User Guide

VT1000v Series Voice Terminal

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Important

This guide contains information related to product warranty, regulatory matters, and software licenses.

Safety and Regulatory Information

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS DEVICE TO RAIN OR MOISTURE. THE DEVICE SHALL NOT BE EXPOSED TO DRIPPING OR SPLASHING AND NO OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, SHALL BE PLACED ON THE DEVICE.

CAUTION: TO ENSURE REGULATORY AND SAFETY COMPLIANCE, USE ONLY THE PROVIDED POWER AND INTERFACE CABLES. TO PREVENT ELECTRICAL SHOCK, DO NOT USE THIS PLUG WITH AN EXTENSION CORD, RECEPTACLE, OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

CAUTION: DO NOT OPEN THE UNIT. DO NOT PERFORM ANY SERVICING OTHER THAN THAT CONTAINED IN THE INSTALLATION AND TROUBLESHOOTING INSTRUCTIONS UNLESS YOU ARE QUALIFIED TO DO SO. REFER ALL SERVICING TO QUALIFIED SERVICE PERSONNEL.

It is recommended that the customer install an AC surge arrestor in the AC outlet to which this device is connected. This is to avoid damaging the equipment by local lightning strikes and other electrical surges.

This product was qualified under test conditions that included the use of the supplied cable between system components. To be in compliance with regulations, the user must use this cable and install it properly.

Different types of cord sets may be used for connections to the main supply circuit. Use only a main line cord that complies with all applicable product safety requirements of the country of use.

Installation of this product must be in accordance with national wiring codes.

To prevent overheating, do not block the ventilation holes on the sides of the Motorola voice terminal.

Wipe the Motorola voice terminal with a clean, dry cloth. Never use cleaning fluid or similar chemicals. Do not spray cleaners directly on the unit or use forced air to remove dust.

FCC Compliance

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 when the equipment is operated in a residential environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

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

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

Canadian Compliance

This Class B digital device complies with Canadian ICES-003. Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

FCC Declaration of Conformity

According to 47CFR, Parts 2 and 15 for Class B Personal Computers and Peripherals; and/or CPU Boards and Power Supplies used with Class B Personal Computers, Motorola BCS, 101 Tournament Drive, Horsham, PA 19044, 1-215-323-1000, declares under sole responsibility that the product identifies with 47CFR Part 2 and 15 of the FCC Rules as a Class B digital device. Each product marketed is identical to the representative unit tested and found to be compliant with the standards. Records maintained continue to reflect the equipment being produced can be expected to be within the variation accepted, due to quantity production and testing on a statistical basis as required by 47CFR 2.909. Operation is subject to the following condition: This device must accept any interference received, including interference that may cause undesired operation. The above named party is responsible for ensuring that the equipment complies with the standards of 47CFR, Paragraph 15.101 to 15.109.

International Declaration of Conformity

We, Motorola, Inc. Broadband Communications Sector
101 Tournament Drive
Horsham, PA, U.S.A.

declare under our sole responsibility that the:

Motorola VT1003v and VT1005v voice terminals

to which this declaration relates is in conformity with one or more of the following standards:

EN55022	EN55024	CISPR-22	CISPR-24	ETSI EN300 386
EN60950	EN61000-3-2	EN61000-3-3	IEC 60950	

the following provisions of the Directive(s) of the Council of the European Union:

EMC Directive 89/336/EEC	Low Voltage Directive 73/23/EEC	Directive 93/68/EEC

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Contents

Introduction

A Motorola VT1000v series voice terminal (digital phone adapter) adds Voice over Internet Protocol (VoIP) connections for one or two telephones to any broadband Internet connection. The connection can be through either:

- A cable modem high-speed data service from a cable television company
- A digital subscriber line (DSL) service from a telephone company
- Other high-speed Internet connection

The VT1000v product line includes the following models, which collectively are referred to as a “Motorola voice terminal” in this guide:

VT1003v Provides one telephone line

VT1005v Provides two telephone lines

You can use a Motorola voice terminal with almost any:

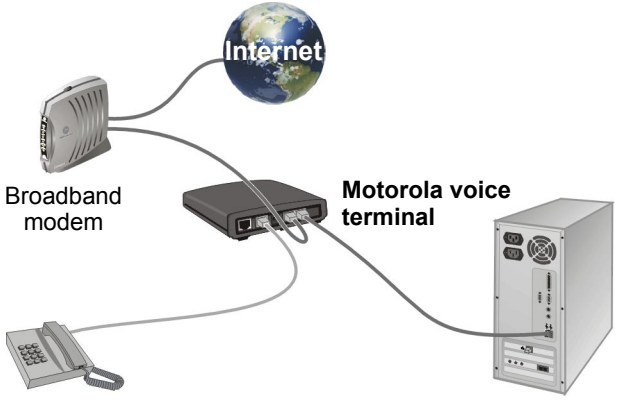
- Cable modem or DSL modem (broadband modem)
- Microsoft Windows®, Macintosh®, or UNIX® computer with a 10Base-T or 10/100Base-T Ethernet adapter
- Ethernet router or wireless access point

In the illustrations on page 2 to page 6, the Motorola voice terminal can prioritize calls only if you connect it directly to your broadband modem.

