

VoIP Panic Button with User Recorded ID Message

Model **PB-3-IP** is an VoIP Emergency Phone Panic Button designed to mount under a desk or countertop and provide a quick and reliable way to make a silent emergency call. The called party can silently monitor the situation or engage in two-way handsfree communication by entering a touch tone “#”.

The **PB-3-IP** functions as a SIP end point connecting with a single CAT 5/6 cable from your POE switch. The unit can be programmed from any PC on the same LAN or remotely using a static IP address.

The **PB-3-IP** dials up to 5 emergency numbers and can be programmed to automatically deliver a digital voice announcement and / or an optional DTMF touch tone code to identify the location of the emergency call. The red LED integrated into the push button will light, indicating that an emergency call is in progress.

⚠ Installation requires the assistance of a Network Administrator / IT Technician.



Features

- Discreet compact design
- Built-in microphone for silent monitoring
- 2 Amp relay contacts for SL-2 strobe light control, etc.
- SIP compliant (see DOD 944) for list of compatible phone systems and cloud providers
- Outbound Proxy, Authentication ID, Peer to Peer, VLAN Tagging
- PoE powered (class 1, <4 Watts)
- Automatic Noise Canceling (ANC) feature for proper operation in noisy areas
- VoIP eliminates the need for “Push to Talk” mode
- Network downloadable firmware
- Non-volatile digital announcer with 28 seconds of memory
- Handsfree operation
- Dials up to 5 emergency numbers
- Cycles through backup phone numbers on busy or no-answer
- Hangs up on busy signal, time-out or call ended signal
- Extended temperature range (-40°F to 140°F)
- Optional **PB-100** Polling System available (**DOD 232**)
- Optional **SL-2** (**DOD 242**) or **BLK-4-EWP** (**DOD 654**) strobe light kits available
- **Diagnostics** for testing microphone, speaker, and relay
- Also available with analog telecom interface, see model **PB-3** for more information (**DOD 239**)

Applications

- K-12 classrooms
- College classrooms
- Courtrooms
- Bank tellers
- Silent holdup alarm dialer
- Gas stations
- Motel reception desks
- Convenience stores
- All night restaurants
- Casinos

Specifications

Power: PoE class 1 (<4 Watts)
Maximum Sound Pressure: 86 dB SPL @ 1m
Dimensions: See Installation and Specifications
Operating Temperature: -40°F to 140°F (-40° C to 60° C)
Humidity: 5% to 95% non-condensing
Audio Codecs: G711u, G711a, G722
Network Compliance: IEEE 802.3 af PoE, SIP 2.0 RFC3261, 100BASE-TX with auto cross over
Regulatory Compliance: CE, FCC Part 15 and Canada ICES-003 Class A
Connections: (1) RJ45 10/100 Base-T, (3) gel-filled butt connectors

www.VikingElectronics.com
Information: 715-386-8861

VoIP SIP System Compatibility

For compatibility and vendor specific detailed configuration instructions, see the **Viking VoIP SIP System Compatibility List**, DOD 944. To open and download this PDF file:

Scan the QR code below to open and download the **Viking VoIP SIP System Compatibility List**



- OR -

1. Go to **www.vikingelectronics.com** and enter **944** in the search box
2. Click **Application Note (DOD 944)** to open and download the PDF

Important: Exclusion from this list means only that compatibility has not been verified, **it does not mean incompatibility.** If you have questions, please call Viking Electronics at 715-386-8861.

