Designed, Manufactured and Supported in the USA

VIKING PRODUCT MANUAL

SECURITY & COMMUNICATION SOLUTIONS

40TB-IP
SIP / Multicast Talk-Back Speaker
April 30, 2018

IP Speaker for SIP Endpoint Paging or Multicast Paging/Background Music, and Making Standard or Emergency SIP Calls

The Viking model **40TB-IP** Talk-Back Ceiling/Wall Speaker enables two-way conversations via SIP and also allows for standard paging and background music via multicast. The Talk-Back Speaker easily connects with a single CAT5/6 cable from your PoE switch. Its shallow depth allows the speaker to be conveniently mounted in a standard 2" x 4" stud wall or ceiling.

An auxiliary switch input allows a hard wired wall button to initiate a SIP call. Alternately, an optional wireless remote call button can be used (Viking model **BTR-3**, sold separately). A momentary button press will initiate a standard call, and holding the button for 3 or more seconds will initiate an emergency call. The remote can also be used to adjust the speaker volume. The LED on the **40TB-IP** can be programmed to blink when there is call activity.

The integrated microphone enables talk-back and also monitors room noise to automatically increase speaker volume when necessary. Line-level audio output connections are provided for connecting to an external amplifier. Speaker output connections are also provided to directly drive additional analog speakers.

Model 40TB-IP

Model BTR-3 Wireless Remote (sold separately, see Page 5)

A programmable relay output is provided for activating door locks, strobe lights, external amplifiers, etc.

⚠ **Installation requires a Network Administrator / IT Technician**

Features

- SIP compliant (See page two for list of compatible SIP servers and IP phone systems)
- PoE powered (class 3, <13 Watts)
- Use with an optional **BTR-3** wireless remote to activate calls or adjust speaker volume
- Up to 28 second ID announcement (uploaded from wave file or recorded live)
- Paging prioritization
- Plays audio from multicast
- SIP endpoint or multicast group member
- Supports up to 10 multicast paging groups
- Add an optional **SL-2** blue, green, red or amber strobe light (see **DOD 242**)
- Blue call status LED indicator
- Automatic Noise Canceling (ANC) feature for operation in noisy environments
- Viking's proprietary VOX switching eliminates the need for "Push to Talk" mode
- Selectable auto-answer feature for monitoring
- Autoprovisioning via Viking programming software
- Built-in high efficiency 6 Watt class D amplifier
- Can drive up to 5 external analog speakers for greater coverage
- Relay for activating door locks, strobe lights, external amplifiers, etc.
- SIP/Multicast: SIP page, SIP page and zoned multicast stream, zoned multicast receive
- Support for access code to prevent unwanted SIP calls
- Line-level audio output for connecting to an external amplifier
- Hangs up on: busy signal, time-out, or touch tone command
- Network remote speaker volume control
- Mounting: Blind mounts into 9.5" hole, clearance requirement of 3.45" (87.3mm) above 1/2" gypsum board ceiling
- Heavy duty back box protects speaker and circuitry against plenum dust
- Automatic Gain Control (AGC) to automatically increase ring volume to compensate for ambient noise
- Diagnostics (for testing microphone, speaker and relay)

Applications

- Amplified SIP endpoint or multicast IP paging for: schools, hospitals, retail stores, office spaces, etc.
- Provide background music and sound masking
- Make standard and/or emergency SIP phone calls via hands free talkback speaker
- Background music and emergency calls for elevator applications retail stores, office spaces, etc.
- No room next to your door for mounting a Entry Phone? Mount the 40TB-IP in the ceiling above the door and use the existing door bell switch to actvate a call

www.VikingElectronics.com

Specifications

Power: PoE class 3 (<13 Watts)
Dimensions: Overall: 11" x 11" x 4" (279mm x 279mm x 102mm)
Back box: 9.25" x 9.25" x 3.45" (235mm x 235mm x 88mm)
Shipping Weight: 5.0 lbs (2.27 kg)
Operating Temperature: -40°F to 140°F (-40° C to 60° C)
Humidity: 5% to 95% non-condensing
Audio Codecs: G711u, G722* and G711a*
Network Compliance: IEEE 802.3 af PoE, SIP 2.0 RFC3261, 100BASE-TX with auto cross over
Connections: (1) RJ45 10/100 Base-T, (1) 8 position terminal block
Sensitivity: 96dB / 1W / 1M S.P. Level
Maximum Output Level: 105 dB SPL @ 1M (with no additional Spkrs connected)
Amplifier: 6 Watt class D

NOTE: The **40TB-IP does not support multicast paging using the G722 or G711a Codec.*

Viking VoIP SIP System Compatibility List

NOTE: *Exclusion from this list means only that compatibility has not been verified,* ***it does not mean incompatibility****.*

For detailed configuration instructions for certain vendors below, see **Configuring Viking VoIP Phone and SIP Servers**, **DOD# 944**.

Vendor	Infrastructure Class				
	Softswitch	PBX	Proxy	SBC (session border controller)	Service Provider
3COM VCX		X			
3CX		X			
Aastra		X			
Asterisk		X			
Atcom		X			
Avaya Aura Platform V6.2.9 or Earlier	X				
Avaya IP Office Platform		X			
BlueBox		X			
Brekeke		X			
Callcentric					X
Cisco Unified Communications Manager (CUCM)	X	X			
Cisco Unified Communications Manager Express (CUCME)	X	X			
Elastix		X			
Epygi QX200		X			
Freeswitch		X			
Grandstream		X			
Interactive Intelligence	X	X			
iPECS (Ericsson-LG)		X			
iptel.org					X
Kamailio			X	X	
MetaSwitch				X	X
NEC		X			
OfficeSIP		X			
OpenSIPS		X			
Panasonic** (with SIP Extension Card)		X			
Samsung Communications Manager (SCM)	X	X			
ShoreTel*		X			
Siemens Communications Server (SCS)		X			
SIP Express Router (SER)			X	X	
sip.antisip.com					X
Snom PBX		X			
Sonus				X	
Switchvox		X			X
Teksip			X		
Toshiba		X			
VoIP.ms					X

** **Note:** Not compatible with ShoreTel Ring Group/Hunt Group (unit can be programmed to ring an extension 2 or 3 times then roll to the next number, for a total of 5 numbers).*

*** **Note:** Relay operation commands are Not compatible with Panasonic Phone Systems (Panasonic does not transmit DTMF between station ports).*

Known Incompatible System or Service Provider: Ring Central (Requires Authorization ID and Proxy address).

Definitions

Client: A computer or device that makes use of a server. As an example, the client might request a particular file from the server.

DHCP: Dynamic Host Configuration Protocol. In this procedure the network server or router takes note of a client's MAC address and assigns an IP address to allow the client to communicate with other devices on the network.

DNS Server: A DNS (Domain Name System) server translates domain names (ie: www.vikingelectronics.com) into an IP address.

Ethernet: Ethernet is the most commonly used LAN technology. An Ethernet Local Area Network typically uses twisted pair wires to achieve transmission speeds up to 1Gbps.

Host: A computer or device connected to a network.

Host Name: A host name is a label assigned to a device connected to a computer network that is used to identify the device in various forms of network communication.

Hosts File: A file stored in a computer that lists host names and their corresponding IP addresses with the purpose of mapping addresses to hosts or vice versa.

Internet: A worldwide system of computer networks running on IP protocol which can be accessed by individual computers or networks.

IP: Internet Protocol is the set of communications conventions that govern the way computers communicate on networks and on the Internet.

IP Address: This is the address that uniquely identifies a host on a network.

LAN: Local Area Network. A LAN is a network connecting computers and other devices within an office or building.

Lease: The amount of time a DHCP server reserves an address it has assigned. If the address isn't used by the host for a period of time, the lease can expire and the address can be assigned to another host.

MAC Address: MAC stands for Media Access Control. A MAC address, also called a hardware address or physical address, is a unique address assigned to a device at the factory. It resides in the device's memory and is used by routers to send network traffic to the correct IP address. You can find the MAC address of your **40TB-IP** phone printed on a white label on the top surface of the PoE LAN port.

Router: A device that forwards data from one network to another. In order to send information to the right location, routers look at IP Address, MAC Address and Subnet Mask.

RTP: Real-Time Transport Protocol is an Internet protocol standard that specifies a way for programs to manage the real-time transmission of multimedia data over either unicast or multicast network services.

Server: A computer or device that fulfills requests from a client. This could involve the server sending a particular file requested by the client.

Session Initiation Protocol (SIP): Is a signaling communications protocol, widely used for controlling multimedia communication sessions such as voice and video calls over Internet Protocol (IP) networks. The protocol defines the messages that are sent between endpoints, which govern establishment, termination and other essential elements of a call.

Static IP Address: A static IP Address has been assigned manually and is permanent until it is manually removed. It is not subject to the Lease limitations of a Dynamic IP Address assigned by the DHCP Server. The default static IP Address is: **192.168.154.1**

Subnet: A portion of a network that shares a common address component. On TCP/IP networks, subnets are defined as all devices whose IP addresses have the same prefix. For example, all devices with IP addresses that start with 100.100.100. would be part of the same subnet. Dividing a network into subnets is useful for both security and performance reasons. IP networks are divided using a subnet mask.

TCP/IP: Transmission Control Protocol/Internet Protocol is the suite of communications protocols used to connect hosts on the Internet. TCP/IP uses several protocols, the two main ones being TCP and IP. TCP/IP is built into the UNIX operating system and is used by the Internet, making it the de facto standard for transmitting data over networks.

TISP: Telephone Internet Service Provider

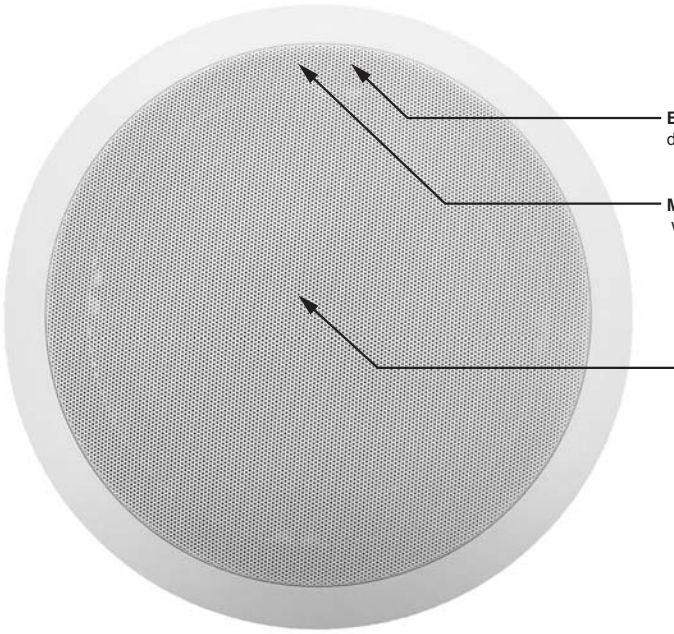
WAN: Wide Area Network. A WAN is a network comprising a large geographical area like a state or country. The largest WAN is the Internet.

Wireless Access Point (AP): A device that allows wireless devices to connect to a wired network using Wi-Fi, or related standards. The AP usually connects to a router (via a wired network) as a standalone device, but it can also be an integral component of the router itself.

Wireless Repeater (Wireless Range Extender): takes an existing signal from a wireless router or access point and rebroadcasts it to create a second network. When two or more hosts have to be connected with one another over the IEEE 802.11 protocol and the distance is too long for a direct connection to be established, a wireless repeater is used to bridge the gap.

