

Standalone Voice/IP Gateway Model MVP110

Proprietary Mode

Quick Start Guide



Quick Start Guide

82050750 Revision A

MultiVOIP 100 (Model MVP110)

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Record of Revisions

Revision

Description

A Initial Release. (06/06/01)

Patents

This Product is covered by one or more of the following U.S. Patent Numbers: *6151333*, *5757801*, *5682386*. Other Patents Pending.

TRADEMARK

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Contents

Introduction	4
Related Documentation	5
Installing Your MultiVOIP	6
Unpacking Your MultiVOIP	8
Safety Warnings	
Cabling Your MultiVOIP	
Configuring Your Host MultiVOIP	
Configuring Your ClientMultiVOIPs	24
Deploying the VOIP Network	31
Limited Warranty	33
Technical Support	
Contacting Technical Support	
FCC Declaration	

Introduction

Welcome to Multi-Tech's stand-alone Voice/IP Gateway, the MultiVOIP model MVP110. The MultiVOIP enables FXS-only analog voice and fax communication over an IP network. Multi-Tech's new voice/fax gateway technology allows voice and fax communication to ride, with no additional expense, over your existing IP network, which has traditionally been data-only. To access this free voice and fax communication, all you have to do is connect the MultiVOIP to your telephone equipment, and then to your existing Internet connection. Once configured, the MultiVOIP then allows voice and fax to travel down the same path as your traditional data communications.

The MVP110 has one independent voice/fax channel, a 10 Mbps Ethernet LAN interface, and a command port for configuration.

System management is provided through the command port using bundled Windows® software which provides easy-to-use configuration menus and online Help.



Figure 1. MultiVOIP

Related Documentation

The MVP110 Quick Start Guide is intended to be used by qualified systems administrators and network managers. This quick start provides the necessary information for a qualified person to unpack, cable, load software, and configure the unit for proper operation.

A detailed MVP110 User Guide is also provided on the system CD with your unit and provides in-depth information on the features and functionality of Multi-Tech's MultiVOIP.

The User Guide is produced using Adobe Acrobat[™]. To view or print your copy of a user guide, install Acrobat Reader[™] on your computer. The Acrobat Reader is included on your system CD or is available as a free download from Adobe's Web site at http://www.adobe.com.

The MVP110 User Guide is also available on Multi-Tech's Web site at http://www.multitech.com.

Viewing and printing a user guide from the Web also requires that you have the Acrobat Reader loaded on your system. To select the MVP110 User Guide from the MTS home page, click **Support | Manuals** and then click **MultiVOIP** in the product list. All MultiVOIP documents will be displayed and you can choose User Guide (MVP110) to view or download the .pdf file.

Installing Your MultiVOIP

The basic steps of installing your MultiVOIP network involve unpacking the units, connecting the cables, and configuring the units using the included management software (MultiVOIP Configuration). The recommended installation process includes three phases that, when completed, result in a fully functional Voice Over IP network. A general description of each phase is provided below, and detailed instructions follow throughout the rest of this section.

Configure and Install Your Host MultiVOIP

As the first step, the VOIP administrator configures the MultiVOIP designated as the "Host" unit. This includes the assignment of a unique LAN IP address, subnet mask, and Gateway IP address. Once all connections have been made, the VOIP administrator configures the unit and builds the Phone Directory Database that will reside with the Host unit.

Configure Your Client MultiVOIPs

Once installation has been completed, the administrator moves on to configure the MultiVOIPs designated as "Client" units. Again, unique LAN IP addresses, subnet masks, and Gateway IP address. When this is done, the Phone Directory Database option is set to Client, and the IP address of the Host MultiVOIP is entered. Once all Client units are configured, the VOIP network can be deployed.

Deploy the VOIP Network

The final phase of the installation is deployment of the network. Through the first two phases, the VOIP administrator controls configuration, so when the Client MultiVOIPs are sent to their remote sites, the remote site administrators need only to connect the units to their LAN and telephone equipment. A full Phone Directory Database (supplied by the Host MultiVOIP) will be loaded into their unit within minutes of being connected and turned on.

The final task of the VOIP Administrator is to develop the VOIP Dialing Directory based on the Phone Directory Database and telephone numbers of the interfacing telephone equipment; at which point, a VOIP user can call any person on the VOIP network.

Unpacking Your MultiVOIP

Remove all items from the box (See Figure 4).