Sample Configuration Without A Home Network

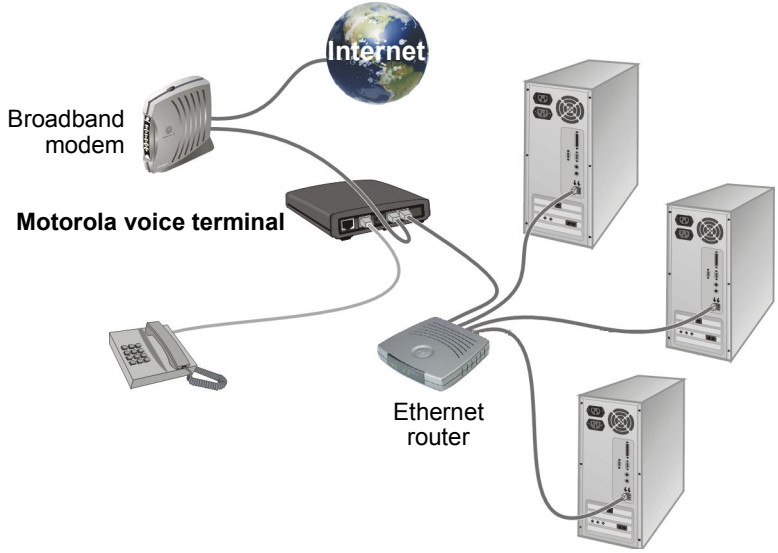
You can connect a Motorola voice terminal to any cable modem or DSL modem. *Because the Motorola voice terminal is directly connected to your broadband modem, the Motorola voice terminal can prioritize voice calls over data traffic.* This helps ensure high-quality phone service:

For simplicity, not all cables are shown.



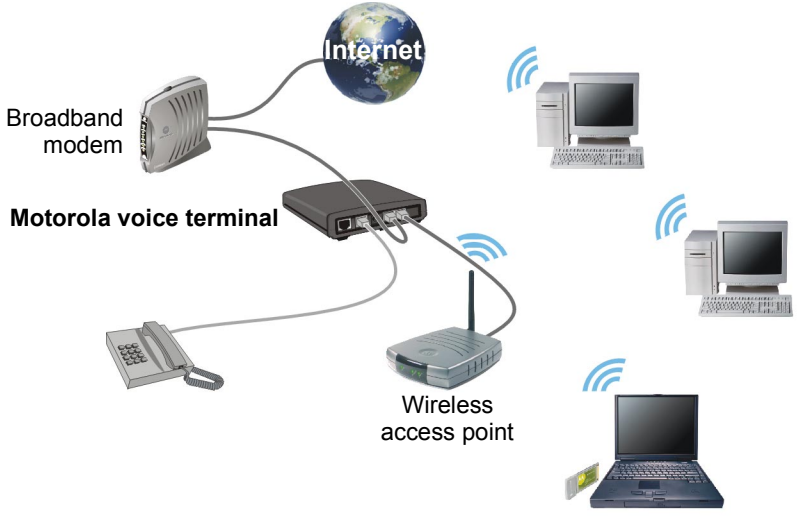
Sample Wired Network With Calls Prioritized

You can connect any Ethernet router to your Motorola voice terminal. *Because the Motorola voice terminal is directly connected to your broadband modem, the Motorola voice terminal can prioritize voice calls over data traffic.* This helps ensure high-quality phone service:



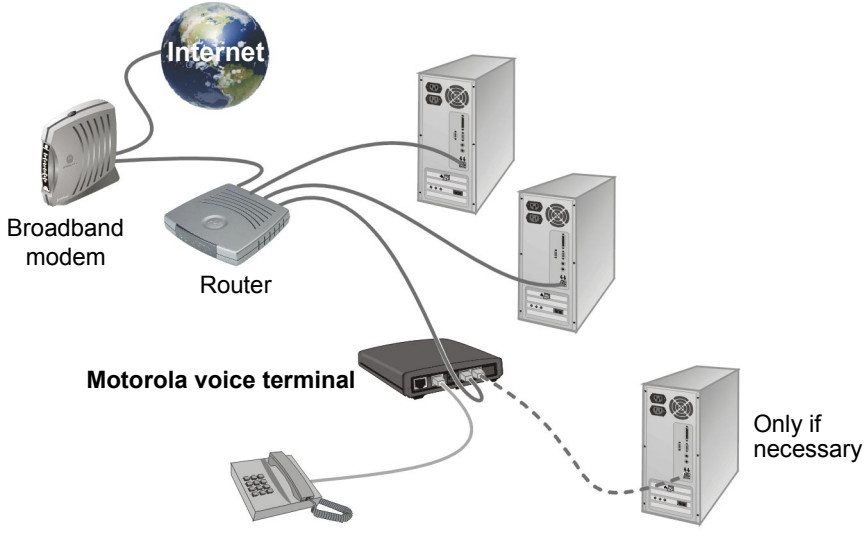
Sample Wireless Network With Calls Prioritized

You can connect any wireless router (access point) to your Motorola voice terminal. *Because the Motorola voice terminal is directly connected to your broadband modem, the Motorola voice terminal can prioritize voice calls over data traffic.* This helps ensure high-quality phone service:



Sample Wired Network Without Calls Prioritized

You can connect a Motorola voice terminal to any Ethernet router on a network having a high-speed Internet connection. *Because the Motorola voice terminal is not directly connected to your broadband modem, the Motorola voice terminal cannot prioritize voice calls over data traffic*:

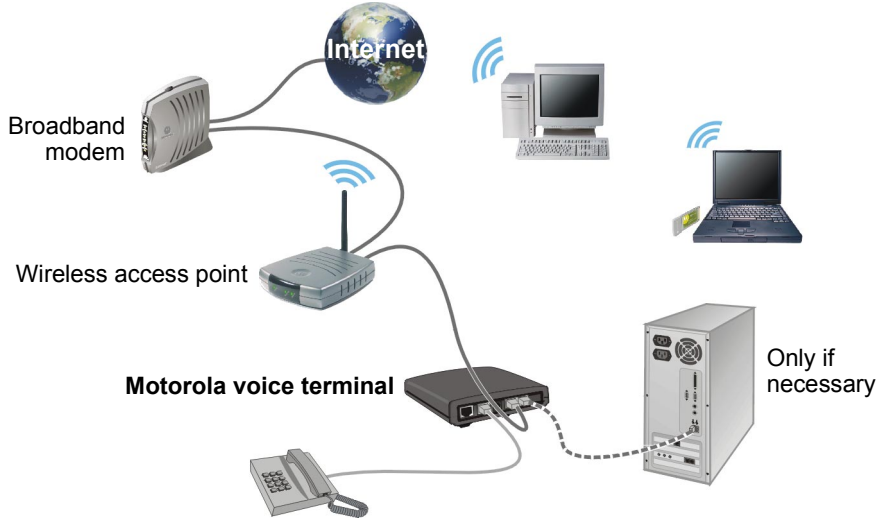


You may prefer this configuration if you already have a home network.