Features Overview

Front View



Blue Call/Status LED: Flashes during dialing, then lights steady when answered.

Microphone: Omni-directional microphone with protective water-resistant cloth.

Speaker: 8" paper with wizzer cone

Side View

MAC Address Label: The MAC address is a unique 12 digit number used by routers to send network traffic to the correct IP address.

PoE LAN Port 10/100, PoE Class 3 (<13 Watts): Connect to your LAN via RJ45 plug and CAT5 or greater twisted pair wire.

Reset Switch See Section B, D and F

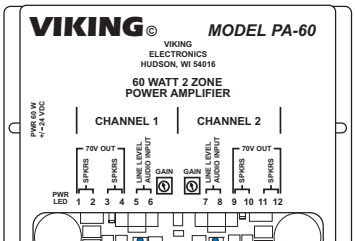
Green Unit Status LED

Yellow Network Status LED: Lights steady to indicate power and data link. Blinks to indicate network activity.

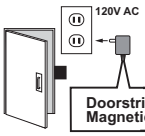
Adjustable Mounting Clamps

Line Out

Optional Viking Model **PA-60** paging amplifier See DOD# 493



Connect to Optional Doorstrike, Mag Lock, Gate Controller, etc.



Relay Output Contact (2A@30VDC/ 250VAC max)

Doorstrike / Magnetic Lock

(Power typically not required for gate controllers)

Optional Momentary Switch Input to initiate outbound calls

Momentary

Up to (15) 8 Ohm Speakers (25AE shown, not included)

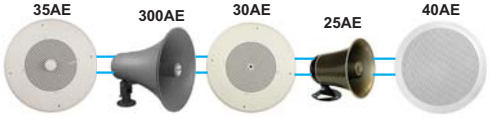
Up to (15) 8 Ohm Speaker (30AE shown, not included)

Up to (15) 8 Ohm Speakers (40AE shown, not included)

Up to (15) 8 Ohm Speakers (35AE shown, not included)

600 Ohm Paging Audio

Volume Control



Speaker Out

Up tp (5) Optional Viking Analog Speakers, see DOD 497 and 498 (not included)

Optional BTR-3 Features Overview

Viking model **BTR-3** Remotes can be purchased separately for wirelessly activating standard and emergency calls as well as adjusting audio volume.

Features

- Wirelessly trigger standard and emergency calls
- Adjust paging volume
- Up to 3 year battery life
- CR2032 battery included
- Pair up to four remotes to each speaker

Specifications

Power: One CR2032 battery (included)

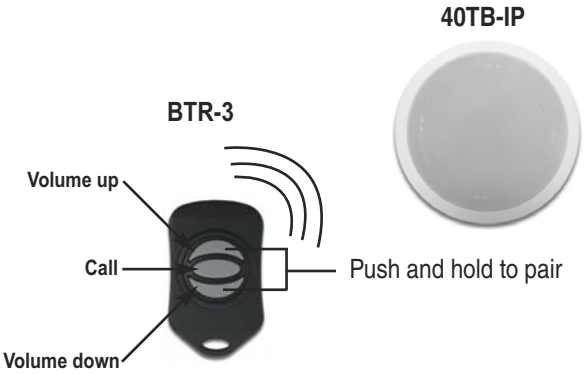
Dimensions: 2.25" x 1.36" x 0.45" (57.15mm x 34.54mm x 11.43mm)

Shipping Weight: 0.10 lbs (0.045 kg)

Operating Temperature: -22°F to 140°F (-30° C to 60° C)

Battery Life: Approximately 5 yrs @ 1 button push per hour

BTR-3 Button Functions



A momentary center button press will initiate a standard call, and holding the button for three or more seconds will initiate an emergency call. The remote can also be used to adjust the speaker volume.

Pairing the BTR-3 to a 40TB-IP Ceiling Speaker

Open the Viking "IP Programming" software on the PC and the start screen will appear. Any Viking IP phones that are connected to the network will appear on the list. Simply select the **40TB-IP** on the list and click on the "connect" button at the bottom or double click the selected phone. If the security code of the selected phone is still set to default (845464), the PC software will not require entering a security code to connect to the phone. **40TB-IP**'s have a default name of "VIKING_MK64_(Vik02)", so if many phones are connected to the same network that all have the default name, MAC addresses must be used to identify each phone.

Select the "Paging" tab. Click on the "Begin Pairing" button then press and hold the volume up and down buttons on the **BTR-3** until the ID code of the remote is displayed. To unpair a remote simply click the unpair button next to the ID code of the remote you would like to unpair to this speaker.

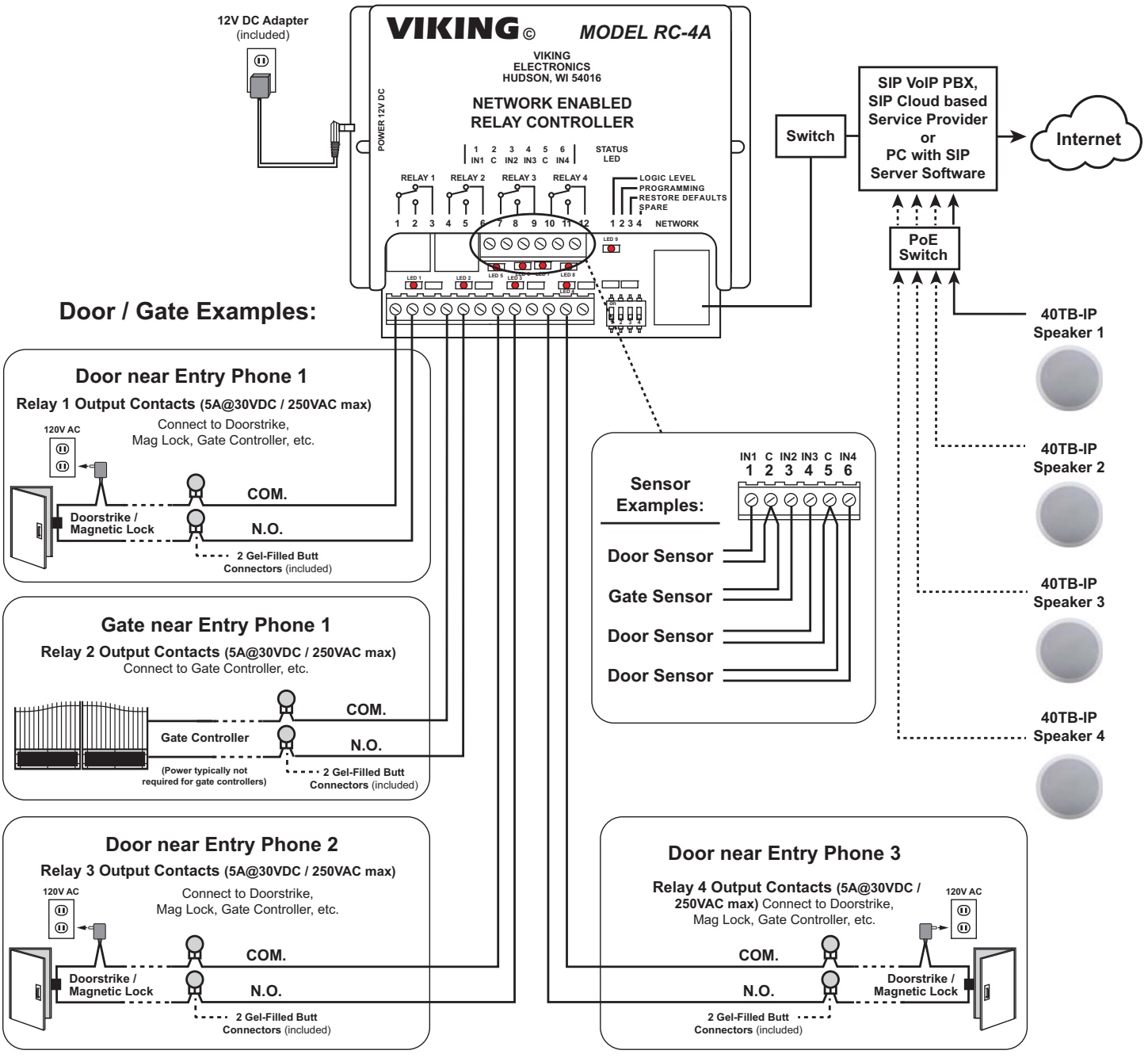
When finished Programing, click on the "Disconnect" button at the bottom. Closing the program will automatically disconnect the unit.

Installation and Mounting

A. Ceiling or Wall Installation

The **40TB-IP** Ceiling Speaker is intended to be mounted in a T-bar acoustic tile, gypsum ceiling or wall. An optional T-Bar support bracket (SA-TBA) is available that can transfer the speaker weight onto the T-bar rails. Installation instructions are provided with the support bracket. The metal protective speaker grill must be removed to access the four Phillips head screws that operate the four clamps. A small wire speaker grill removal tool is provided to remove the grill. The clamp screws must be sufficiently loose to allow clamps to rotate and clear the ceiling material thickness. When tightened, the clamps are locked to prevent rotating. Removal of the speaker from the ceiling requires the clamps to be sufficiently loosened before they can rotate in to pass through the 9.5" hole required in the ceiling. The wiring connections are easiest made prior to mounting if possible. Network connection is made by inserting a RJ45 plug into the jack on the side of the housing. Wire connections for relay input, switch input, speaker output and line level output (if used) are made using the 8 position pluggable terminal block provided. The back box helps prevent plenum dust from entering the enclosure. With connections made, lift the housing into the ceiling and tighten the 4 clamps using a #2 Phillips screwdriver until snug. After installation and testing the speaker grill can then be fastened by adding grill adhesive (provided with grill removal tool) to 4 edges of grill then gently working the speaker grill into its friction fit position and ensure it is evenly flush to the housing around the edge. The speaker grill is intentionally tight to prevent falling from the ceiling. A speaker grill removal tool supplied with the **40TB-IP** Ceiling Speaker can be used to remove the grill. If lost, a small Allen key or heavy duty paperclip bent into an L shape can be used to remove the grill by pulling close to the edge.