Figure 4. Unpacking

Safety Warnings

Caution: Danger of explosion if battery is incorrectly replaced.

A lithium battery on the voice/fax channel board provides backup power for the time keeping capability. The battery has an estimated life expectancy of ten years.

When the battery starts to weaken, the date and time may be incorrect. If the battery fails, the board must be sent back to Multi-Tech Systems for battery replacement.

The Phone and Ethernet ports are not designed to be connected to a Public Telecommunication Network.

Cabling Your MultiVOIP

Cabling your MultiVOIP involves making the proper Power, Command Port, phone system, and Internet connections. Figure 5 shows the back panel connectors and the associated cable connections. The following procedure details the steps necessary for cabling your MultiVOIP.

1. Connect the power supply to a live AC outlet, then connect it to the MultiVOIP as shown in Figure 5.

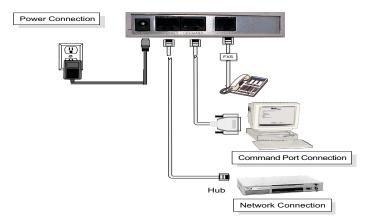


Figure 5. Cable Connections

- Connect the MultiVOIP to a PC using the RJ-45 to DB9 (female) cable provided with your unit. Plug the RJ-45 end of the cable into the **Command** port of the MultiVOIP and connect the other end to the PC serial port you are using. See Figure 5.
- Connect a network cable to the **Ethernet** connector on the back of the MultiVOIP. Connect the other end of the cable to your network.
- If you are connecting a station device such as an analog telephone, a fax machine, or a Key Telephone System (KTS) to your MultiVOIP, connect an RJ-11 cable to the

- **Voice/Fax Channel** connector on the back of the MultiVOIP and the other end to the station device.
- 5. Turn on power to the MultiVOIP by setting the power switch on the right side panel to the On position. Wait for the Boot LED on the MultiVOIP to go off before proceeding. This may take a couple of minutes.

Proceed to the Software Loading section to load the MultiVOIP software.

Configuring Your Host MultiVOIP

Configuring your Host MultiVOIP involves software loading and configuration.

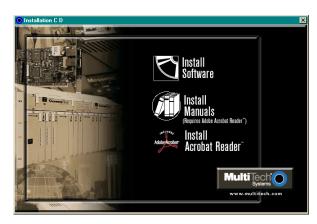
The software loading procedure does not provide every screen or option in the loading process. It is assumed that a technical person with a thorough knowledge of Windows and the software loading process is performing the installation. Additional information on the MultiVOIP software is provided in the User Guide supplied with your MultiVOIP.

If you are installing a MultiVOIP behind a firewall, you need to add the following UDP ports to your firewall.

900 Signaling Information 5004 RTP Packets 5000 Status Information 5005 RTCP Packets

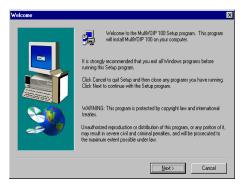
Refer to your firewall user documentation to enter and open these ports.

- Make certain that your MVP 110 has been properly cabled and that the power is turned on.
- Insert the MVP 110 CD into your CD-ROM drive. The CD should start automatically. It may take 10 to 20 seconds for the Multi-Tech CD installation window to display.



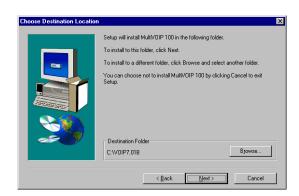
If the Multi-Tech Installation CD window does not display automatically, click **My Computer**, then right click the **CD ROM drive** icon, click **Open**, and then click the **Autorun** icon.

- 3. When the Multi-Tech Installation CD dialog box displays, click the **Install Software** icon.
- 4. The Welcome dialog box displays.

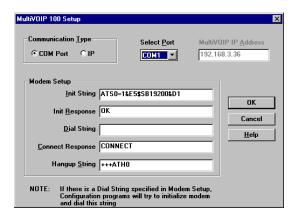


Press Enter or click Next to continue.

5. Follow the on-screen instructions to install your MultiVOIP software.



The following dialog box selects the COM port of your PC connected to the Command port of the MultiVOIP. From the **Select Port** list, choose the COM port of your PC.



Click **OK** to continue.

7. The **Setup Complete** dialog displays.



Click Finish to continue.

8. The following message displays:



Click No to continue.

- 9. In the program group, double-click **Upgrade Software**.
- 10. The following window displays.



