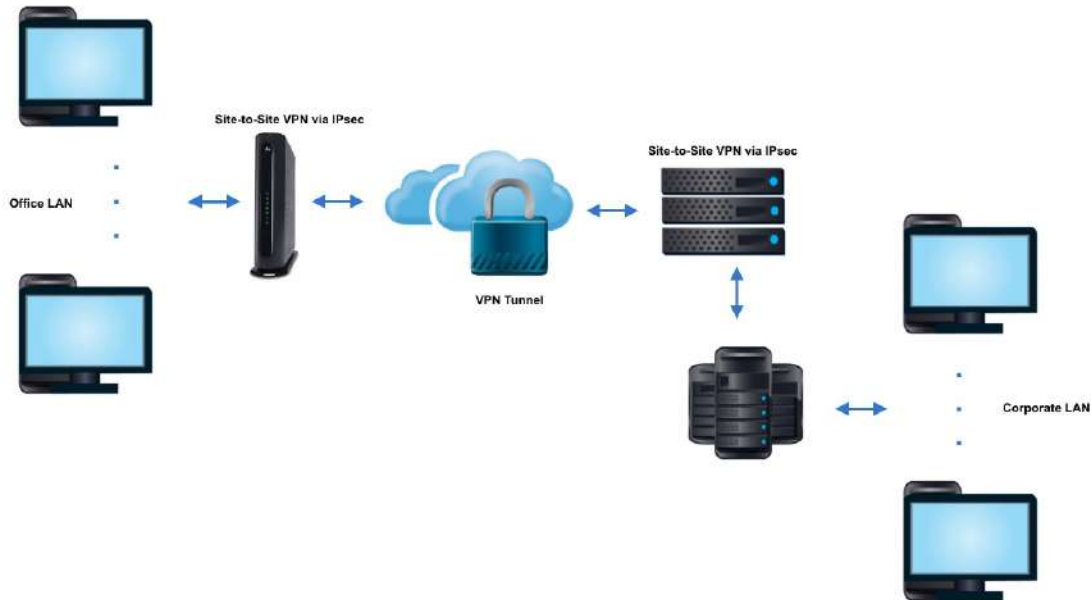
- The MT7711 will NOT support termination of client VPN connections via IPsec.

A couple of notes about VPN options. IPsec uses encryption and provides the strongest security. PPTP is considered to be the least secure VPN option. PPTP connections are not required to include encryption or authentication. L2TP is based on PPTP, and adds some level of compulsory authentication.

In the implementation of PPTP and L2TP on the MT7711, MPPE encryption is optional. Both protocols require a login; L2TP requires a passkey for authentication.

There are three pages under VPN in the MT7711 configuration manager: IPsec, L2TP/PPTP and Event Log. Use the IPsec page to set up an endpoint for a site to site IPsec connection. Use the PPTP/L2TP page to set up a server for a set of remote clients that connect via PPTP or L2TP. You may find the Event Log useful to determine what has gone wrong if you have trouble setting up a VPN.

For details on how to configure a VPN on the MT7711, follow the help available through the information icons on the configuration manager pages.

When the MT7711 is configured as a VPN endpoint, devices that connect to the endpoint will need to know the IP Address of the MT7711. You can find this address on the Status → Connections page. To provide the most stable VPN connections, the MT7711's router should be provisioned with a static IP Address. You will need to order this from your cable service provider.

The VPN implementations on the MT7711 are best effort. They are also Windows-centric. You will have to verify suitability for your own environment.

Changing Your MT7711's Username and Password, and Resetting to Factory Defaults

Changing Your MT7711's Username and Password

To change your MT7711's Username and Password, first log into the Configuration Manager as described in chapter 6. In summary, you type **192.168.0.1** in the address bar of your browser, go to that address, enter the Username **admin** and Password **motorola**, then click the Login button.

This will bring you to the Basic Status and Settings page. Select Advanced at the top of the screen, and then Status and Security.

You will need to enter the Current Username and Password, and then the new Username and Password. Your new Password will have to be entered twice. Both the Username and Password fields accept entries up to 15 characters long. Both Username and Password may include lower- and upper-case letters (a – z, A – Z) and numbers (0 – 9). Special characters are not allowed. Be sure to click Save to write your changes to memory.