B. Using a Viking Model RC-4A For Secure Remote Relay Control



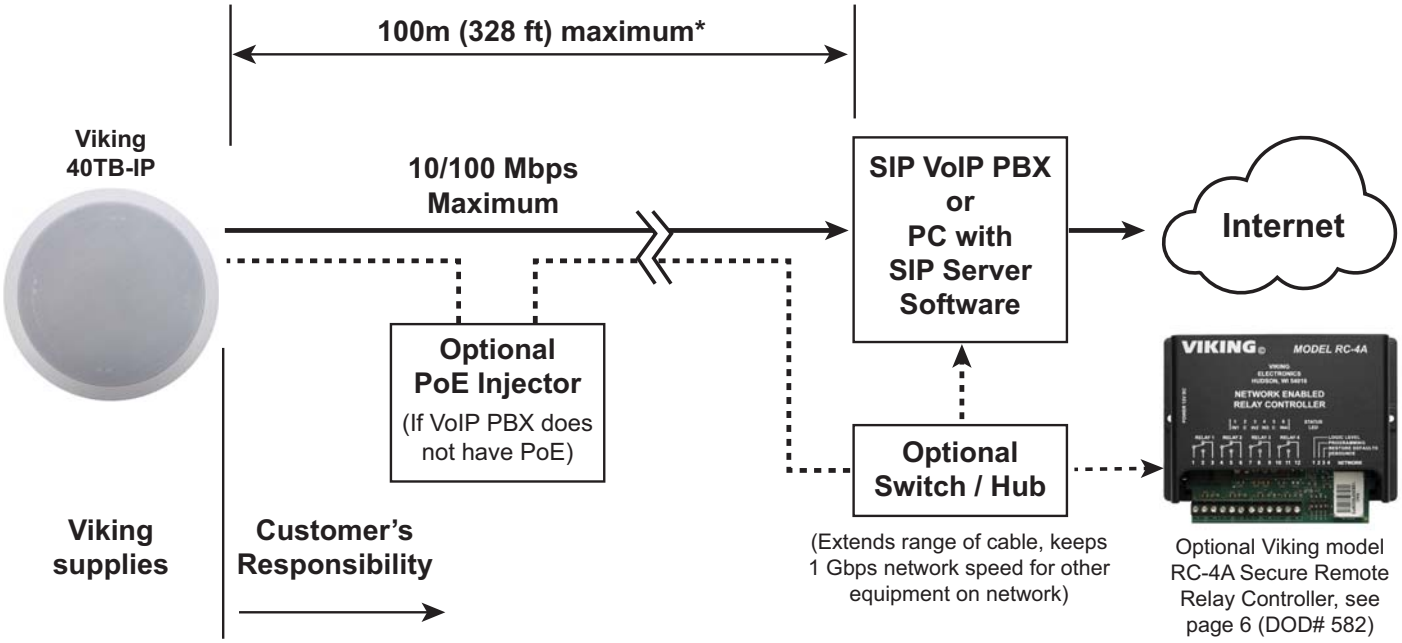
For applications requiring additional security, (prevent intruders from removing the speaker and accessing the on board door strike/gate control relays) a Viking model **RC-4A** remote relay controller can be used. The relay controller is mounted securely inside the building and connected to the same LAN as the **40TB-IP**. The on board door strike relays would not be used in this case as the **4OTB-IP** will send an encrypted message to the **RC-4A** to activate its relays which control the door strikes/gates.

Up to 4 **40TB-IP's** can communicate with one **RC-4A** allowing you to securely control four entrances.

When using an **RC-4A** for remote relay control the **40TB-IP's** relays should be set to "External" in the PC programming.

Note: *If the **40TB-IP** loses communications with the **RC-4A**, the LED on the **40TB-IP** will flash 3 times every 2 seconds indicating the communication error. If this error occurs, make sure the **RC-4A** is powered, has a network connection and has the correct IP address and security code of the **40TB-IP** displaying errors.*

Typical Installation on SIP Based VoIP Phone System



**** Note:** A PoE extender can be used for an additional 100 meters per extender. For longer runs (up to 2 km / 1.2 miles) a ethernet to fiber media converter can be used.*

PC Requirements

- **IBM** compatible personal computer with:
  Windows 2000 (service pack 4 or higher)
  Windows XP (service pack 2 or higher)
  Windows Vista (SP2 or newer), 32 or 64 bit versions
  and newer versions of Windows
- Adobe Acrobat Reader 8 or higher
- **40TB-IP** hardware
- Available LAN with PoE (class 3, <13 Watts)
- Ethernet cable (CAT5 min.)
- 1 MB minimum free hard drive space for installation
- 16MB of free physical RAM

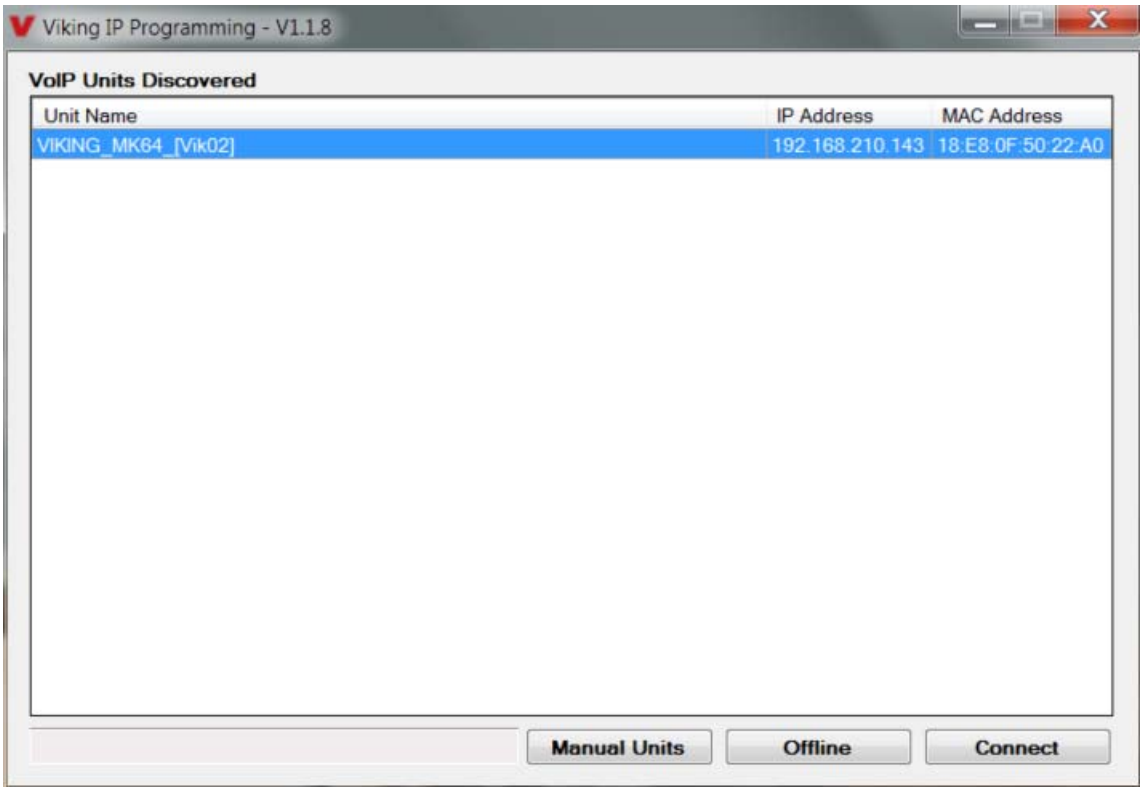
PC Programming

A DVD is included with each **40TB-IP**. The DVD contains the application "**Viking IP Programming**" used to program the unit using a PC running Windows 2000, XP, Vista, Windows 7, Windows 8 or Windows 10 (see System Requirements above). The PC must be connected to the same LAN as the **40TB-IP**. Install the application on your PC by placing the DVD into your PC's drive. Click "I Accept" on the bottom of the first screen, then select "Viking IP Programming" and click the "Install" button. Follow the directions on the screen. To start the Viking IP Programming application, click on the Viking IP Programming icon on your desk top. The Main screen will appear, allowing the user to program any **40TB-IP** connected to that LAN.

A. Connect / Disconnect

Open the “Viking IP Programming” software on the PC and the start screen shown below will appear. Any Viking IP phones that are connected to the network will appear on the list. Simply select the 40TB-IP on the list and click on the “Connect” button at the bottom or double click the selected phone. If the security code of the selected phone is still set to default (845464), the PC software will not require entering a security code to connect to the phone. 40TB-IP’s have a default name of “VIKING_MK64_(Vik02)”, so if many phones are connected to the same network that all have the default name, MAC addresses must be used to identify each phone.

When finished programming, click on the “Disconnect” button at the bottom. Closing the program will also automatically disconnect the unit.

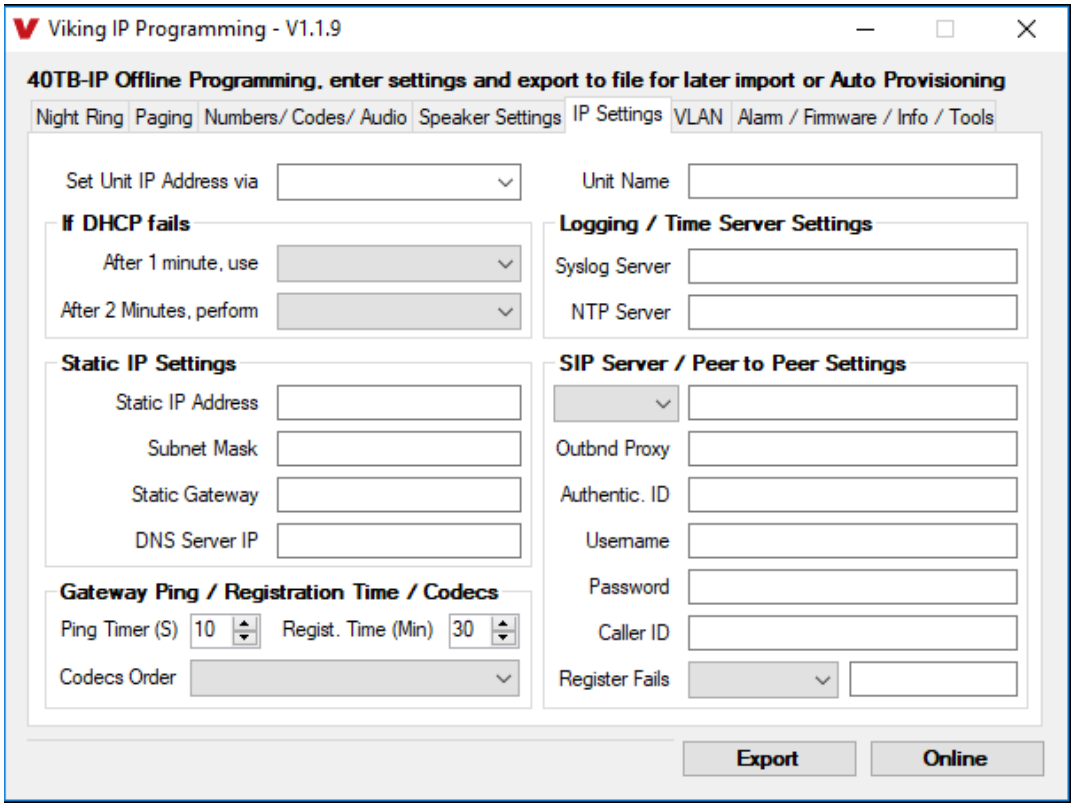


B. Manually Muting SIP / Network Failure Alarm Beeps (3 beeps repeated every 30 seconds)

With the unit connected and powered (Green LED on and Yellow LED off or blinking) it will output 3 beeps every 30 seconds and turn the Reset LED on and off once per second to indicate a SIP registration failure, failure to receive an echo reply from pinged gateway or Ethernet connection failure. You can manually disable the beeps by pressing and holding the Reset button (hardwired or remote) for 3 seconds (2 beeps will then be heard) or by clicking the “Mute Alarm Until Next Failure” button in the Viking VoIP programming software. The LED will continue to flash allowing you to trouble shoot the failure. These beeps can be permanently disabled. Go under alarm tab and select alarm tones disabled.