You may need to connect a computer to the Motorola voice terminal rear panel to configure the Motorola voice terminal. See "Connecting a Computer to Display the Configuration Pages" on page 18.

Sample Wireless Network Without Calls Prioritized

You can connect a Motorola voice terminal to any wireless access point on a network having a high-speed Internet connection. *Because the Motorola voice terminal is not directly connected to your broadband modem, the Motorola voice terminal cannot prioritize voice calls over data traffic*:



You may prefer this configuration if you already have a wireless LAN.

You may need to connect a computer to the Motorola voice terminal rear panel to configure the Motorola voice terminal. See “Connecting a Computer to Display the Configuration Pages” on page 18.

Front Panel

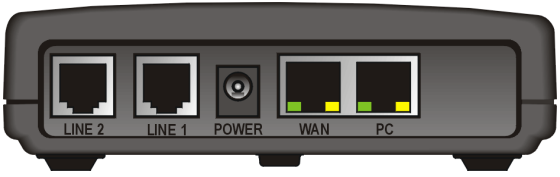
When your Motorola voice terminal is plugged in and operating normally, the POWER light on the front panel lights solid green.

During start-up and image upgrades, as a Troubleshooting aid, the POWER light blinks:

Blinks	Voice Terminal is
Once	Performing its initial boot sequence
Two	Acquiring its network address
Three	Downloading its configuration profile from your VoIP provider
Four	Registering with your VoIP provider server
Continuous Fast	Downloading an image upgrade initiated by your VoIP provider

Caution!

Never unplug your Motorola voice terminal while the light is blinking continuously. Instead, allow the image upgrade to be completed. If you unplug the Motorola voice terminal during an image upgrade, the unit may become inoperable.



Your Motorola voice terminal may appear slightly different than in the illustrations in this guide. Some models do not have every connector illustrated.

Rear Panel

The rear panel provides the following connectors:

Item	Type	Connects To
LINE 2	RJ-11	Telephone line two (on the VT1005v *only*)
LINE 1	RJ-11	Telephone line one
POWER	12 V	An adapter that you plug into an AC power outlet
WAN	RJ-45	Ethernet connector to your broadband modem, router, switch, or hub. ("WAN" means "wide area network")
PC	RJ-45	Ethernet connector to a computer

The WAN and PC connectors each have two adjacent lights:

- The green light is on when the Ethernet connection is available. It blinks during data transfer over the port.
- The yellow light is on if there is a 100Base-T link and off for a 10Base-T link.

Before You Begin

Before you begin the installation, check that you received the following items with your Motorola voice terminal:

Item		Description
AC adapter and line cord		Connects the Motorola voice terminal to an AC electrical outlet
Ethernet cable		Connects the WAN port on the Motorola voice terminal to a broadband modem (cable or DSL), router, or wireless access point Connects the LAN port on the Motorola voice terminal to a computer, router, or wireless access point

You also need:

- DSL, cable modem, broadband gateway, or other high-speed Internet connection
- One or two touch-tone telephones

You may need an additional 10/100Base-T category 3 or better straight-through Ethernet cable with RJ-45 terminators.

Precautions

Caution!

Contact your VoIP provider before connecting your Motorola voice terminal to your existing telephone wiring. Connect each LINE port to a telephone *only*; never to a traditional telephone service.

Postpone installation until there is no risk of thunderstorm or lightning activity in the area.

To prevent overheating the Motorola voice terminal, do not block the ventilation holes on its sides.

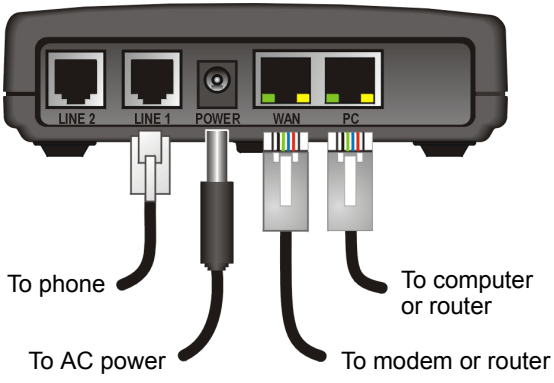
Do not open the Motorola voice terminal. *Refer all service to your VoIP provider.*

Wipe the Motorola voice terminal with a clean, dry cloth. Never use cleaning fluid or similar chemicals. Do not spray cleaners directly on the unit or use forced air to remove dust.

Signing Up for Service

*To activate voice service, you need to provide the MAC address printed on the bar code label marked **MTA MAC ID** on the bottom of the Motorola voice terminal to your VoIP provider.*

If you have a DSL modem, you need to obtain the Service Name, User Name, and Password from your DSL provider.