Caution: Once you make this change, you will not be able to log into the modem if you forget the new Username and Password . To recover, you will have to reset the modem to factory defaults. When you reset the device to factory defaults, you will lose all changes you have made to the modem.

Resetting to Factory Defaults

There may be occasions when you need to reset your cable modem/router to factory defaults, for example if you have changed the Username and Password and lost the new values. Note that if you reset your device to its factory defaults, you will lose any changes you have made to settings in the device.

To reset to factory defaults:

1.   Make sure the cable modem/router is powered on.
2.   Find the reset button on the rear of the unit. It is marked RESET.
3.   Press and hold the Reset button for at least 10 seconds.
4.   The device will flash its LEDs and commence a reboot sequence.

Note that you will have to manually re-enter any required changes.

Configuring Alternate WiFi Security Settings

Alternatives to WPA2 -- WPA, WEP, and RADIUS

*Your Cable Modem/Router comes from the factory configured for **WPA2-PSK** wireless security with **AES** encryption. Some older clients may not support this security mode. (For details, see About Wireless Security, below). To change the wireless security mode, first open the page WPS_RADIUS_WEP.*

To do this, first log into the Configuration Manager. In summary, you type **192.168.0.1** in the address bar of your browser, go to that address, enter the Username **admin** and Password **motorola**, then click the Login button.

This will bring you to the Basic Status and Settings page. Click the Advanced button in the upper right. This will bring you to the Status → Software page. Hover over the Wireless menu item, and select the WPS_RADIUS_WEP submenu:

To enable WPA-PSK, follow these steps:

1. Under 802.11n Mode Enable/Disable, select Disable from the pulldown.
2. Find the WPA2-PSK Security Settings tab. If WPA2-PSK is not enabled, select Enabled from the WPA2-PSK pulldown and then click Save.
3. Find the WPA-PSK Security Settings tab. Select Enabled from the WPA-PSK pulldown.
4. Click Save.
5. Under Encryption, select AES+TKIP.
6. Click Save.
7. The device will now operate in mixed WPA-PSK / WPA2-PSK mode.

If you need to support WEP, follow these steps.

1. Disable all WPA, WPA-PSK, WPA2, and WPA2-PSK entries.
2. Make sure to click Save for each entry you change.
3. Under 802.11n Mode Enable/Disable, select Disable from the pulldown.
4. Click Save.
5. Find the tab WEP Security Settings.
6. In the field PassPhrase, enter a sequence of letters. This can be words, names, or an arbitrary sequence.
7. Click the button Generate WEP Keys.
8. In the WEP Encryption pulldown, select either **WEP-64 bit** or **WEP-128 bit.** (WEP-128 offers more security).
9. Select Enabled on the Show Keys pulldown.
10. Note the setting of Current Network Key. This determines which Network Key you need to use on your clients. You can change this value by selecting a different number in the pulldown.
11. Click the Save button at the top of the WEP Security Settings box.
12. Note the Network Key that you selected, and save this for use on your clients. (Also store a copy in a safe place, such as on a piece of paper taped to the bottom of your device).

About Wireless Security

There are two basic wireless security modes: WPA and WEP. There are two versions of WPA: WPA and WPA2. When configured as part of a typical home or small office network, WPA and WPA2 require a Pre-Shared Key, or PSK. These modes are typically called WPA-PSK and WPA2-PSK, respectively, though sometimes they're just called WPA and WPA2. You can enable either WPA-PSK or WPA2-PSK alone, or you can enable both WPA-PSK and WPA2-PSK together. By default, your Cable Modem/Router has WPA2-PSK with AES encryption enabled. You will only need to change the security mode if you have a device in your wireless network that only supports WEP or WPA-PSK with TKIP encryption. If you want an unsecured network, disable all security methods.

How to Tell if Your Clients Support WPA2

You can check to see if all other clients that you plan to put on the network support WPA2. You can do this by checking the manual that came with each device or by checking the configuration software for the installed device. Look under **Security** or **Encryption** or **Setup** or **Advanced Features**.