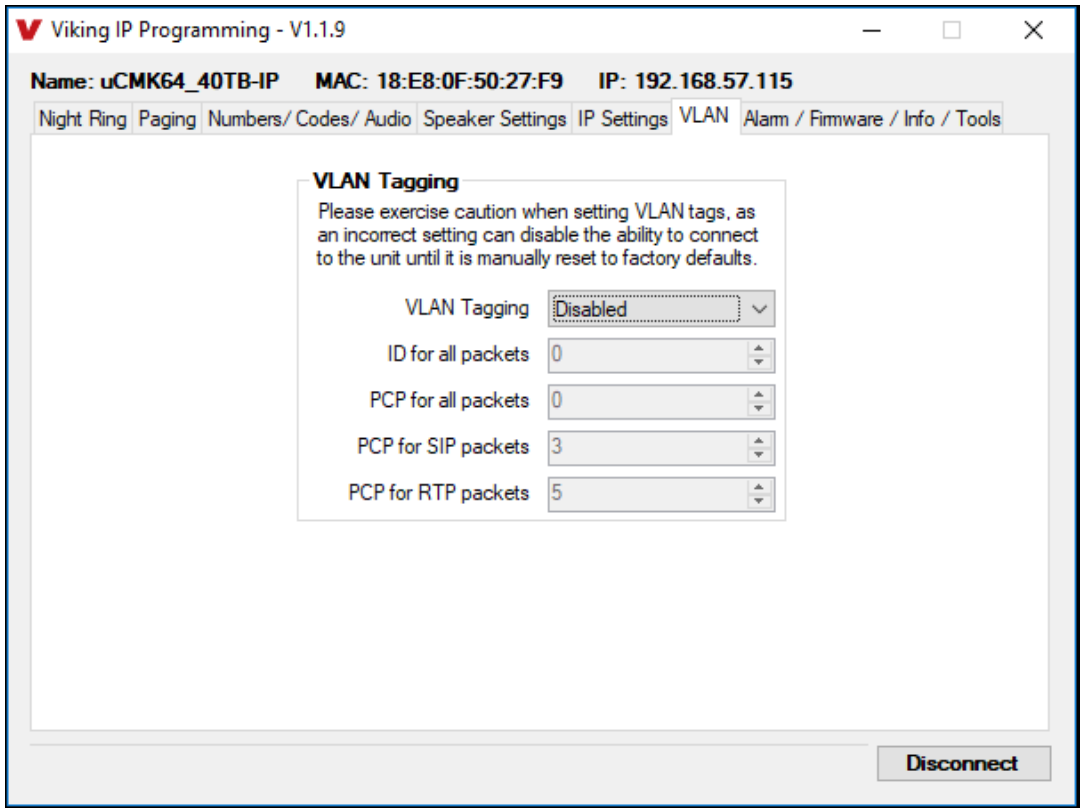
C. Configuring the 40TB-IP Network Settings

Step 1.	Open the “Viking IP Programming” software on a windows PC that is connected to the same LAN as the **40TB-IP** phone to be programmed.
Step 2.	The window in the upper left corner of the menu will show you each **40TB-IP** speaker that is connected to that LAN. Select the unit with the same MAC address shown on the label located next to the Ethernet connector on the **40TB-IP** speaker.
Step 3.	Click the “Connect” button. If a pop up window appears, enter the unit’s security code (factory set to **845464**) then click “OK”.
Step 4.	The program will then read and display the **40TB-IP** phone’s IP and programming settings.
Step 5.	Click on the “IP Settings” tab.
Step 6.	Select the appropriate value Static IP Settings or DHCP for “Set Unit IP Address via”. Note: changing the IP address will cause you to have to reconnect to the unit. Enter the values for the fields in “if DHCP fails” or “Static IP Settings” as needed.
Step 7.	Set the “Unit Name”, “Logging / Time Server Settings” as needed.
Step 8.	Select Peer-Peer in the “SIP Server / Peer to Peer Settings” to use the unit in Peer to Peer mode or for Multicast paging only. Select Server to register with a SIP registrar server and fill in the “Outbnd Proxy” (SIP Outbound Proxy Server Address, “ip:port”), “Authentic. ID” (SIP Authentication ID), “Username” (SIP Username, <string>), “Password” (SIP Password), and “Caller ID” (SIP Caller ID) with values from your VoIP provider.



D. Configuring 40TB-IP VLAN Settings

Step 1.	Click on the “VLAN” tab
Step 2.	Disable or enable VLAN tagging by setting the value of “VLAN Tagging”.
Step 3.	Set the VLAN tag ID by selecting an integer (1 to 4094) in “ID for all packets”.
Step 4.	Set the Priority Code Point (PCP) value for all not SIP and RTP packets in the “PCP for all packets” input (0 is default, priorities are from low to high: 1, 0, 2, 3, 4, 5, 6, 7). Set the “PCP for SIP packets” (3 is default). Set the “PCP for RTP packets” (5 is default).



E. Manually Resetting the Security Code to Enter Programming

Step 1.	Power down the **40TB-IP** phone by disconnecting the LAN Cable (RJ45 plug).
Step 2.	Press and hold the Reset button, then reconnect the LAN Cable (RJ45 plug).
Step 3.	Continue to hold Reset button until you hear 2 beeps, (approximately 6 seconds). Then release the button. The LED will remain off for the first 3 seconds, flash slowly for 3 seconds then fast flash (after 2 beeps), indicating when to release button.
Step 4.	The security code is now reset to **845464** (factory default).
Step 5.	You can now enter programming by following the steps in section **A**.

F. Manually Resetting All Network Parameters to Factory Default

Step 1.	Power down the **40TB-IP** phone by disconnecting the LAN Cable (RJ45 plug).
Step 2.	Press and hold the Reset button, then reconnect the LAN Cable (RJ45 plug).
Step 3.	Continue to hold the Reset button until you hear 2 beeps, (approximately 6 seconds). Continue to hold CALL button until you hear 4 more beeps, approximately 6 seconds later, then release the button. The LED will remain off for the first 3 seconds, flash slowly for 3 seconds (2 beeps), fast flash for 6 seconds (4 beeps), then light steady indicating when to release button.
Step 4.	You can now enter programming by following the steps in section **A**.

Programming Features Index

Programming Features

1. Unit Name

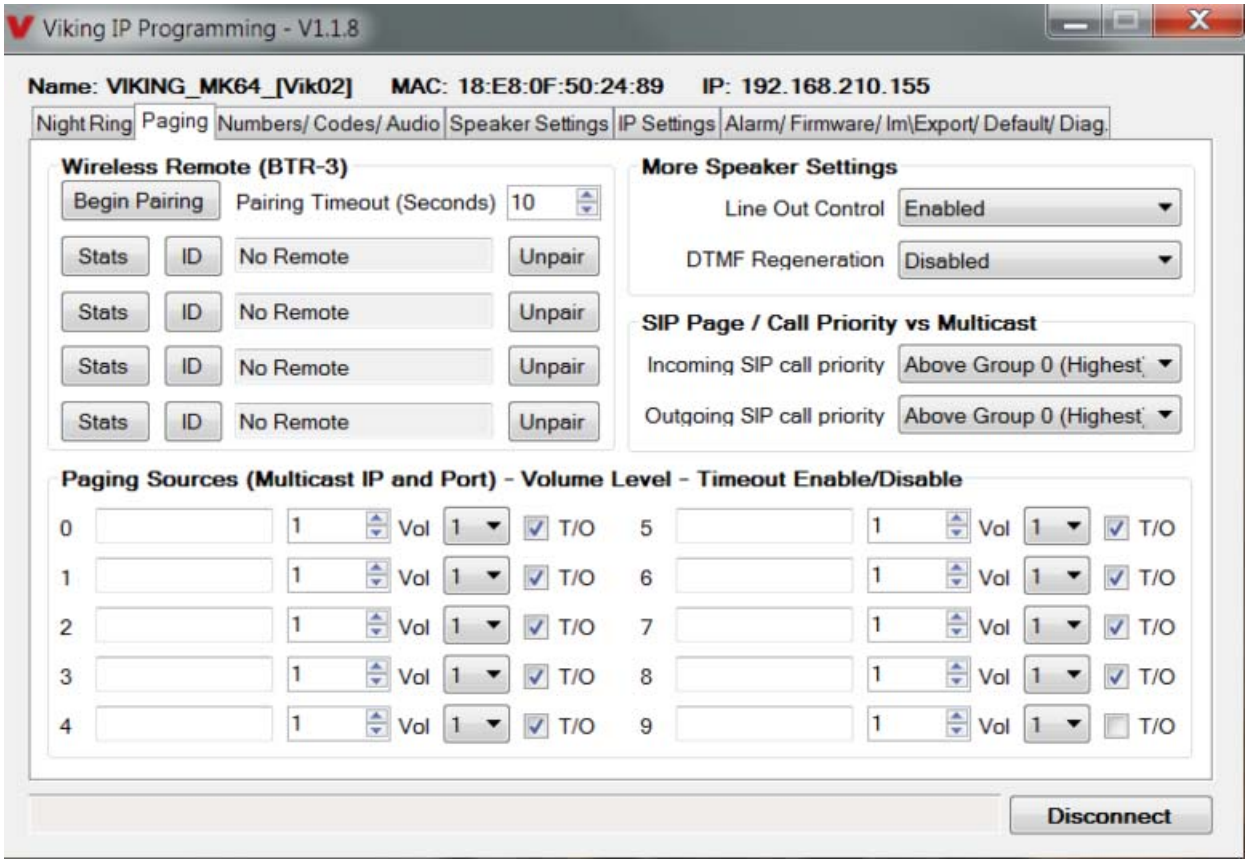
Up to a 31 character unit name can be assigned to the **40-IP** being programmed.

2. Peer to Peer Settings

When set to Peer to Peer mode a SIP server is not used. The unit should be programmed with a Static IP Address and Username, a password is not used. Caller ID can be programmed if needed. Simply call the unit by entering the programmed “username@192.168...(Static IP address for the unit)”. The static IP address is normally programmed into a page button on the VoIP telephones. ***NOTE:*** *Peer to Peer mode does not affect Multicast paging.*

3. Alternate Server

When registered to a SIP server in the event that registration is lost you can program the unit to re-resolve using the current SIP server IP address or route pages through an alternate SIP server. With Alternate Server selected enter the IP address of the alternate SIP server in the field next to the Register Fails drop down box.



4. Line Out Control

When Line Out control is set to enabled (factory setting) SIP call audio will be heard from the Line Level Output. When this feature is disabled the Line Level Output is muted during SIP calls to allow for a private conversation.

5. DTMF Regeneration

When DTMF Regeneration is enabled any touch tones entered by the caller (in band or out of band) will be passed along to the line out and speaker out. These tones are used by an external amplifier for choosing which zone to send the page audio to.

6. SIP Page / Call Priority VS Multicast

Incoming and outgoing SIP call audio streams can be programmed to have priority over any of the 10 Multicast paging groups. Use the “Sip Page Priority Level” drop down menu to select which Multicast group you want SIP calls to have priority over. This is factory set to “0” (highest priority).

7. Multicast Paging

The **40TB-IP** is designed and tested to be compatible with FreeSwitch Multicast Paging. Up to 10 multicast paging groups can be programmed into each **40TB-IP** speaker. Each multicast group is defined by a multicast address and port number. Each multicast group is assigned a priority, allowing simultaneously arriving pages to be serviced based on importance. A timeout check box can be selected for each paging group. See Page Length Time Out under Speaker Settings to adjust the timeout from 1 to 255 seconds. Only one timeout time can be programmed for all groups. The volume for each multicast group can be programmed seperately.