Installation

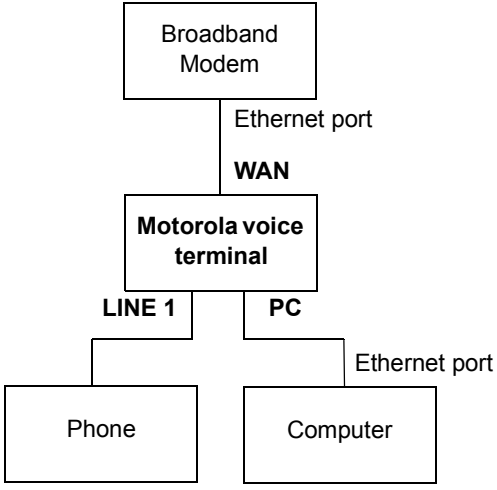
Depending on whether you have a single computer or a home network with multiple computers and a router or wireless access point, perform *one* of:

- Installation With A Single Computer
- Network Installation With Calls Prioritized
- Network Installation With Calls Not Prioritized

Caution!

Contact your VoIP provider before connecting your Motorola voice terminal to existing phone wiring. Connect each LINE port to a telephone *only*; never to a traditional telephone service.

Be sure the LINE connectors are neither connected together nor connected to wall jacks on the same network.



Installation With A Single Computer

To connect your Motorola voice terminal as shown in “Sample Configuration Without A Home Network” on page 2:

1. Be sure the Motorola voice terminal is unplugged. Be sure power is off to your broadband modem (cable or DSL) and computer.
2. Connect one end of an Ethernet cable (RJ-45) to the Ethernet connector on your broadband modem. Connect the other end of this Ethernet cable to the **WAN** connector on the Motorola voice terminal.
3. Connect one end of another Ethernet cable to the **PC** connector on the Motorola voice terminal. Connect the other end of this Ethernet cable to the Ethernet connector on the computer.
4. Connect a telephone to the **LINE 1** connector using a phone wire (RJ-11). For a VT1005v *only*, you can connect a second telephone to the **LINE 2** connector.
5. Power on the broadband modem, following the instructions provided with your modem. Wait about two minutes for it to start up.
6. Plug the AC power adapter to the **POWER** connector on your Motorola voice terminal and the electrical outlet. *This turns your Motorola voice terminal on. You do not need to unplug it when not in use.*

   Wait about two minutes for the Motorola voice terminal to start up. The POWER light blinks as described in “Front Panel” on page 7.

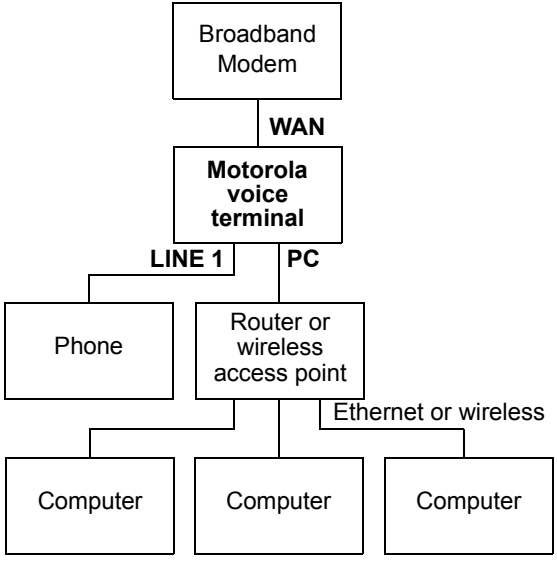
7 After the POWER light on your Motorola voice terminal turns on solid green, power up your computer. If your broadband Internet service does not work as it did before you installed your Motorola voice terminal, please refer to “Troubleshooting” on page 26.

If you have a cable modem, skip to step 9.

8 If you have a DSL modem, enable PPPoE on your Motorola voice terminal as described in “Basic Configuration” on page 19.

9 Pick up your telephone hand set and listen for a dial tone. If you hear a dial tone, you can now call anyone as you would with any telephone.

If you have any problems, please refer to “Troubleshooting” on page 26 or call your VoIP provider.



Network Installation With Calls Prioritized

To connect your Motorola voice terminal directly to your broadband router, as shown on page 3 or page 4:

1. Be sure your Motorola voice terminal is unplugged. Be sure power is off to your broadband modem (cable or DSL) and router.
2. Connect one end of an Ethernet cable (RJ-45) to an open Ethernet LAN port on your broadband modem. Follow the instructions provided with the modem. Connect the other end of this Ethernet cable to the **WAN** connector on your Motorola voice terminal.
3. Connect a telephone to your **LINE 1** connector using a phone wire (RJ-11). For a VT1005v *only*, you can connect a second telephone to the **LINE 2** connector.
4. Connect your router or wireless access point, following the instructions provided with the router or access point.
5. Power on your broadband modem, following the instructions provided with the modem. Wait about two minutes for it to start up.
6. Plug the AC power adapter to the **POWER** connector on your Motorola voice terminal and the electrical outlet. *This turns your Motorola voice terminal on. You do not need to unplug it when not in use.*

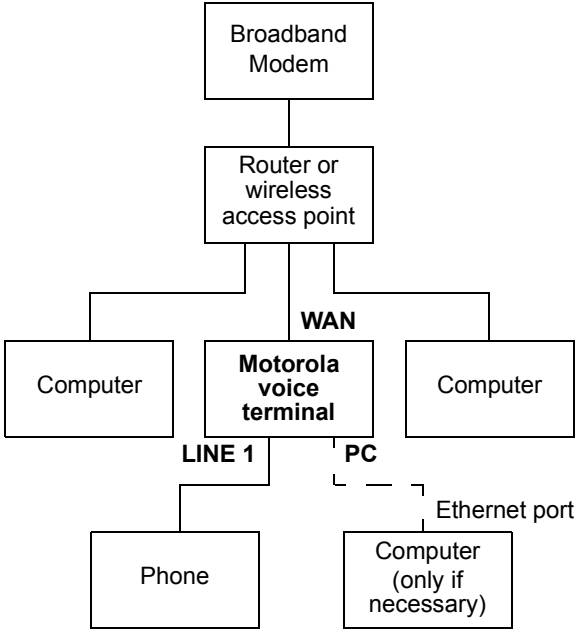
   Wait about two minutes for the Motorola voice terminal to start up. The POWER light blinks as described in “Front Panel” on page 7.