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 **PB-3-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

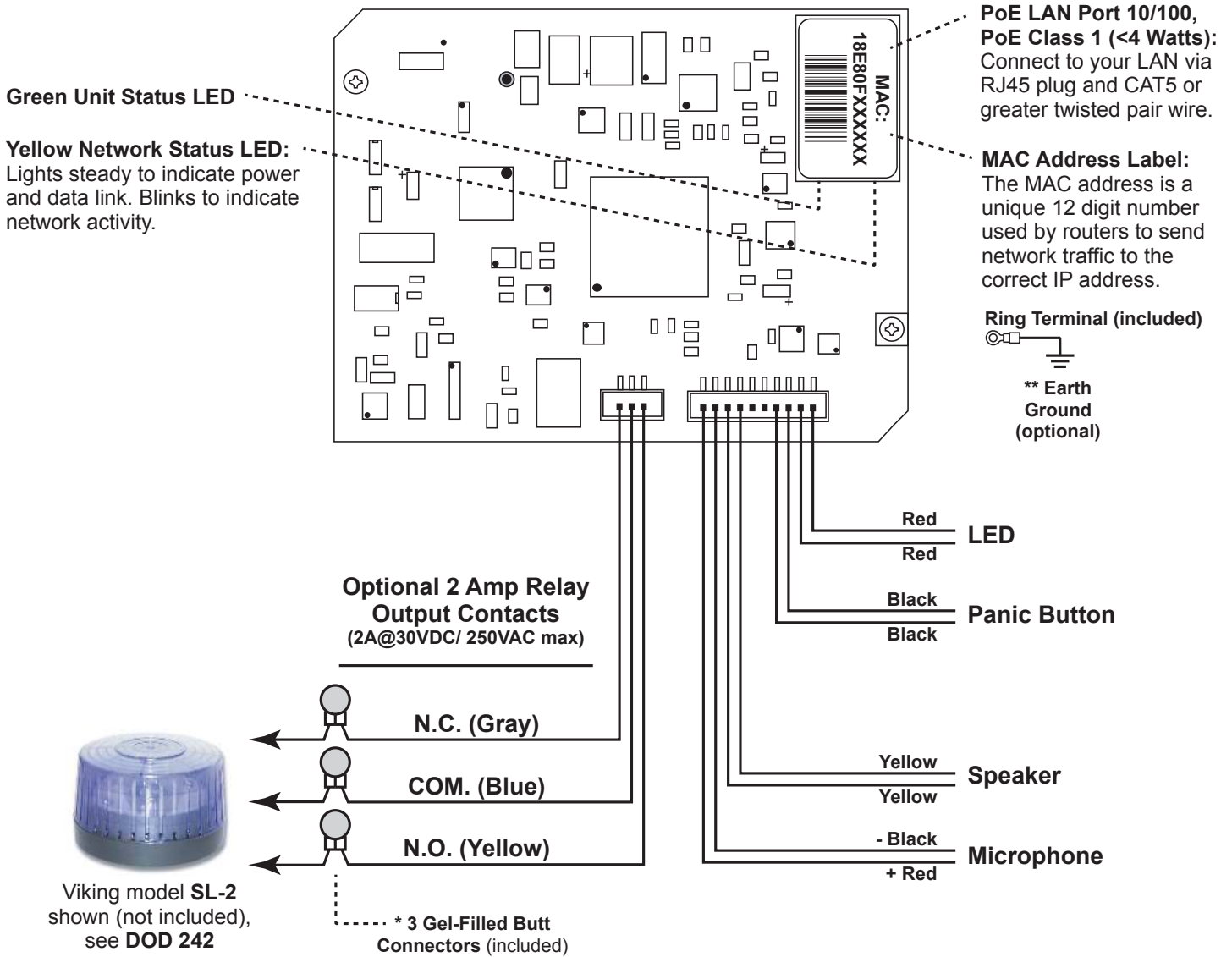
WAN: Wide Area Network. A WAN is a network comprising a large geographical area like a state or country. The largest WAN is the Internet.

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

Rear (PCB) View of PB-3-IP Emergency Phone



*** Note:** The gel-filled (water-tight) butt connectors are designed for insulation displacement on 19-26 gauge wire with a maximum insulation of 0.082 inches. Cut off stripped wire ends before terminating.