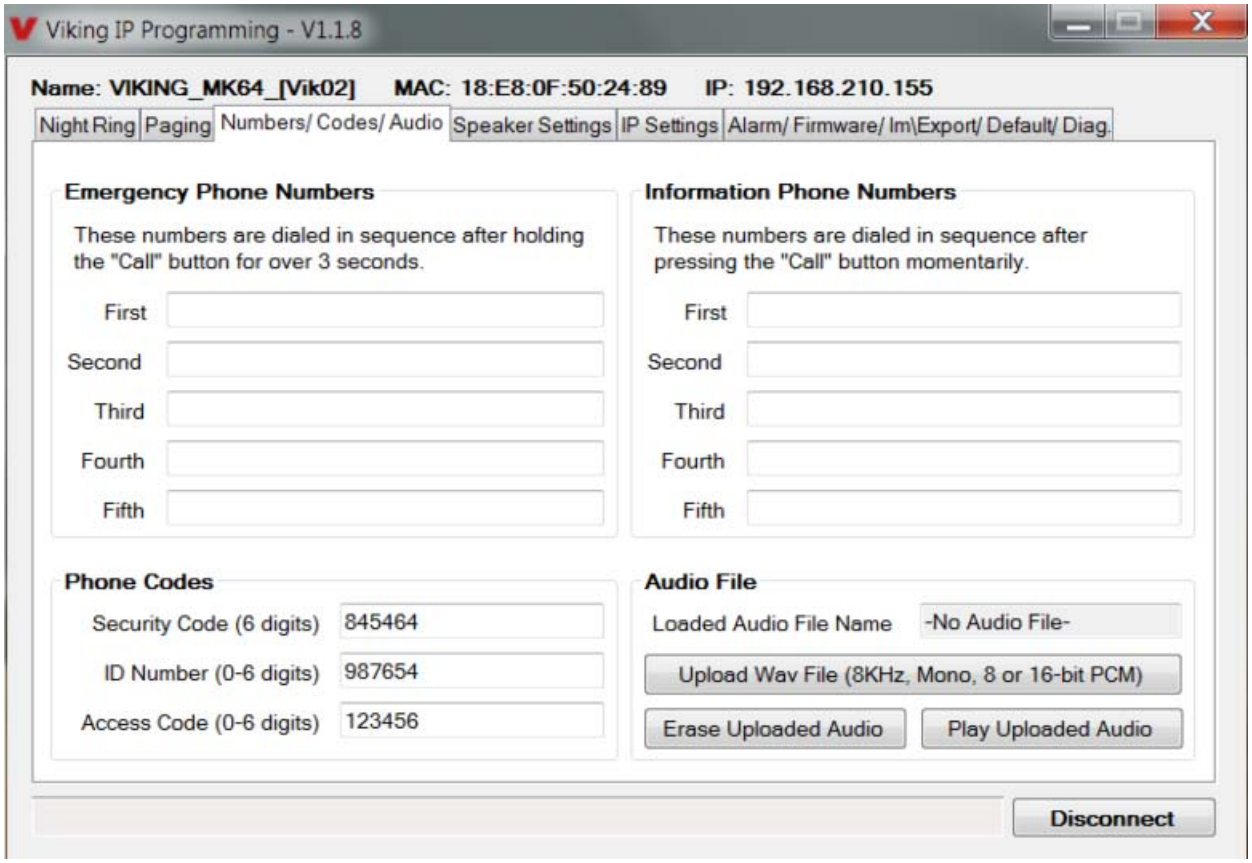
Assigning Priority

The **40TB-IP** will prioritize simultaneous audio streams according to their priority in the Paging Sources list. Group 0 will have the highest priority while group 9 will have the lowest priority. Group 9 is useful for a low priority stream such as background music. Group 0 is useful for high priority streams such as emergency messages.

The multicast paging groups can also be used for up to ten different paging zones for receiving audio streams. A paging zone can consist of one or many **40TB-IP** multicast speakers. There is no limit to how many speakers can be in a given paging zone. Each multicast group is defined by a multicast address and port number. Each multicast group is assigned a priority, allowing simultaneously arriving pages to be serviced based on importance.

8. Multicast Paging Volume

The volume of each individual multicast page can be adjusted from 0-9. Factory set to 1.



9. Information Numbers and Emergency Phone Numbers

Note: Up to 125 digits can be stored in each of the 5 phone number and 5 emergency phone number positions.

Information Numbers

The number programmed in the first location under “Phone Numbers” is the telephone or extension number that is dialed when the hard wired button or center button on the BTR-3 wireless remote is momentarily pressed. Additional numbers (if programmed) will be dialed when there is no answer and the Dial Next No. on Ring No Answer feature is enabled. The **40TB-IP** speaker phone will cycle through the programmed phone numbers until answered. The **40TB-IP** will also detect busy and move on (Dial Next Number on Busy Enabled). *Note: The voice recording will not play when Information Numbers are dialed.*

Emergency Phone Numbers

The number programmed in the first location under “Emergency Phone Numbers” is the telephone or extension number that is dialed when the hard wired button or center button on the BTR-3 wireless remote is pressed and held for 3 or more seconds. Additional numbers (if programmed) will be dialed when there is no answer and the Dial Next No. on Ring No Answer feature is enabled. The **40TB-IP** will also detect busy and move on (Dial Next Number on Busy Enabled). The **40TB-IP** speaker phone will cycle through the programmed emergency phone numbers until answered. If a recording is uploaded it will play after the line has been answered and can be repeated when a touch tone “∗” is entered.

10. Security Code

The security code allows the user/installer to program the **40TB-IP** phone. The factory set security code is 845464. It is recommended that the factory set security code be changed.

Note: *The security code must be 6 digits and cannot include a ∗ or a **#**.*

11. Send ID Number as:

The ID Number (1-6 digits) is used by emergency personnel to identify the location of the caller and is given out when the receiving party presses a ∗. This ID number is transmitted as In-Band DTMF. This can be cleared out by leaving the field blank.

12. Access Code

The Access Code is used for remotely operating the relay (Doorstrike, Mag-Lock, etc) by calling into the unit. This code provides basic security and only allows operation of the relays and not the ability to change any of the programming parameters. Once entered, any of the “Remote Access Operation Commands” can be used. The code can be 1 to 6 digits in length and cannot contain a “∗” or “#” or match the numbers used for the security code. Simply call the **40TB-IP** phone (set to auto-answer/auto-answer secure), the unit will automatically answer the line and output one beep. You then enter the programmed 1 to 6 digit access code, 2 beeps should be heard. You can now enter any “Remote Access Operation Commands” (see page 19). This code will also enable audio to/from the speaker and the caller. The access code can be cleard (by leaving the field blank) if this additional level of security is not required.

13. Audio File (optional)

The **40TB-IP**’s Emergency Announcement can be uploaded with any user edited WAV file. See “WAV File Guidelines” below. Alternatively the announcement can be recorded via a telephone call (See section 14 below).

WAV File Guidelines:

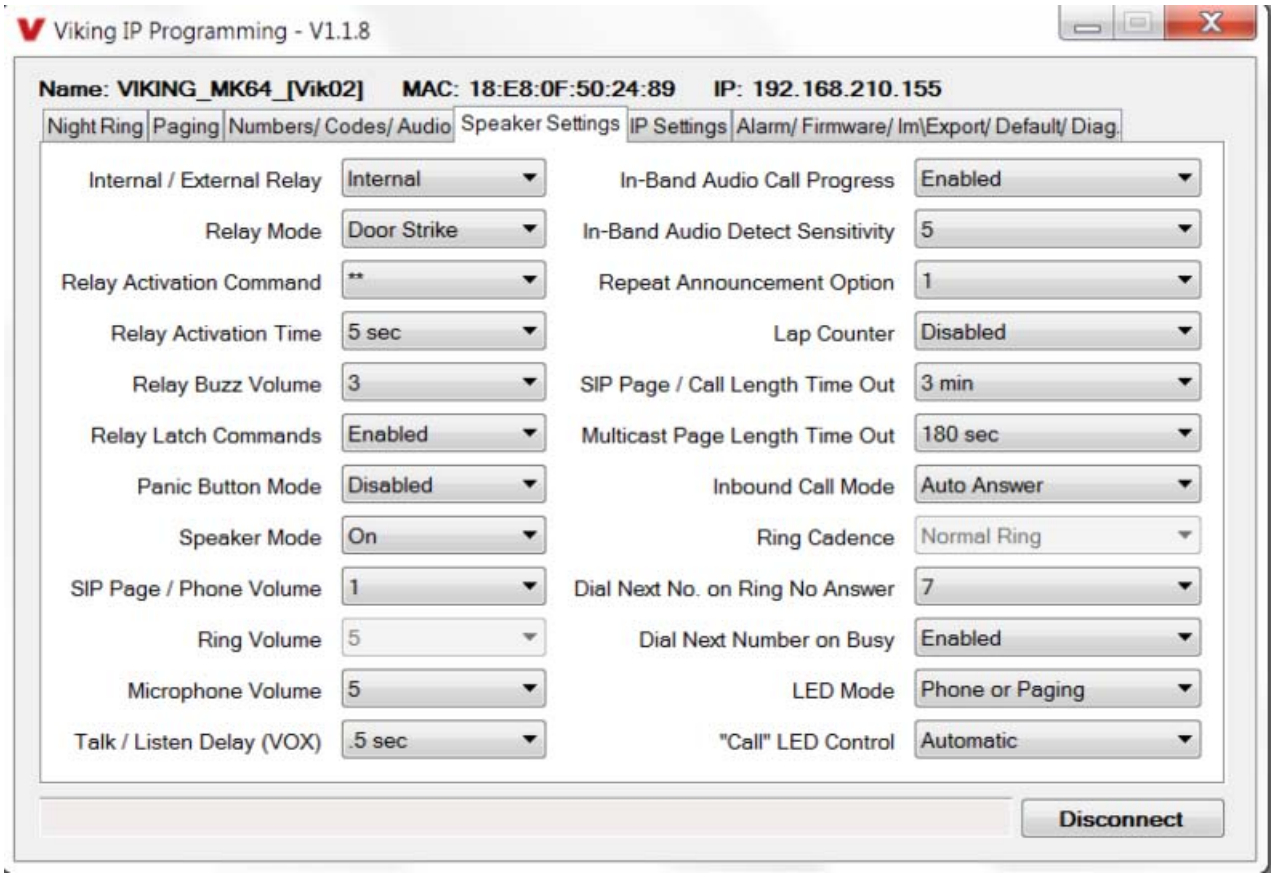
1.	The WAV file should be 8 or 16 bit PCM mono or stereo.
2.	Sampling rates of 8k,16k or 32kHz are acceptable.
3.	The WAV file may be stereo or multi-channel, but only the Left Channel will be loaded.
4.	When saved, wave files will be converted to 8KHz, mono, 16 bit, PCM.
5.	The internal flash memory can hold up to 28 seconds of recorded audio.

Note: *Applications such as Sound Forge, Audacity, and Windows Sound Recorder can be used to create the WAV files.*

14. Recording Emergency Announcement from a Phone

Step 1.	Call into the 40TB-IP speaker with a Touch Tone phone and access programming by entering the security code (845464 is the factory default).
Step 2.	Enter *4, wait for the tone and then begin recording (28 seconds of record time is available).
Step 3.	Enter # to stop the recording. Playback (for reviewing) is automatic.
Step 4.	Enter *5 to review the announcement again.
Step 5.	If you choose to not use a voice announcement, enter *3 to clear the recording.

Example: “Hudson Elementary School, classroom number 216 needs assistance. Press the star (*) key on your telephone to hear this announcement again.”



15. Relay Internal / External

With the relay set to “Internal” the **40TB-IP** will activate its on board relay for door strike / gate control. The Relay should be set to “External” for higher security installations when using a Viking remote model **RC-4A** relay controller to activate the door strike / gate controller (see page 6).

16. Relay Mode

Doorstrike Mode: When programmed for Doorstrike Mode the relay is intended for door strike, maglock or gate control.

Outbound Call Mode: When programmed for Outbound Call Mode the relay will activate continuously for the duration of any outbound call from the Speaker phone.