7 After the POWER light on your Motorola voice terminal turns on solid green, pick up the telephone hand set and listen for a dial tone

- If you hear a dial tone, you can now call anyone as you normally would on any telephone.
- If you do not hear a dial tone, check that all connections described in this procedure are correct. If you still do not hear a dial tone, you may need to connect a computer to your Motorola voice terminal and perform Basic Configuration (see page 19). If after performing Basic Configuration, you still do not hear a dial tone, see "Troubleshooting" on page 26 or call your VoIP provider.

8 Power on your router or wireless access point. Wait about two minutes for it to start up.

9 Configure your home network, following the instructions provided with the router or access point.



See "Connecting a Computer to Display the Configuration Pages"

Network Installation With Calls Not Prioritized

If you already have a home network, you can connect your Motorola voice terminal to your router or wireless access point, as shown on page 5 or page 6:

1. Be sure your Motorola voice terminal is unplugged. Be sure power is off to your broadband modem (cable or DSL) and router.
2. If necessary, connect your router or wireless access point to your modem, following the instructions provided with the router or access point.
3. Connect one end of an Ethernet cable (RJ-45) to an open Ethernet LAN port on your router or wireless access point. Follow the instructions provided with the device. Connect the other end of this Ethernet cable to the **WAN** connector on your Motorola voice terminal.
4. Connect a telephone to your **LINE 1** connector using a phone wire (RJ-11). For a VT1005v *only*, you can connect a second telephone to the **LINE 2** connector.
5. Power on your broadband modem, following the instructions provided with the modem. Wait about two minutes for it to start up.
6. Power on your router, following the instructions provided with the router. Wait about two minutes for it to start up.
7. Plug the AC power adapter to the **POWER** connector on your Motorola voice terminal and the electrical outlet. *This turns your Motorola voice terminal on. You do not need to unplug it when not in use.*

Wait about two minutes for the Motorola voice terminal to start up. The POWER light blinks as described in “Front Panel” on page 7.

8 After the POWER light on your Motorola voice terminal turns on solid green, pick up the telephone hand set and listen for a dial tone

- If you hear a dial tone, you can now call anyone as you normally would on any telephone.
- If you do not hear a dial tone, check that all connections described in this procedure are correct. If you still do not hear a dial tone, you may need to connect a computer to your Motorola voice terminal and perform Basic Configuration (see page 19). If after performing Basic Configuration, you still do not hear a dial tone, see “Troubleshooting” on page 26 or call your VoIP provider.

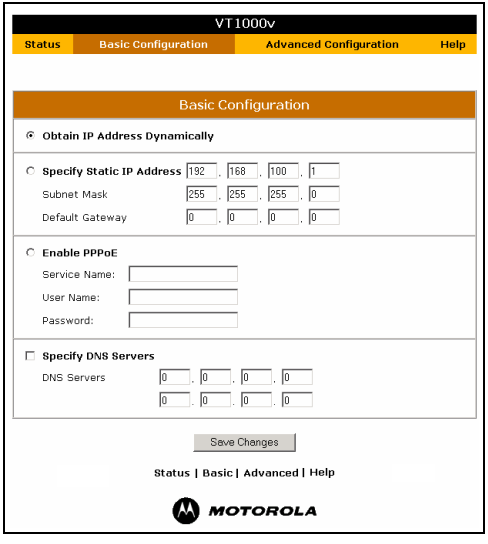
Connecting a Computer to Display the Configuration Pages

For a Network Installation With Calls Not Prioritized *only*, you need to connect a computer with DHCP enabled to the Motorola voice terminal to display the configuration pages. For information about enabling DHCP, refer to your operating system documentation.

If you performed an Installation With A Single Computer or a Network Installation With Calls Prioritized, a computer is already connected to the Motorola voice terminal.

To connect a computer to the back of the Motorola voice terminal:

1. Connect one end of an Ethernet cable to the **PC** connector on the Motorola voice terminal.
2. Connect the other end of the Ethernet cable to the Ethernet connector on a computer.
3. Power up the computer.



Basic Configuration

To perform basic configuration:

1. On a computer connected to the voice terminal **PC** port or a router, start a Web browser such as Microsoft® Internet Explorer or Netscape Navigator®.
2. In the **Address** or **Location** field, type **http://192.168.102.1** and press **ENTER** to display the Status page, which displays the Motorola voice terminal settings.
3. Click **Basic Configuration** to display the Basic Configuration window. Its fields are:

Obtain IP Address Dynamically — This setting is enabled by default. *If either of the following is true, no configuration on this page is required:*

- If you have a cable modem with no router and your cable provider assigns IP addresses dynamically, the Motorola voice terminal obtains its IP address dynamically from your cable provider.
- If you have a router with DHCP enabled, the Motorola voice terminal obtains its IP address dynamically from your router.

Specify Static IP Address — If your broadband provider requires a static IP address, enable Specify Static IP Address. Type the **Static IP Address** and IP addresses for the **Subnet Mask**, **Default Gateway** they provide.

Enable PPPoE — If you have a DSL modem and no router, enable PPPoE and type the **Service Name**, **User Name**, and **Password** provided by your DSL provider.

Specify DNS Servers

Enables you to specify Domain Name System (DNS) servers, if necessary:

- If Obtain IP Address Dynamically or Enable PPPoE are selected, Specify DNS Servers is off by default. If required by your broadband provider *only*, select **Specify DNS Servers** and type the DNS server IP addresses provided by your broadband provider.
- If Specify Static IP Address is selected, Specify DNS Servers is selected by default. Because no DNS server is automatically assigned, you need to type the **DNS server IP *addresses*** provided by your broadband provider.