Click Yes to continue.

11. The IP Protocol Default Setup dialog box displays.

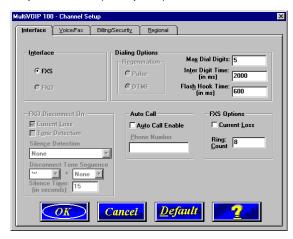


The default **Frame Type** is **TYPE_II**. If this does not match your IP network, change the Frame Type by selecting SNAP from the **Frame Type** list. The available Frame Type choices are **TYPE_II** and **SNAP**.

 In the Ethernet group, enter your unique LAN IP address in the IP Address box, then enter the Subnet Mask and Gateway Address for your LAN in the corresponding boxes. The IP address is your unique LAN IP address, and the Gateway address is the IP address of the device connecting your MultiVOIP to the Internet.

Click **OK** when you are finished.

13. The **Channel Setup** dialog box displays. It is used to define the voice/fax channel interface, voice coder, fax parameters, billing options, security settings, and regional phone parameters (tone pairs).



14. If you are connecting a station device such as an analog telephone, a fax machine, or a Key Telephone System (KTS) to the Voice/Fax connector on the back of the unit.

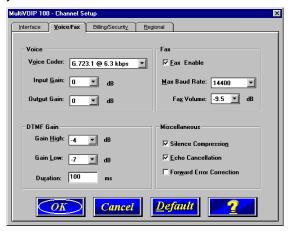
In the **Max Dial Digits** box, enter the maximum number of digits allowed when dialing a phone number. The default setting is 5. In the **Inter Digit Time** box, enter the maximum amount of time in milliseconds that the unit will wait before mapping the dialed digits to an entry in the Phone Directory Database. If too much time elapses between digits and the wrong numbers are mapped, you hear a rapid busy signal. If this happens, hang up and dial

again. This option is available for all interface types. In the **Flash Timer** box, enter the time, in milliseconds, for the duration of flash hook signals output on the interface.

To dedicate the local voice/fax channel to a remote voice/fax channel, (so you will not have to dial the remote channel) select the **Auto Call Enable** check box. Enter the phone number of the remote VOIP in the **Phone Number** box.

The **Voice/Fax** tab displays the parameters for the voice coder, faxing, and DTMF gain.

15. To change the voice coder, select the new voice coder entry from the Voice Coder list.



If you changed the voice coder, ensure that the same voice coder is used on the voice/fax channel you are calling. Otherwise, you will get a busy signal.

16. The Fax group enables you to select the maximum baud rate for faxes and adjust the fax volume. If you do not plan to send or receive faxes on a given voice/fax channel, you can disable faxes in the Fax group. 17. The **Billing/Security** tab displays the parameters for billing options, call authentication, and automatic disconnection.



- 18. You can set up billing options for inbound and outbound calls by selecting them in the **Billing Options** group and then entering the charge in cents per number of seconds.
- 19. The Call Authentication option enables password protection for outbound and inbound calls on the selected voice/fax channel. If you enable password protection on inbound or outbound calls, you need to also enter a password of up to 14 numeric characters in the Password box.
- 20. The Automatic Disconnect option limits call duration to the number of seconds entered in the Disconnect After box. The default value of 180 seconds can be changed to any other value up to 65,535 (roughly 18.2 hours).

If your country/region is not the default USA, click the **Regional** tab and select your country or region from the list.

21. To change the Tone Pairs on the **Regional** tab, select your country or region from the **Country/Region** list.



The **Tone Pairs** group parameters change per your choice. Click **OK** when finished.

22. The following dialog box displays.

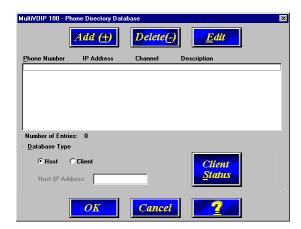


Click **OK**. The upgrade takes several minutes to complete.

23. From the Program Group, double-click MultiVOIP Configuration. Click Phone Book. The Phone Directory Database dialog box displays. You will build your personalized MultiVOIP Phone Directory in the following steps.

The MultiVOIP configured as a "Host" will contain the host

database. The host database has the phone numbers of all the MultiVOIPs available for communication on an IP network. This database is downloaded to each Client MultiVOIP as it comes online.



Click **Add** to begin building your phone directory database.