Inbound/Outbound Call Mode: When programmed for Inbound/Outbound Call Mode the relay will activate continuously for the duration of any inbound or outbound call to or from the Speaker phone. This mode is useful for turning on IR flood lights, for VoIP phones with cameras, etc.

Doorbell Mode: When programmed for Doorbell Mode the speaker phone will momentarily activate the relay for the preprogrammed relay activation time on any outbound call from the speaker phone. This mode is useful for activating a door chime, etc. When activating door chimes, a 0.5 - 1 second relay activation time is recommended.

Alarm Mode: When programmed in Alarm Mode the relay will activate continuously while the Speaker phone is powered and registered to the SIP server. In the event the unit loses power and/or SIP registration the relay will turn off, which can be used to signal an alarm device. ***Note:*** *Alarm mode cannot be used for external relay control (**RC-4A**)*

Ring Mode: When programmed for Ring Mode the relay will continuously activate while the ringing extension is called. This mode is useful for activating a Viking model **SL-2** strobe light, etc.

Ring Flash Mode: When programmed for Ring Flash Mode the relay will momentarily turn on and off in a 400ms on/off cadence while the ringing extension is called. This mode is useful for activating a Viking **LPL-1** Remote Visual Indicator, etc.

17. Relay Activation Command

The one or two digit code stored in the Relay Activation Command is the touch tone command that the person being called must enter on their phone in order to momentarily activate the relay to control a doorstrike, mag-lock, gate controller, or other device. The code can contain the characters 0 - 9, # or ∗. The code cannot match a relay latching command (∗1, ∗0). The code must be entered while the remote phone is communicating with the Speaker phone. The factory setting is ∗∗.

18. Relay Activation Time

The value stored in the Relay Activation Time is the amount of time the relay will be energized after a correct momentary touch tone command is entered. This number can range from 0.5 to 99 seconds. The factory setting is 5 seconds. This also affects timing in Doorbell Mode.

19. Relay Buzz Volume

The relay activation tone is a buzzing sound that is heard from the speaker when the door strike relay is activated. After the called party enters the correct relay activation command, the called party will hear 2 short confirmation beeps and the entry phone will output a buzzing sound (relay activation tone) while the door strike relay is activated. The tone (buzz) length will match the relay activation time up to a maximum of 5 seconds. The tone (buzz) can be programmed to three different volume settings 1 = Low, 2 = Medium, 3 = High or it can be disabled.

20. Relay Latch Commands

When set to “Enabled” (factory default) the Remote Access Operation Commands (∗0 to ∗1) to Un-Latch or Latch the relay are enabled. These can be entered on a Inbound call after the access code is dialed (if programmed).

When set to “Disabled” the Remote Access Operation Commands (∗0 to ∗1) to Un-Latch or Latch the relay are disabled. Disabling the Latch commands can be useful in applications where you want to eliminate the possibility of inadvertently entering a latch command leaving a gate open/closed, etc.

21. Panic Button Mode

When set to “Disabled” (factory default) the hard wired Reset button or any button on the optional **BTR-3** Remote alternately connects and disconnects calls. When set to “Enabled” the Reset button connects calls only. Pressing the button again after the call has been initiated will not terminate the call. This mode is for emergency applications, therefore information phone numbers are disabled.

22. Speaker Mode

The Speaker Mode can be set to one of the following three modes.

OFF/Silent Monitoring Mode: In the “OFF” mode the speaker is disabled at all times. However, the speaker can be enabled after communication has been established by entering touch tone command “**9#**”. The speaker will remain on for the duration of the call.

ON (factory setting): In the “ON” mode the speaker is enabled during In-bound and Out-bound calls.

OFF Until Answered: In the “OFF Until Answered” mode the speaker will remain silent during dialing and will not turn on until the called party has answered.

23. SIP Page / Phone Volume

The SIP Page / Phone volume can be set from 0-9, factory set to 1. 0 = lowest volume setting, 9= highest volume setting. Adjusting this will set the volume level for SIP Paging and incoming/outgoing Phone calls.

24. Ring Volume

When set to Ring or Ring with AGC, The **40TB-IP** will output a loud ring when it is called. The level can be adjusted from 0-9. Factory set to 5.

25. Microphone Volume / Automatic Noise Cancelling Mode

The microphone volume can be set from 1 to 9 (1 = lowest volume setting, 9 = the highest, factory set to 5). Alternatively the microphone can be placed in the “Auto” Automatic Noise Cancelling mode. With the mic in the Auto mode, when background noise increases, the mic gain will automatically decrease. When background noise decreases the mic gain will automatically increase. The Auto mode is useful in applications where the background noise level can change drastically.

26. Talk / Listen Delay (VOX)

This feature selects switching time between talk and listen modes (VOX switching time). The Talk/Listen Delay can be programmed from .1 to .9 seconds.

Note: *The factory default is .5 seconds.*

27. In-Band Audio Call Progress

The In-Band Audio Call Progress Detection can be set to enabled or disabled. In-Band Audio Call Progress detection should be enabled in applications where you are making an outbound call through your VoIP phone system and are relying on In-Band analog audio for ringback or busy detection. The factory default is: Enabled.

28. In-Band Audio Detect Sensitivity

The In-Band Audio Detection level (Sensitivity) can be set from 1 to 9 (1 = minimum setting, 9 = the highest, factory set to 5). Increasing or decreasing the sensitivity may be required in applications where you are making an outbound call through your VoIP phone system and are relying on In-Band analog audio detection.

29. Repeat Announcement Option

The **40TB-IP** Speaker phone can be programmed to play the announcement from 1-9 times, or to continuously repeat the announcement every 6 seconds until a Touch Tone ✻ is detected from the distant party. The call connected LED will turn on automatically after the announcement has stopped repeating.

Note: *The factory default for the **40TB-IP** Speaker phone is to play the voice announcement one time.*

30. Lap Counter

With the lap counter disabled (factory setting), if the **40TB-IP** Speaker phone is programmed to dial the next number on ring-no-answer and/or busy signal, the **40TB-IP** Speaker phone will continuously call its programmed phone numbers forever until the call is answered.

The lap counter is a programmable counter that determines how many times the **40TB-IP** Speaker phone will cycle through its list of up to 5 information phone numbers (or up to 5 “Emergency” phone numbers), before it stops the dialing process and hangs up. When all of the programmed phone numbers have been dialed, the lap counter is incremented and the dialing process repeats. When the lap counter has been met, the dialing process stops and the **40TB-IP** Speaker phone hangs up.

Note: *This feature is disabled in the factory default setting.*

31. SIP Page / Call Length Time Out

This feature selects the maximum length of time that calls can be connected. Programmable in increments of 1 minute up to a maximum of 9 minutes or disabled. With the call length disabled, the **40TB-IP** phone must rely on a call ended signal, busy signal, Ring No Answer limit, or touch tone # to hang-up.

Note: *The factory default is 3 minutes.*

32. Multicast Page Length Time Out

The Multicast Page Length Time Out can be programmed from 1 to 255 seconds in one second increments (factory set to 180 seconds).The Time Out can be disabled, allowing any length of page or continuous background music. A timeout check box can be selected for each paging group. Only one timeout time can be programmed for all multicast paging groups.

33. Inbound Call Mode

The Inbound Call Mode determines how the **40TB-IP** handles incoming SIP calls. One option is to generate a loud ring sound through the speaker. The **40TB-IP** can also auto answer a SIP call to transmit a page, control the relay or listen to transmit audio from the microphone. The last option is the silent monitor mode, which allows callers to listen to the transmit audio from the microphone. The “secure” options for auto answer require the callers to dial the access code in order to transmit a page, activate the relay or activate the optional **RC-4A** relays.

Disabled – Inbound SIP calls are not allowed.

Auto Answer – Inbound SIP calls are auto answered on the first ring. This can also be used for Silent Monitoring by changing the speaker mode to ‘OFF/Silent Monitor”, See page 12. For more security use the Auto Answer Secure Mode.

Auto Answer Secure – Inbound SIP calls are auto answered and the caller must dial the access code in order to listen or talk on the unit.

Ring: In the “Ring” mode the speaker phone will not automatically answer an incoming call but will output a loud ring signal out of the speaker in a 2 seconds on, 4 seconds off ring pattern. There are four available ring cadences.

Ring with AGC: In the “Ring with AGC” mode the speaker phone will not automatically answer an incoming call but will output a loud ring signal out of the speaker in a 2 seconds on, 4 seconds off ring pattern. The phone will automatically increase or decrease the ring volume based on background ambient noise. The call can then be answered by momentarily pressing the call button or the center button on the optional **BTR-3** Remote.

34. Ring Cadence

The Ring cadence can be programmed to one of 4 different cadences:

Normal Ring (single ring, 2 sec on 4 sec off) factory setting

Double Ring (double ring, 1 sec on .5 sec off 1 sec on 3.5 sec off)

Short-Short-Long (triple ring, .5 sec on .5 sec off .5 sec on .5 sec off 1 sec on 3 sec off)

Short-Long-Short (triple ring, .5 sec on .5 sec off 1 sec on .5 sec off .5 sec on 3 sec off)

35. Dial Next Number on RNA (Ring No Answer)

If enabled and a ring-no-answer is detected, the speaker phone will dial the next programmed phone number or emergency phone number. A momentary press of the call button will dial the first programmed phone number. Pressing and holding the call button for 3 or more seconds will dial the first Emergency Phone number.
Note: *Factory set to redial if not answered after 7 rings.*

36. Dial Next Number on Busy

If enabled and a busy is detected, the speaker phone will dial the next programmed phone number. A momentary press of the call button will dial the first programmed phone number. Pressing and holding the call button for 3 or more seconds will dial the first Emergency Phone number.

37. LED Mode

The LED on the **40TB-IP** can be programmed to one of four different modes: OFF, ON, Phone or Paging or Outbound Phone.

OFF Mode: Useful for silent monitoring or Panic Button applications. In this mode the LED will not light during normal operation. It will only light (blink) if it cannot register with the programmed SIP server or while manually resetting all network parameters to factory default.