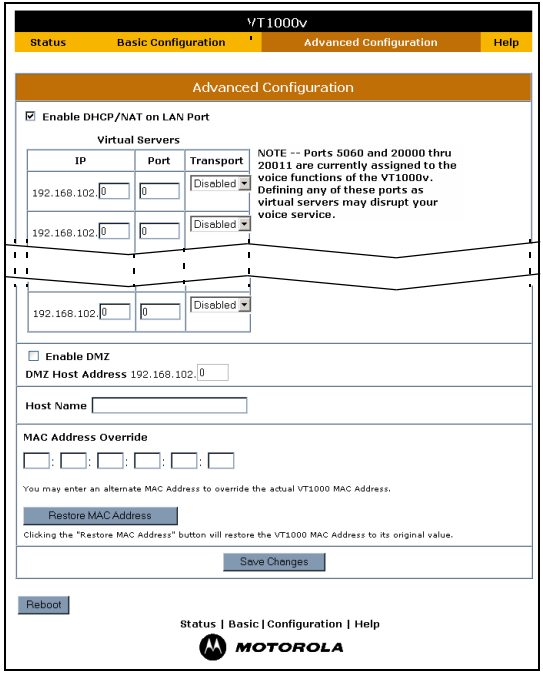
4 Verify that all fields are correctly filled in and click **Save Changes**. The message `This will require a reboot of the unit. Are you sure?` is displayed.

5 Click **OK**. Wait about one minute. You cannot display the configuration pages while the Motorola voice terminal starts up. After the Motorola voice terminal restarts, click the Web browser **Refresh** button to display the configuration pages.

6 Pick up the telephone hand set and listen for a dial tone. If you hear a dial tone, you can now place a phone call as you would with any telephone.

If you cannot a hear a dial tone, try the following:

- Check that all cabling is correctly connected as described in “Installation” on page 11.
- Repeat this Basic Configuration procedure. Be sure you enter the correct information for your service.
- Refer to “Troubleshooting” on page 26.
- Contact your VoIP provider.

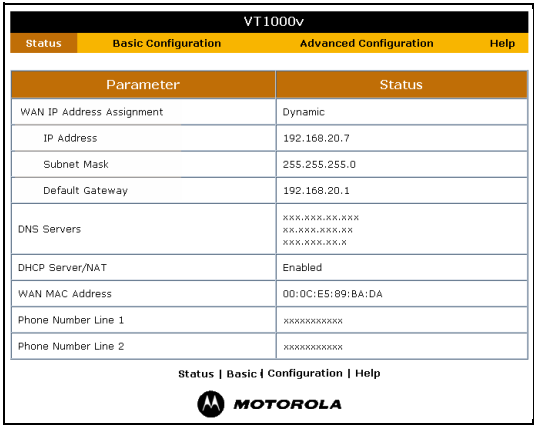


Advanced Configuration

Do not change these settings unless you have the necessary expertise and the need to do so.

Field or Button	Description
Enable DHCP/NAT on LAN Port	If this is enabled, the Motorola voice terminal automatically distributes an IP address to a computer connected to its PC port. It is enabled by default.
Virtual Servers	Configures logical data ports for applications requiring multiple data ports. Because NAT assumes that data sent through one port will return to the same port, you may need to configure virtual servers to run certain applications: ■ **IP** is the IP address of the computer connected to the Motorola voice terminal ■ **Port** sets the port to open. *The ports assigned to Motorola voice terminal voice functions are displayed. If you forward any of these ports, you may disrupt your voice service. The ports shown in the illustration are examples only.* ■ **Transport** sets the protocol — Disabled, TCP, IP, or UDP.

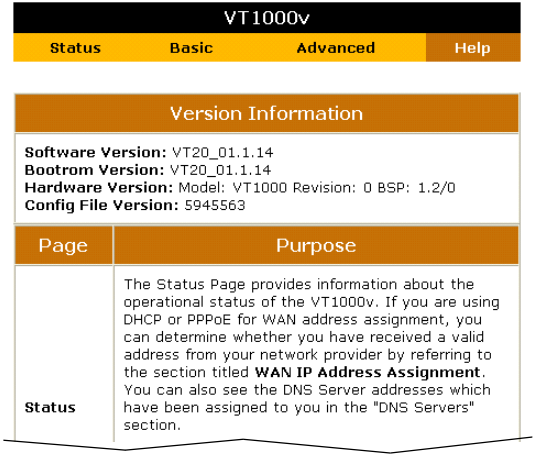
Field or Button	Description
Enable DMZ	Select Enable DMZ to enable the computer having the DMZ Host Address to be the de-militarized zone (DMZ). *Use this setting with extreme caution because a DMZ host can be accessed by any computer on the Internet and is completely open to Internet hackers.*
DMZ Host Address	Type the last octet of the IP address of the device you want to designate as the DMZ host.
Host Name	Type the host *name*, if required by your broadband provider.
MAC Address Override	If your broadband provider associates a particular service to a specific device, such as your computer, type its MAC address here to use instead of the Motorola voice terminal MAC address. By default, the MAC address printed on the Motorola voice terminal is displayed in this field.
Restore MAC Address	If you type a value in the MAC Address Override field, click to use the actual Motorola voice terminal MAC address instead.
Save Changes	After verifying that all fields are correctly filled in, click to save your changes. The message `This will require a reboot of the unit. Are you sure?` is displayed. Click **OK**.
Reboot	Click to restart the Motorola voice terminal. Rebooting takes about one minute.



Status

The Status window displays the Motorola voice terminal configuration.