How to Configure Wireless Security for a RADIUS Server

If you have a Radius Server, select the WPA/WPA2 options without PSK.

To enable WPA and WPA2 without PSK, follow these steps:

1. Under 802.11n Mode Enable/Disable, select Disable from the pulldown.
2. Find the WPA-PSK Security Settings tab. If WPA-PSK is Enabled, select Disabled from the WPA-PSK pulldown and click Save. (Note that WPA-PSK is Disabled by default).
3. If WPA2-PSK is Enabled, select Disabled from the WPA2-PSK pulldown and click Save. . (Note that WPA2-PSK is Enabled by default).
4. Select Enabled for WPA2. Do not click Save yet.
5. Enter the RADIUS Server Address and click Save.
6. Enter the RADIUS Port and click Save.
7. Enter the RADIUS Key and click Save.
8. If you want to enable WPA, select Enabled for WPA, and click Save.
9. If you want to enable WPA2, make sure Enabled is selected for WPA2, and click Save.
10. If you want to disable WPA2, select Disabled for WPA2, and click Save.
11. Under Encryption, if you have enabled WPA, or WPA and WPA2, select AES+TKIP. If you have enabled WPA2 only, select AES only.
12. Click Save.

Troubleshooting Tips

What if I can't make an Internet connection right after installation?

- First turn your MT7711 off for at least 8 seconds, then on, to see if that fixes the problem.
- Check the connections you've made to your MT7711. Power and coax connections are required, and up to 4 Ethernet connections are optional. Are those connections good? Be sure that the coax cable connection finger-tight, possibly using the coax wrench. Do not over-tighten.
- Check that the MT7711's power supply is plugged into a live outlet, and that the Ethernet cable (if used) is connected securely.
- Make sure that your coax cable is live. You can check that by using it with a TV.
- Check that you provided the correct setup information to your cable service provider.
- Contact your cable service provider to make sure they've turned on your Internet service.

What if I can't make or receive phone calls right after installation?

- Make sure that you've ordered Comcast Xfinity phone service.
- Make sure that the Tel1 light is ON (lit solidly). It may take several minutes after power-up before voice service is established. Note also that it may take several days to activate voice service for the first time.
- If the Tel1 light never turns on, turn your MT7711 off for at least 8 seconds, then on. Wait up to 10 minutes to see if that fixes the problem.
- If the Tel1 light still isn't ON, call your service provider.

- If the Tel1 light is ON but you can't make and receive calls, check the connections to your phone. Is the phone cord connected snugly at both ends?
- The Tel2 jack will only work if you have a 2 phone line service from Comcast Xfinity.
- If your phone has a base that needs to be powered, make sure it has a secure connection to a live outlet.
- If your phone's handset uses a battery, make sure this is fully charged.
- If you have connected to your home's telephone wiring, make sure that the home's wiring is disconnected at the demarc from the telephone company's network. The demarc is where the telephone company's network enters into the home and connects to the home phone wiring.

What if my phone has no dial tone?

- Make sure your phone is plugged into a Tel port on your MT7711.
- Check the connection both at the MT7711 and at the phone.
- If your Xfinity voice subscription includes one line only, make sure you have connected your phone to the Tel1 jack on the MT7711.
- The Tel2 jack will only work if you have a 2 phone line service from Comcast Xfinity.
- If you have a cordless phone, make sure the base station is powered, and the handset's battery is charged.
- If you have an Internet connection but the Tel light on the front of the MT7711 is not lit solid even after several minutes, check with Xfinity whether your voice service is provisioned correctly.

What if incoming phone calls do not ring?

- Make sure the ringer on your phone is turned on.
- Check whether Call Forwarding is enabled.

What if my phone's Caller ID doesn't display a name?

- Some callers may block their Caller ID.
- If the Caller ID displays a number but no name for some frequent callers, check to see if you can program your phone to display a name for those numbers.

What if my MT7711 has been working then stops working?

- First turn your MT7711 off for at least 8 seconds, then on, to see if that fixes the problem.
- If the MT7711's lights don't come on, check that the modem is getting power from its power cube and that the MT7711's power button is on.
- Check your MT7711 Ethernet or telephone cables, if used.
- Check with your service provider. Sometimes there's a service outage or some other service issue. Sometimes a service outage also affects your TV service, so check that.