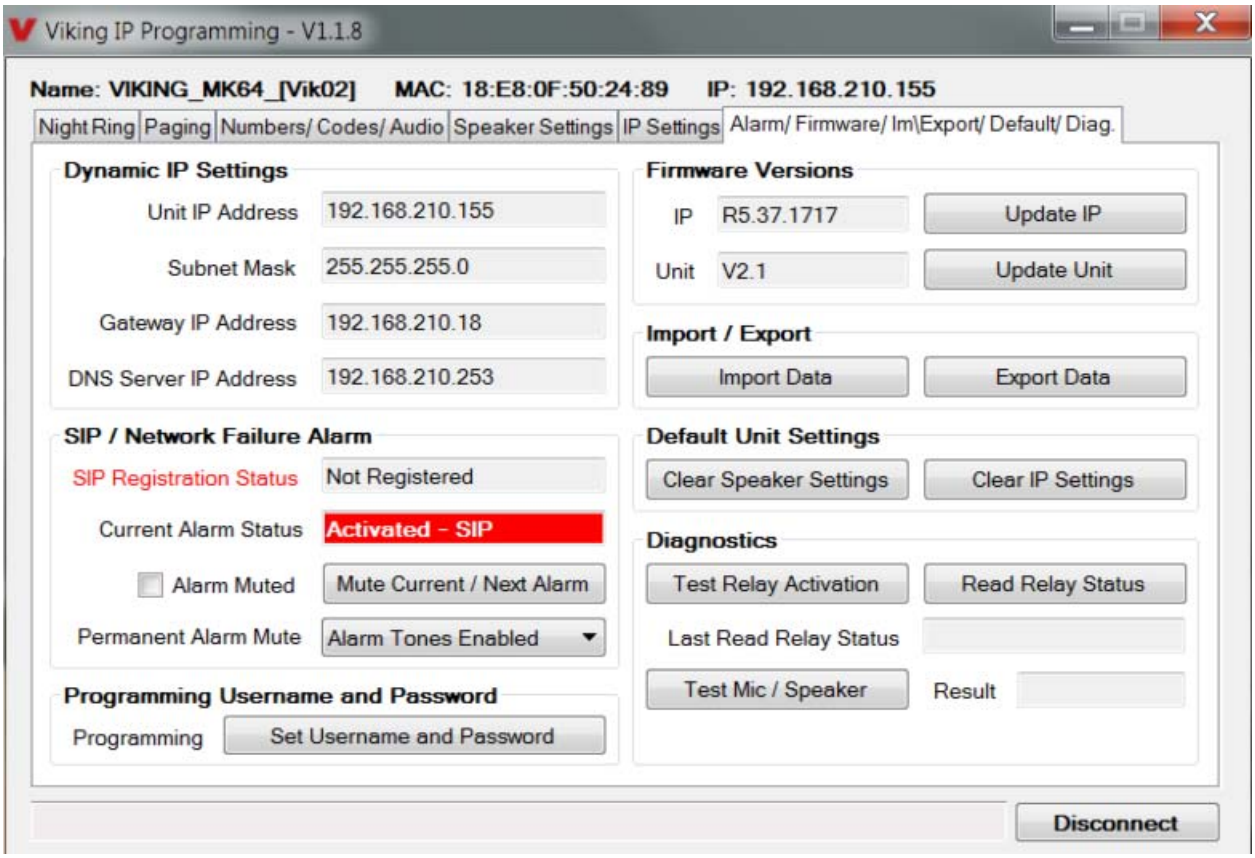
On Mode: The LED will remain ON in the idle state, turn off while button is pressed, blink during dialing, light steady when the call is answered, then turn OFF momentarily when the call is completed.

Phone or Paging Mode: The LED will remain OFF in the idle state, blink during dialing, light steady when the call is connected, then turn OFF when the call is completed. The LED will also light steady during paging.

Outbound Phone Only: On outbound calls, the LED will remain OFF in the idle state, blink during dialing, light steady when the call is connected, then turn OFF when the call is completed. On in-bound calls, the LED will remain off. This is useful for silent monitoring on inbound calls.

38. Call LED Control

During outbound SIP calls the “CALL” LED can be programmed to light automatically when the called party has answered or only light after the called party has entered a touch tone “*”.



39. Mute Current / Next Alarm

A network failure alarm will be indicated by providing 3 beeps every 30 seconds. A network failure indicates the unit is not registered to the SIP server or there is a communication failure with the gateway. The three beeps can be muted by clicking on “Mute Current / Next Alarm”. The Status LED will continue to flash to assist troubleshooting. The alarm beeps can also be permanently disabled. See Permanent Alarm Mute.

40. Permanent Alarm Mute

Selecting “Alarm Tones Disabled” will mute all alarm tones indefinitely. To re-enable alarm tones select “Alarm Tones Enabled”.

41. Programming Username and Password

To increase security a username and password can be programmed. With the username and password programmed you will be required to enter both the username and password each time you connect to that unit for programming.

42. IP Firmware

If new **40TB-IP** firmware is available, after opening the programming software a pop window will come up asking you if you would like to update firmware. An alternative method of updating can be done by clicking the IP firmware “Update” button. You can then browse to the folder that contains the PIP file for updating the unit’s IP firmware. This method is typically only used when Viking Technical Support has sent you updated IP firmware

43. Phone Firmware

If new **40TB-IP** firmware is available, after opening the programming software a pop up window will ask if you would like to update firmware. Another way to update is accomplished by clicking the phone firmware “Update” button. You can then browse to the folder that contains the HEX file for updating the unit’s firmware. This method is typically only used when Viking Technical Support has sent you updated firmware.

44. Import / Export

The Import / Export feature is useful for backing up all the **40TB-IP’s** programming or for importing programming when installing multiple units with a majority of the same programming.

45. Clear Speaker Settings

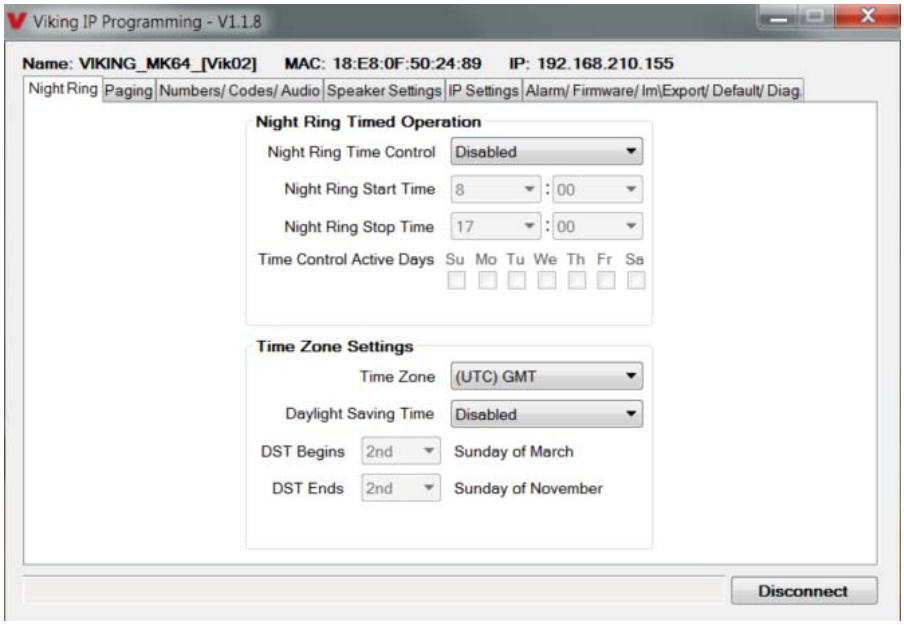
Clicking on the “Clear Speaker Settings” button in programming will reset all of the Programming Features back to their factory default settings. ***Note:*** *This command will not change or reset your IP settings.*

46. Clear IP Settings

Clicking on the “Clear IP Settings” will reset all of the IP settings back to their factory default settings. This also clears paging Group settings and Addresses. ***Note:*** *This will not effect any speaker or paging settings.*

47. Diagnostics

The Diagnostics section in the Viking IP Programming can be used to test the functionality of the mic, speaker and the on-board relay. ***Note:*** *This will not work when relay mode is set to external or Alarm.*



48. Night Ring

When Night Ring Timed Operation is enabled, if a SIP call is received during the programmed Start and Stop times, the **40TB-IP** will output loud ring on the "Line Out" and "Speaker Out" terminals. This is selectable for each day of the week. When outside of the Night Ring timing window, the Inbound Call Mode setting will determine how SIP calls are handled. ***NOTE:*** *For timed Night Ringing the unit must be synced with a time server. If the Night Ringing feature is enabled in the software you will be asked to use Viking Time Server when changes are applied. The address will be entered by the software automatically.*

49. Time Zone Settings

When using the Night Ring Timed Operation the **40TB-IP** must be synced with the network time. Set the Time Zone Settings to match the settings on the network the unit is connected to for proper timed operation.

Operation

A. Making an Outbound Call

When the "**Reset**" button is pressed, the **40TB-IP** speaker phone dials a pre-programmed telephone number. The Call Connected LED momentarily flashes during dialing. In the event the line is busy or there is a ring-no-answer, the unit can be programmed to call additional phone numbers.

The phone then cycles through up to 5 pre-programmed numbers until the call is answered. When the call is answered, the phones are factory programmed to automatically light the "Reset" LED to show that handsfree communication to personnel is established. Once the "Reset" LED is on, relay activation commands can be entered or the # key can be used to force the phone to hang-up.

After communication is established, enter the 1 or 2 digit relay activation command (factory set to "******") to momentarily activate the speaker phone (door strike) relay. If you require the relay to remain on continuously (ie: a truck delivery), enter Touch Tones "***1**" to continuously activate that relay. A double beep will indicate the (door strike) relay is latched on. When the visitor calls in again (ie: they are finished unloading the truck), enter Touch Tones "***0**" to deactivate the relay. A single beep will indicate the (door strike) relay is latched off.

B. Remote Access Operation Commands

The following commands can be entered after answering an inbound call from the speaker phone. The commands can also be entered on an outbound call to the speaker phone. After the speaker phone auto answers the call, two beeps will be heard. If the Access code has been disabled, you can now enter the Remote Access Operation Commands below. If an Access code has been programmed, enter the Access code digits. With the correct code entered, two beeps will be heard and you can now enter the Remote Access Operation Commands below.

Feature	Tone Tone Command	Description
Activate Relay	✻✻ or ___ ___	Momentarily activate relay (1 or 2 digits, factory set to ✻✻).
Un-Latch Relay	**✻0**	Un-latch* (deactivate) the relay.
Latch Relay	**✻1**	Latch* (continuously activate) the relay.
Disconnect	**#**	Disconnects or forces the emergency phone to hang up.
Send ID and Play Message	✻	Send I.D. number (if programmed) and plays the announcement.

**** Note:** Latching commands must be enabled in programming and the Relay Mode must be set to "Door Strike".*

Troubleshooting

If the unit cannot register with the programmed SIP server, the "Reset" LED will blink on and off every two seconds, and three error beeps will be heard every 30 seconds until communication is restored. This alerts a potential user of a problem with the device that will prevent an emergency phone call from being made.

You may silence the error beeps, per instance, by pressing and holding the Reset button for 5 seconds or by clicking the "Mute Alarm Until Next Failure" button in the Viking VoIP Programming Software (see section on page 19). The error beeps automatically re-enable once the unit is registered, to alert of any new problems that arise. The LED will continue to flash as long as the unit is not registered. This will assist with troubleshooting.

Related Products

The Viking model **40-IP** Ceiling/Wall Speaker enables SIP endpoint paging and also allows for standard paging and background music via multicast. The speaker easily connects with a single CAT5/6 cable from your PoE switch. Its shallow depth allows the speaker to be conveniently mounted in a standard 2" x 4" stud wall or ceiling.

Line-level audio output connections are provided for connecting to an external amplifier. Speaker output connections are also provided to directly drive additional analog speakers. The LED on the **40-IP** can be programmed to light during paging. For more info, see **DOD 503.**

40-IP

PA-IP

For more info, see **DOD 505**

The Viking model **PA-IP** SIP / Multicast Paging Adapter provides an interface between new VoIP phone systems (hardware or hosted/cloud based) and analog paging systems, eliminating the need for an ATA or FXS port. The **PA-IP** can be used for standard SIP endpoint paging or multicast paging and background music.

The unit easily connects with a single CAT5/6 cable from your PoE switch. The night bell feature is programmable for time of day and day of week to enable loud ringing for after hour incoming calls. Alternatively the night bell feature can be enabled by a contact closure across the trigger input terminals. Line-level audio output connections are provided for connecting to an external amplifier.

A built-in 6 Watt class D amplifier with speaker output connections are also provided to drive up to 6 analog speakers. A programmable relay output is provided for triggering external amplifiers, etc.

Viking Analog Speakers

The **25AE**, **30AE**, **35AE**, and **40AE** paging speakers provide additional economical paging coverage to existing Viking paging units (**40-IP, PA-2A**, **PA-15**, **PA-30**, **PA-60**, **HF-3W**, **M2W**) or to any system with an 8 Ohm output.