Field	Description
WAN IP Address Assignment	Displays the method chosen on the Basic Configuration page — Dynamic, Static, or PPPoE.
IP Address **Subnet Mask** **Default Gateway**	These fields display the Motorola voice terminal IP address, subnet mask, and default gateway IP address: ■ For a cable modem with no router where the cable provider assigns IP addresses dynamically, these are obtained dynamically from the cable provider. ■ For static assignment, these are defined on the Basic Configuration page.
DNS Servers	Displays the DNS servers assigned to your computer.
DHCP Server/NAT	Displays whether Enable DHCP/NAT on LAN Port is enabled on the Advanced Configuration page.



Field	Description
WAN MAC Address	Displays the Motorola voice terminal MAC address. By default, it displays the MAC address written to read-only memory (ROM) at the factory and printed in the MTA MAC ID field on the bottom of the unit. If you use the MAC Address Override field on the Advanced Configuration page, the MAC address you typed there is displayed in this field.
User Phone Number	Displays the telephone number(s) assigned by your VoIP provider.

Help

The Help window displays:

- Software, boot ROM, hardware, and VoIP provider configuration file versions
- Brief descriptions of the Motorola voice terminal configuration pages

Troubleshooting

If the solutions listed here do not solve your problem, check your broadband modem user guide or contact your VoIP provider. To establish network connectivity, it is helpful to follow the correct sequence. Be sure you complete the steps in the order specified in “Installation” on page 11.

Problem	Possible Solutions
Green POWER light is off	Check that the AC power adapter is properly plugged into the electrical outlet and the Motorola voice terminal. Check that the electrical outlet is working.
Cannot send or receive data or calls; no dial tone	Check whether the telephone line cord is connected to the Motorola voice terminal. Check all other cabling between the modem, Motorola voice terminal, computer, and if applicable, routers. Be sure you used the cables provided with the Motorola voice terminal. All Ethernet cables must be straight-through cables. Check the lights on the modem front panel. For example, on the Motorola SURFBoard cable modem, the first light from top to bottom that is off indicates the error. For information, see your broadband modem user guide. Check the POWER light on the Front Panel.

Frequently-Asked Questions

If you do not understand a term or acronym, please check the “Glossary” on page 30.

Q **Where can I find more technical information?**

A You can find more information about your Motorola voice terminal at http://broadband.motorola.com/consumers/products/vt1000v/.

For technical support, contact your VoIP provider.

For general information about Motorola consumer broadband products, education, and support, visit http://broadband.motorola.com/consumers/.

Q **What does the Motorola VT1000V series voice terminal do?**

A Your Motorola voice terminal is part standalone media terminal adapter (S-MTA) and part home broadband router:

- As an S-MTA, it converts analog voice signals to and from a standard telephone to digital data that can be transmissed through a broadband connection across the Internet. It provides an alternate means to make voice calls.
- As a home broadband router, it provides basic routing to enable simultaneous voice and data communication.

Q **Will the Motorola voice terminal work with my cable modem?**

A Yes. The Motorola voice terminal supports Dynamic Host Control Protocol (DHCP), which is specified for DOCSIS cable modems.

Q **Will the Motorola voice terminal work with my DSL modem?**

A Yes. The Motorola voice terminal supports PPPoE, which is used by most DSL providers.

Q Can I operate a virtual private network (VPN) application behind the Motorola voice terminal?

A Yes. The Motorola voice terminal supports IPSEC and PPTP, the most common VPN protocols.

Q Can I play on-line games through my Motorola voice terminal?

A By default, the Motorola voice terminal blocks all unsolicited messages to your computer or home network as a standard security measure. However, for online games that require some unsolicited messages to be transmitted through the Motorola voice terminal, you can specify ports and IP addresses on which to allow unsolicited messages. The Motorola voice terminal enables you to set up virtual servers or a DMZ.

Q How do I configure my Motorola voice terminal?

A *Most users who perform the appropriate Installation procedure can send and receive calls with no additional configuration!* If configuration is required, there is a graphical user interface (GUI). For information about getting started, see “Basic Configuration” on page 19. You may need to connect a computer as described in “Connecting a Computer to Display the Configuration Pages” on page 18. Alternately, you can configure your computer statically to 192.169.102.*xxx* (*xxx* is from 2 to 254), subnet 255.255.255.0, and default gateway 192.168.102.1.

Q Do I need a router to benefit from the Motorola voice terminal and simultaneously surf the Internet?

A You can use the Motorola voice terminal with or without a home router or wireless access point. It provides the routing functions necessary for general Internet use, like Network Address Port Translation (NAPT), virtual servers, DMZ, and stealth mode operation.

Q When is a separate router recommended?

A The Motorola voice terminal supports most routing functionality you are likely to need. If you want a firewall, RIP, parental control, port triggers, or advanced ALGs such as RSVP, POP3, SNMP, or streaming media, purchase a separate router, such as the Motorola BR700 or WR850G.

Q **Is any Quality of Service (QoS) implemented on the Motorola voice terminal?**

A Although voice service over the Internet is typically best-effort, the Motorola voice terminal provides upstream voice prioritization to ensure that upstream voice data has priority over other Web data. This ensures good voice quality even during heavy upstream data transfers such as e-mail synchronization or file sharing.

Q **What codecs and voice protocols does the Motorola voice terminal support?**

A The Motorola voice terminal supports:

- Many popular coder/decoders (codecs) including G.711 (a-law and µ-law), G.726(16, 24, 32, and 40 kbps), G.729A/B, G.729E, G.728, G.723, and others. The configuration of supported codecs depends on your VoIP provider's system.
- Session Initiation Protocol (SIP) per RFC 3261, Real Time Protocol (RTP) per RFC 1889, and Out of Band Dual Tone Multi Frequency (OOB DTMF) per RFC 2833.