24. The Add/Edit Phone Entry dialog box displays.

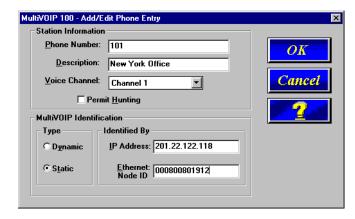


In the **Station Information** group, enter the unique phone number of the local device connected to Channel 1 in the **Phone Number** box. For example phone number 101.

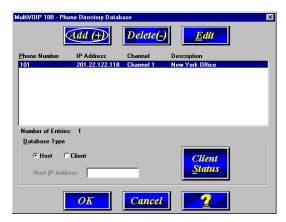
- 25. The **Description** is optional, but can be useful in associating the channel to the extension. If you want, enter a description of your local phone number. This description identifies the phone number you entered in the previous step.
- 26. Select the **Permit Hunting** check box if you want calls to roll over to a second voice/fax channel on an answering MultiVOIP 2, 4, or 8-port client MultiVOIP when the first channel is busy.

Note: The Host MultiVOIP must have a static IP address that the remote MultiVOIP can reference to obtain a downloaded copy of the host phone directory database.

27. In the **MultiVOIP Identification** group, enter the IP address of the Host MultiVOIP in the **IP Address** box. Then obtain the 12-digit Node ID# (0008005xxxxx) from the ID plate on the back panel of the MultiVOIP and enter this number in the **Ethernet Node ID** box. If the ID plate is missing or damaged, you can also Telnet to the MultiVOIP and, on the MultiVOIP Telnet Server menu enter 1 to advance to the Main Menu, then enter 3 for System Information where item 1 is the Ethernet Port Address you want to enter in the **Ethernet Node ID** box.



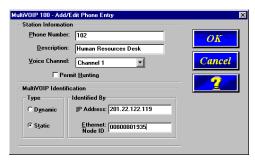
28. Click **OK** and you are returned to the **Phone Directory Database** dialog box, which now includes phone number 101 with its IP address, channel number, and description.



- 29. Click **Add** and the **Add/Edit Phone Entry** dialog box displays again.
- Enter the phone number for the remote MultiVOIP in the Station Information group Phone Number box. For example, 201.
- 31. Enter a description for the remote MultiVOIP phone number in the **Description** box.

Note: If the remote MultiVOIP is located behind a proxy server that uses a dynamically assigned IP address, select **Dynamic** (disabling Static IP Address) and leave the IP Address box blank. The Host MultiVOIP will learn the IP address when it is contacted by the remote MultiVOIP.

32. Enter the IP address of the remote MultiVOIP in the IP Address box in the MultiVOIP Identification group.



33. Click OK and you are returned to the Phone Directory Database dialog box, which now includes the second number and related information in the Phone Number list.



34. When you have finished, click **OK**. On the Main menu, click **Download Setup**.

35. The Save Setup dialog box displays.



Click **OK** to proceed.

- 36. After the setup is written to the MultiVOIP, the unit is rebooted.
- 37. Verify that the **BOOT** LED on the MultiVOIP is off after the download is complete. This may take several minutes as the MultiVOIP reboots.
- 38. **Win3.1 users** you are returned to your Program Manager where the MultiVOIP Program Group and Program Items (Windows icons) display.

Win95/98/NT/2000 users - you are returned to your MultiVOIP folder which is open and visible on your desktop.

At this time, your host MultiVOIP is configured. Proceed to the next section to configure the client MultiVOIPs.

Configuring Your ClientMultiVOIPs

If you are installing a MultiVOIP behind a firewall, you need to add the following UDP ports to your firewall.

900 Signaling Information 5004 RTP Packets 5000 Status Information 5005 RTCP Packets

Refer to your firewall user documentation to enter and open these ports.

- Disconnect the PC from the command port of the Host MultiVOIP and connect it to the command port on the Client MultiVOIP.
- 2. **Win 3.1 users** from the Program Manager, double-click the **MultiVOIP Configuration** icon in the MultiVOIP Program Group. The main menu displays.

Win95/98/NT/2000 users - from your desktop, click Start | Programs I MultiVOIP I Upgrade Software. The following dialog box displays.