In outdoor, factory or warehouse environments, **25AE** paging horns are the best method of producing understandable sound. In these environments the directional design allows the installer to focus the sound cone down aisles and toward work areas.

In office and restaurant environments, it is best to distribute sound more evenly. Ceiling mounted **30AE**, **35AE**, or **40AE** speakers in close proximity offer the best distribution and are cost effective. The **35AE** speakers include a volume control.

30AE **35AE** **40AE** **25AE** **300AE**

30AE/35AE Ceiling Speakers
- Metal white grill for flush mounting in office ceilings
- Mounting hardware included
- Excellent frequency response
- The **35AE** includes a volume control

40AE Ceiling Speakers
- Attractive with a modern look
- Flush mounts into a 9.5” to 10” diameter hole
- Integral mounting system
- Excellent sound quality

25AE Paging Horn
- Adjustable base for easy mounting and directional adjustment
- Compact design for discreet mounting

300AE Paging Horn
- 30 Watt 8 Ohm / 70V Paging Horn

Control Relay Contacts Across a Local Area Network

The **RC-4A** Network Enabled Relay Controller provides networked control of four relays via an easy-to-use web interface. The same interface can be used to check the status of four contact closure inputs. Relays can be toggled on or off, or user-programmed timed closures can be activated.

The **RC-4A** can be configured to work as a remote relay for Viking VoIP series entry phones, controlling door strikes and gates when a remote relay is required for security reasons. It can also be programmed to send an email or text message in response to a change in one or more of the sensor inputs. Two **RC-4A’s** can be set up so that activity on a sensor input of one unit will automatically send a message across the network to activate one of the relays on the other unit. Two levels of user access permit selected users to have full operational and programming rights while others have operational control but not programming capability. For more info, see **DOD 582**

Tile Bridge for Ceiling Speakers

The **SA-TBA** is a tile bridge designed to mount 8 inch loud speaker and bridges both 2 ft x 2 ft and 2 ft x 4 ft ceiling tiles. It is compatible with the Viking models **SA-1S**, **30AE**, **35AE**, and **40AE** speakers. The **SA-TBA** tile bridge is constructed of 24 gauge cold rolled steel with an electro galvanized rust-resistant finish.

Related Products

Add Paging, Loud Ringing and Background Music to Centrex, PABX, IP, or Key Systems

The **PA-15** interfaces with virtually any telephone system to provide 15 Watts of paging power - enough to drive fifteen 8-Ohm paging horns or speakers. This small and light weight chassis design is possible by utilizing new amplifier technology that is 300% less inefficient than old designs competitors use. High efficiency means much less heat disipation, smaller size, higher reliability, and lower cost.

The **PA-15** provides 36V talk battery for interfacing with an **FXO** or unused analog line input/trunk port. With the flip of a switch, the unit can connect to a **FXS** or PABX/Centrex station ring trip port or connect to a 600 Ohm paging port. When interfacing with systems that do not provide a paging contact closure, the built-in voice activation (**VOX**) is in control.

After paging, the **PA-15** auto disconnects on CPC, busy signal, silence, or default disconnect timer (helps prevent accidental paging system lock-up if phone is hung-up incorrectly). The unit will generate adjustable loud ringing from an independent ringing analog **FXS**/PABX/Centrex station or from a dry contact closure. The **PA-15** can provide background music (muted during page) if connected to an external music source.

Add Paging and Loud Ringing with Background Music to Any Phone System

The **PA-30** can directly drive up to thirty (30) 8 Ohm paging speakers or fifty (50) 70 volt or 25 volt paging speakers. This small and light weight chassis design is possible by utilizing new amplifier technology that is 300% less inefficient than old designs competitors use. High efficiency means much less heat disipation, smaller size, higher reliability, and lower cost.

The **PA-30** provides loud ringing and paging to electronic key systems, 1A2 Key systems, PABX's as well as No-KSU phones and multi-line phones.

Paging is accomplished by connecting the **PA-30** to a paging port or unused telephone line input (trunk port) of nearly any phone system.

The **PA-30** will also generate adjustable loud ringing from a ringing analog line or from a dry contact closure. Either a loud electronic warble, or one of three other soft chime sounds may be selected. An external "night transfer" switch can be added to turn loud ringing on or off in night bell applications.

The **PA-30** eliminates the installation of multiple bells, relays and paging cards. The unit comes complete with a power supply, and integrated 30 Watt amplifier.

60 Watt Compact Two Zone Amplifier to Drive up to 60 Paging Speakers

The **PA-60** can directly drive up to sixty (60) 8 Ohm paging speakers or one hundred (100) 70 volt or 25 volt paging speakers. Both channels can be fed the same input so the **PA-60** can be used as a single large amplifier, or each channel can be fed different inputs so the **PA-60** can be used as a two zone amplifier.

This small and lightweight chassis design is possible by utilizing new amplifier technology that is 300% less inefficient than old designs competitors use. High efficiency means much less heat disipation, smaller size, higher reliability, and lower cost.

Since each input has its own gain adjustment, one zone can be turned up louder for warehouse paging horn speakers, and the other zone can be turned down for office ceiling speakers. Two zones can also be helpful for installations in which one group of speakers is connected to a source that provides background music using the Viking **PI-1A** Paging Interface unit, and the other zone provides only paging.

The Viking models **CTG-1** or **CTG-2** can be used to add clock controlled tones with paging to both zones, or one zone can have just paging and be free of the time scheduled alert tones. The same can be done with the Viking model **MTG-10** in which one zone can have just paging, and the other zone can have paging plus the 10 different siren, warble, and chime tones that the **MTG-10** can provide.

One or two **PA-60**'s can be added to the Viking model **ZPI-4** four zone paging interface to provide either 60 Watts or 120 Watts of total paging power in four zones. The **PA-60** can also be used to add additional paging power to other Viking paging products such as the **PA-2A**, **PA-15**, and **PA-30**.

The **PA-60**'s inputs are transformer coupled so they are floating and isolated. Because of this they can be connected to any line level audio signal, or by turning down the input gain control to unity gain, can be connected directly to the output of another amplifier. This allows the **PA-60** to be connected directly to an existing paging system speaker wire run to extend the run, with up to 60 more speakers.

Warranty

IF YOU HAVE A PROBLEM WITH A VIKING PRODUCT, CONTACT: VIKING TECHNICAL SUPPORT AT 715-386-8666

Our Technical Support Department is available for assistance Monday through Friday 8:00am to 5:00pm central time. So that we can give you better service, before you call please:

1. Know the model number, the serial number and what software version you have (see serial label).
2. Have your Product Manual in front of you.
3. It is best if you are on site.

RETURNING PRODUCT FOR REPAIR

The following procedure is for equipment that needs repair:

1. Customer must contact Viking's Technical Support Department at 715-386-8666 to obtain a Return Authorization (RA) number. The customer MUST have a complete description of the problem, with all pertinent information regarding the defect, such as options set, conditions, symptoms, methods to duplicate problem, frequency of failure, etc.
2. Packing: Return equipment in original box or in proper packing so that damage will not occur while in transit. Static sensitive equipment such as a circuit board should be in an anti-static bag, sandwiched between foam and individually boxed. All equipment should be wrapped to avoid packing material lodging in or sticking to the equipment. Include ALL parts of the equipment. C.O.D. or freight collect shipments cannot be accepted. Ship cartons prepaid to: **Viking Electronics, 1531 Industrial Street, Hudson, WI 54016**
3. Return shipping address: Be sure to include your return shipping address inside the box. We cannot ship to a PO Box.
4. RA number on carton: In large printing, write the R.A. number on the outside of each carton being returned.

RETURNING PRODUCT FOR EXCHANGE

The following procedure is for equipment that has failed out-of-box (within 10 days of purchase):

1. Customer must contact Viking's Technical Support at 715-386-8666 to determine possible causes for the problem. The customer MUST be able to step through recommended tests for diagnosis.
2. If the Technical Support Product Specialist determines that the equipment is defective based on the customer's input and troubleshooting, a Return Authorization (R.A.) number will be issued. This number is valid for fourteen (14) calendar days from the date of issue.
3. After obtaining the R.A. number, return the approved equipment to your distributor, referencing the R.A. number. Your distributor will then replace the Viking product using the same R.A. number.
4. The distributor will NOT exchange this product without first obtaining the R.A. number from you. If you haven't followed the steps listed in 1, 2 and 3, be aware that you will have to pay a restocking charge.

TWO YEAR LIMITED WARRANTY

Viking warrants its products to be free from defects in the workmanship or materials, under normal use and service, for a period of two years from the date of purchase from any authorized Viking distributor. If at any time during the warranty period, the product is deemed defective or malfunctions, return the product to Viking Electronics, Inc., 1531 Industrial Street, Hudson, WI., 54016. Customer must contact Viking's Technical Support Department at 715-386-8666 to obtain a Return Authorization (R.A.) number.

This warranty does not cover any damage to the product due to lightning, over voltage, under voltage, accident, misuse, abuse, negligence or any damage caused by use of the product by the purchaser or others. This warranty does not cover non-EWP products that have been exposed to wet or corrosive environments. This warranty does not cover stainless steel surfaces that have not been properly maintained.

NO OTHER WARRANTIES. VIKING MAKES NO WARRANTIES RELATING TO ITS PRODUCTS OTHER THAN AS DESCRIBED ABOVE AND DISCLAIMS ANY EXPRESS OR IMPLIED WARRANTIES OR MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE.

EXCLUSION OF CONSEQUENTIAL DAMAGES. VIKING SHALL NOT, UNDER ANY CIRCUMSTANCES, BE LIABLE TO PURCHASER, OR ANY OTHER PARTY, FOR CONSEQUENTIAL, INCIDENTAL, SPECIAL OR EXEMPLARY DAMAGES ARISING OUT OF OR RELATED TO THE SALE OR USE OF THE PRODUCT SOLD HEREUNDER.

EXCLUSIVE REMEDY AND LIMITATION OF LIABILITY. WHETHER IN AN ACTION BASED ON CONTRACT, TORT (INCLUDING NEGLIGENCE OR STRICT LIABILITY) OR ANY OTHER LEGAL THEORY, ANY LIABILITY OF VIKING SHALL BE LIMITED TO REPAIR OR REPLACEMENT OF THE PRODUCT, OR AT VIKING'S OPTION, REFUND OF THE PURCHASE PRICE AS THE EXCLUSIVE REMEDY AND ANY LIABILITY OF VIKING SHALL BE SO LIMITED.

IT IS EXPRESSLY UNDERSTOOD AND AGREED THAT EACH AND EVERY PROVISION OF THIS AGREEMENT WHICH PROVIDES FOR DISCLAIMER OF WARRANTIES, EXCLUSION OF CONSEQUENTIAL DAMAGES, AND EXCLUSIVE REMEDY AND LIMITATION OF LIABILITY, ARE SEVERABLE FROM ANY OTHER PROVISION AND EACH PROVISION IS A SEPARABLE AND INDEPENDENT ELEMENT OF RISK ALLOCATION AND IS INTENDED TO BE ENFORCED AS SUCH.

If trouble is experienced with the **40TB-IP** phone, for repair or warranty information, please contact:

Viking Electronics, Inc., 1531 Industrial Street, Hudson, WI 54016 715-386-8666

WHEN PROGRAMMING EMERGENCY NUMBERS AND (OR) MAKING TEST CALLS TO EMERGENCY NUMBERS:

Remain on the line and briefly explain to the dispatcher the reason for the call. Perform such tests in off-peak hours, such as early morning or late evenings.

PART 15 LIMITATIONS

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 instruction manual, 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.

Product Support: 715-386-8666