What if I'm getting Internet service but my speed is disappointing?

- Be sure you know what speed you're paying for.
- Check the speed with a computer using a wired Ethernet connection and plugged into one of the modem's Ethernet ports. Use one of the tools found when you search the phrase: **broadband speed test**. Make sure your computer's wired Ethernet LAN port supports gigabit rates (1000BT or GE). You will need this to achieve service speeds of 100 Mbps or greater.
- If you get good speed when a computer's directly connected to the modem, you may have a wireless problem. In that case, please re-read the wireless router section.

- Some video streaming services get bottlenecked, especially at busy times like after dinner. See whether you have the speed problem at less busy times or when using another streaming service.
- Try connecting your MT7711 nearer to where the coaxial cable comes into your home. This lets you see whether your home's cabling is a problem.
- If you're using a splitter with your MT7711, try the MT7711 without the splitter to see if that helps. If it does, you may need to get a better splitter, one with a top frequency of at least 1,000 MHz.

What if I'm told that my MT7711 isn't approved by my cable service provider?

- If your Cable Service Provider is Comcast Xfinity, then that's not true. The MT7711 is specifically listed on the Comcast Xfinity website as an approved device for Internet and phone services at **mydeviceinfo.xfinity.com** . Other leading cable service providers have a list of certified cable modems for each of their Internet speeds. You can check the list for your service provider. You can also find information about certifications at **www.motorolanetwork.com/services**

What if I am connected wirelessly but my connection seems slow or keeps dropping?

Please re-read the Wireless Router sections in this User Manual.

What if I don't know my MT7711's Wireless Network Names/SSIDs or Security Key/Password?

The default values are printed on the bottom label of the MT7711. Use these unless you changed them. If you changed them, try to remember where you saved copies of the new values. Alternatively, if you have a device that

connects wirelessly to the MT7711, it may show the Wireless Network Name/SSID and Password. You can also find this information through the MT7711's Configuration Manager. Information about doing this is in the Configuration Manager section above.

If all else fails, reset the device to factory defaults by holding the Reset button for 10 seconds. You can then use the default values.

What if I think that wireless devices are interfering with my MT7711 wireless router?

1. Where possible, put the MT7711 as far away as possible from interfering devices such as Bluetooth transmitters and neighbors' WiFi routers.
2. To try to pick a less used wireless channel for your MT7711, first go in to your MT7711's Configuration Manager.
   - Then, click the Advanced button at the top of the page, then click the Wireless and Scan/Bridge menu items at the top of the page.
   - Click the ScanWirelessAPs button. A list will appear of competing wireless networks, including the channels they are using. Write down one or more of the less used channel numbers, since a less used channel should be better for your MT7711.
   - On the top of the page, click the Wireless Basic menu item.
   - On the Basic page, select the channel you want in the Channel pulldown, then click Save.

Do you have any other questions? We have more information at **www.motorolanetwork.com/mentor**

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Support

We like to help.

Please visit our support Website or call our support specialists. Our Website has our Motorola Mentor information, and also provides returns and warranty information.

www.motorolanetwork.com/support

Email: support@motorolanetwork.com

Phone: 800-753-0797 or **617-753-0562**

Limited Warranty

MTRLC LLC warrants this product against defects in material and workmanship for a warranty period of 2 years. To read the full warranty, please go to **www.motorolanetwork.com/warranty**

Compliance

FCC 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 or more 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, and/or consult the dealer or an experienced radio/TV technician for help.

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment and it also complies with Part 15 of the FCC RF Rules. This equipment must be installed and operated in accordance with provided instructions and the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.   End-users and installers must be provided with antenna installation instructions and consider removing the no-collocation statement.

This device complies with Class B 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.

FCC Caution:

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

Note to CATV System Installer:

This reminder is provided to call the CATV systems installer's attention to Section 820-93 of the National Electric Code which provide guideline for proper grounding and, in particular, specify that the Coaxial cable shield shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

⬦⬤⬦   DC input connector is center-pin positive polarity.

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