3. Click **Yes**. The **IP Protocol Default Setup** dialog box displays.



The default Frame Type is TYPE_II. If this does not

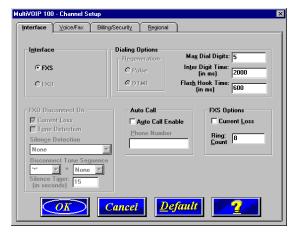
match your IP network, select the Frame Type from the **Frame Type** list. The Frame Type choices are **TYPE_II** and **SNAP**.

In the Port Address group, enter the IP Address and IP
 Mask. In the Gateway Address group, enter the gateway
 IP address for the client unit.

The IP address is your unique LAN IP address, and the Gateway address is the IP address of the device connected to the Internet/Intranet.

Click **OK** when you are finished. The **Channel Setup** dialog box displays.

5. The **Channel Setup** dialog box defines the voice coder, fax parameters, and regional telephone parameters for the voice/fax channel.



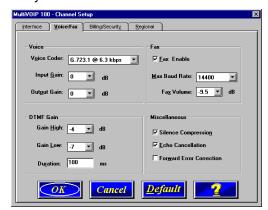
6. If you are connecting a station device such as an analog telephone, a fax machine, or a Key Telephone System (KTS) to the Voice/Fax connector on the back of the unit.

Check with your in-house telephone personnel to verify whether your local PBX dial signaling is **Pulse** or **DTMF** (tone). Set the Regeneration option accordingly. In the **Max Dial Digits** box, enter the maximum number of digits allowed when dialing a phone number. The default setting is 5. In the **Inter Digit Time** box, enter the maximum amount of time in milliseconds that the unit will wait before mapping the dialed digits to an entry in the Phone Directory Database. If too much time elapses between digits and the wrong numbers are mapped, you hear a rapid busy signal. If this happens, hang up and dial again. This option is available for all interface types. In the **Flash Timer** box, enter the time, in milliseconds, for the duration of flash hook signals output on the interface.

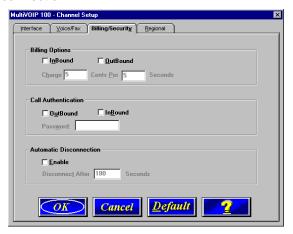
To dedicate the voice/fax channel to a remote voice/fax channel, (so you will not have to dial the remote channel) select the **Auto Call Enable** check box. Enter the phone number of the remote VOIP in the **Phone Number** box.

The **Voice/Fax** tab displays the parameters for the voice coder, faxing, and DTMF gain.

8. To change the voice coder, select the new voice coder entry from the **Voice Coder** list.

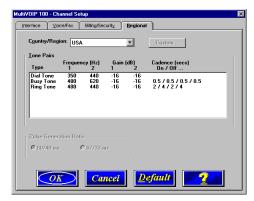


- If you changed the voice coder, ensure that the same voice coder is used on the voice/fax channel you are calling. Otherwise, you will always get a busy signal.
- The Fax group enables you to select the maximum baud rate for faxes and adjust the fax volume. If you do not plan to send or receive faxes on a given voice/fax channel, you can disable faxes in the Fax group.
- The Billing/Security tab displays the parameters for billing options, call authentication, and automatic disconnection.



- 11. You can set up billing options for inbound and outbound calls by selecting them in the **Billing Options** group and then entering the charge in cents per number of seconds.
- 12. The Call Authentication option enables password protection for outbound and inbound calls on the selected voice/fax channel. If you enable password protection on inbound or outbound calls, you need to also enter a password of up to 14 numeric characters in the Password box.

- 13. The Automatic Disconnect option limits call duration to the number of seconds entered in the Disconnect After box. The default value of 180 seconds can be changed to any other value up to 65,535 (roughly 18.2 hours).
- To change the Tone Pairs on the Regional tab, select your specific country or region from the Country/Region list.

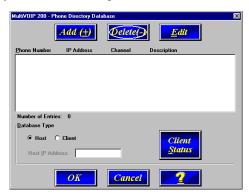


The **Tone Pairs** group parameters change per your selections. Click **OK.** The following dialog box displays.



15. Click **OK** after the upgrade is completed. Click Start | Programs| MultiVOIP | MultiVOIP Configuration. On the

main menu, click **Phone Book** to display the **Phone Directory Database** dialog box.



In the **Database Type** group, click the **Client** option. The **Host IP Address** box becomes active.

- Enter the IP address of the host MultiVOIP in the Host IP Address box.
- 17. Click **OK** and you are returned to the main menu.
- 18. Click **Download Setup** to write the new configuration to the client unit. The **Save Setup** dialog box displays.