Glossary

broadband	High-speed telecommunication over a wide range of frequencies, typically 256 Kbps or faster. Broadband enables more information to be transmitted in less time. The most common broadband service types available to home and small-office users are cable modem or DSL. Both cable modem and DSL are much faster than a traditional dial-up Internet connection.
broadband provider	If you have a cable modem, the cable company from which you subscribe to high-speed data service. If you have a DSL modem, the company from which you subscribe to DSL service.
cable modem	A device enabling a broadband connection to the Internet over cable television lines. It requires a subscription for high-speed data service from your local cable provider.
coaxial cable (coax)	A type of wire consisting of a center wire surrounded by insulation and a grounded shield of braided wire traditionally used mainly to carry cable television signals. The shield minimizes electrical and radio frequency interference.
DOCSIS	The Data-Over-Cable Service Interface Specification defines interface standards for cable modems, gateways, and supporting equipment to deliver data between an HFC network and computer systems or television sets. Euro-DOCSIS is DOCSIS adapted for use in Europe.
DMZ	A “de-militarized zone” is a host that can be accessed by any computer on the Internet. You can use a DMZ to prevent direct access by outside users to private data. (The term comes from the geographic buffers located between some conflicting countries such as North and South Korea.) The DMZ host cannot initiate a session back to the private LAN. Internet users can access only the DMZ host. You can use a DMZ to set up a Web server or for gaming without exposing confidential data.
DSL	A digital subscriber line enables a broadband connection to the Internet over traditional telephone lines that support DSL. You need a subscription for DSL service from your local telephone company.

DNS	The Domain Name System is the Internet system for converting domain names to IP addresses. A DNS server contains a table matching domain names such as Internetname.com to IP addresses such as 192.169.9.1. When you access the Web, a DNS server translates the URL displayed on the browser to the destination website IP address. The DNS lookup table is a distributed Internet database; no one DNS server lists all domain name to IP address matches.
download	To copy a file from one computer to another. You can use the Internet to download files from a server to your home computer.
downstream	In a cable data or DSL network, downstream describes the direction of data received by your computer from the Internet.
DHCP	A Dynamic Host Configuration Protocol server dynamically assigns IP addresses to client hosts on an IP network. DHCP eliminates the need to manually assign static IP addresses by “leasing” an IP address and subnet mask to each client. It enables the automatic reuse of unused IP addresses.
Ethernet	The most widely used type of local area network (LAN). The most commonly installed Ethernet networks are called 10Base-T. 10Base-T provides transmission speeds up to 10 megabits per second (Mbps), usually over twisted-pair wire. Fast Ethernet (100Base-T) provides transmission speeds up to 100 Mbps.
host	A host is any computer or similar device supporting end-user applications or services with full two-way network access. Each host has a unique host number that combined with the network number forms its IP address.
IP address	An Internet Protocol address is an identifier for a computer or device on a TCP/IP network. Networks using the TCP/IP protocol route messages based on the destination IP address. Your broadband provider assigns your cable modem an IP address to provide a continuous Internet connection.
IPSec	The Internet Protocol Security protocols are authentication and encryption standards for secure data exchange over the Internet.
MAC address	The Media Access Control address uniquely identifies each device that can be connected to an Ethernet network. It is permanently written to read-only memory (ROM) at the factory and printed on your Motorola voice terminal.
MHz	Mega Hertz. A measure of radio frequency - millions of cycles per second. One MHz means one million cycles per second.

NAT	Network Address Translation is a standard for a LAN to use one set of IP addresses for internal traffic and a second set of IP addresses for external traffic.
NAPT	Network Address Port Translation is the most common form of translation between public and private IP addresses.
OOB DTMF	Out of Band Dual Tone Multi Frequency protocol for voice traffic
port	On a computer or other electronic device, a port is a socket or plug used to physically connect it to the network or to other devices. In TCP/IP, a port is a number from 0 to 65536 used logically by a client program to specify a server program. Ports 0 to 1024 are reserved.
PPPoE	Point-to-Point Protocol over Ethernet is a specification for connecting to the Internet with DSL modems.
PPTP	Point-to-Point Tunneling Protocol encapsulates other protocols. It is a new technology to create VPNs developed jointly by several vendors.
RTP	Real Time Protocol for voice traffic
RJ-11	The most common type of connector for household or office phones.
RJ-45	The most common type of connector for Ethernet networks.
router	On IP networks, a device connecting at least two networks, which may or may not be similar. A router filters data based on the IP address, examining the source and destination IP addresses to determine the best route on which to forward it. One example is the Motorola Ethernet Broadband Router BR700.
SIP	Session Initiation Protocol for voice traffic
S-MTA	A standalone media terminal adapter converts analog voice signals to and from a standard telephone to digital data that can be transmitted through a broadband connection over the Internet
TCP/IP	Transmission Control Protocol/Internet Protocol is a set of protocols that provides rules for communication between networks.
upstream	In a cable data or DSL network, upstream describes the direction of data sent from your computer to the Internet.

wireless access point (WAP)	A device that provides network connectivity to one or more client computers using radio signals over a wireless connection. One example is the Motorola Wireless Access Point WA840G.
VoIP	Voice over Internet Protocol is a method to exchange voice, fax, and other information over the Internet. Voice and fax have traditionally been carried over telephone lines using a dedicated circuit for each line. VoIP enables calls to travel as discrete data on shared lines.
VoIP provider	The company from which you purchase VoIP telephone service. It may be different from your broadband provider.
VPN	A virtual private network is a private network that uses “virtual” connections (tunnels) routed over a public network (usually the Internet) to provide a secure and fast connection; usually to users working remotely at home or in small branch offices. A VPN connection provides security and performance similar to a dedicated link (for example, a leased line), but at much lower cost.

Software License and Warranty

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