19. Select the **Save Current Setup as User Default Configuration** check box and click **OK**. After the setup is written to the MultiVOIP, the unit reboots.

- 20. Verify that the **Boot** LED on the MultiVOIP is off after the download is complete. This may take several minutes as the MultiVOIP reboots.
- 21. You are returned to the main menu.

Your MultiVOIP is operational at this time.

Repeat this procedure for each of the client units. When all clients have been configured, proceed with deploying the VOIP network.

Deploying the VOIP Network

Deploying the VOIP network involves the VOIP Administrator developing the VOIP Dialing Directory and deploying the preconfigured client MultiVOIPs to their remote sites. The remote site administrators need only connect power to the preconfigured MultiVOIP, connect it to their Ethernet LAN and predefined telephone equipment, and then wait for the phone directory database to be downloaded.

Perform the following procedure to deploy your VOIP network.

VOIP Administrator

Create your VOIP Dialing Directory based on your Phone
Directory Database for the numbers to connect the
MultiVOIPs to your VOIP network and the telephone
extension number you need to connect the Voice/Fax
channels. A sample VOIP Dialing Directory is provided
below for your consideration and use.

VOIP Dialing Directory			
To call from	Call Process	Dialing Sequence	

2. Send the client MultiVOIPs to their remote sites.

Remote Site Administrator

- 3. Unpack your MultiVOIP.
- Connect one end of the power supply to a live AC outlet and connect the other end to the **Power** connection on your MultiVOIP.

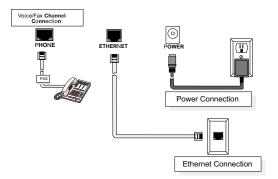


Figure 5. Remote Site Cable Connection

- 5. Connect a network cable to the **ETHERNET 10Base-T** (RJ-45) connector on the back of your MultiVOIP.
- 6. If you are connecting a station device such as an analog telephone, a fax machine, or a Key Telephone System (KTS) to your MultiVOIP, connect one end of an RJ-11 cable to the Voice/Fax Channel 1 FXS connector on the back of the MultiVOIP and the other end to the station device.
- Turn on power to the MultiVOIP by placing the ON/OFF switch on the right side panel in the ON position. Wait for the Boot LED on the MultiVOIP to go off before proceeding. This may take a couple of minutes.
- 8. At this time your VOIP network should be fully operational. Dial one of the sites in your network using the dialing directory supplied by your Network Administrator.

Limited Warranty

Multi-Tech Systems, Inc. ("MTS") warrants that its products will be free from defects in material or workmanship for a period of two years from the date of purchase, or if proof of purchase is not provided, two years from date of shipment. MTS MAKES NO OTHER WARRANTY, EXPRESSED OR IMPLIED, AND ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED. This warranty does not apply to any products which have been damaged by lightning storms, water, or power surges or which have been neglected, altered, abused, used for a purpose other than the one for which they were manufactured, repaired by the customer or any party without MTS's written authorization, or used in any manner inconsistent with MTS's instructions.

MTS's entire obligation under this warranty shall be limited (at MTS's option) to repair or replacement of any products which prove to be defective within the warranty period, or, at MTS's option, issuance of a refund of the purchase price. Defective products must be returned by Customer to MTS's factory transportation prepaid.

MTS WILL NOT BE LIABLE FOR CONSEQUENTIAL DAMAGES AND UNDER NO CIRCUMSTANCES WILL ITS LIABILITY EXCEED THE PURCHASE PRICE FOR DEFECTIVE PRODUCTS.

Technical Support

Multi-Tech Systems has an excellent staff of technical support personnel available to help you get the most out of your Multi-Tech product. If you have any questions about the operation of this unit, or experience difficulty during installation you can contact Tech Support via the following:

Contacting Technical Support

Country telephone	By E-mail	Ву
France:	support@multitech.fr	(33) 1-64 61 09 81
India:	support@multitechindia.com	(91) 124-340778
U.K.:	support@multitech.co.uk	(44) 118 959 7774
U.S. & Canada:	support@multitech.com	(800) 972-2439
Rest of World:	support@multitech.com	(763) 785-3500

Internet:

http://www.multitech.com/_forms/email_tech_support.htm

Please have your product information available, including model and serial number.

FCC Declaration

NOTE: This equipment has been tested and found to comply with the limits for a **Class A** 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 commercial 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. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Warning: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