**** Note:** To increase surge protection, loosen the PCB mounting screw and fasten a wire with ring terminal (included) from the mounting screw to Earth Ground (grounding rod, water pipe, etc.)

Installation and Specifications

Dimensions: 5.75" x 3.08" x 1.05" (146 mm x 78 mm x 27 mm)

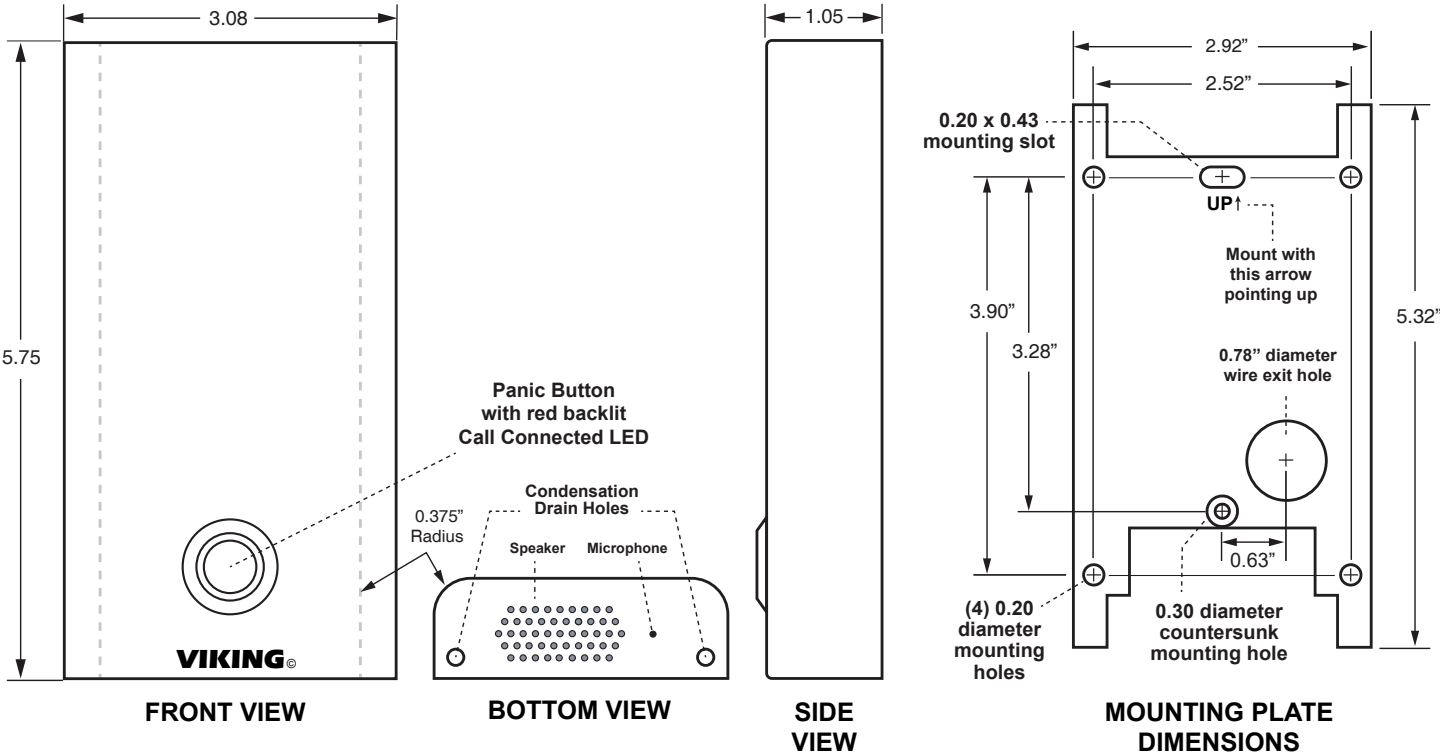
Material: 0.048" (18 gauge) steel

Finish: Black fine textured powder paint

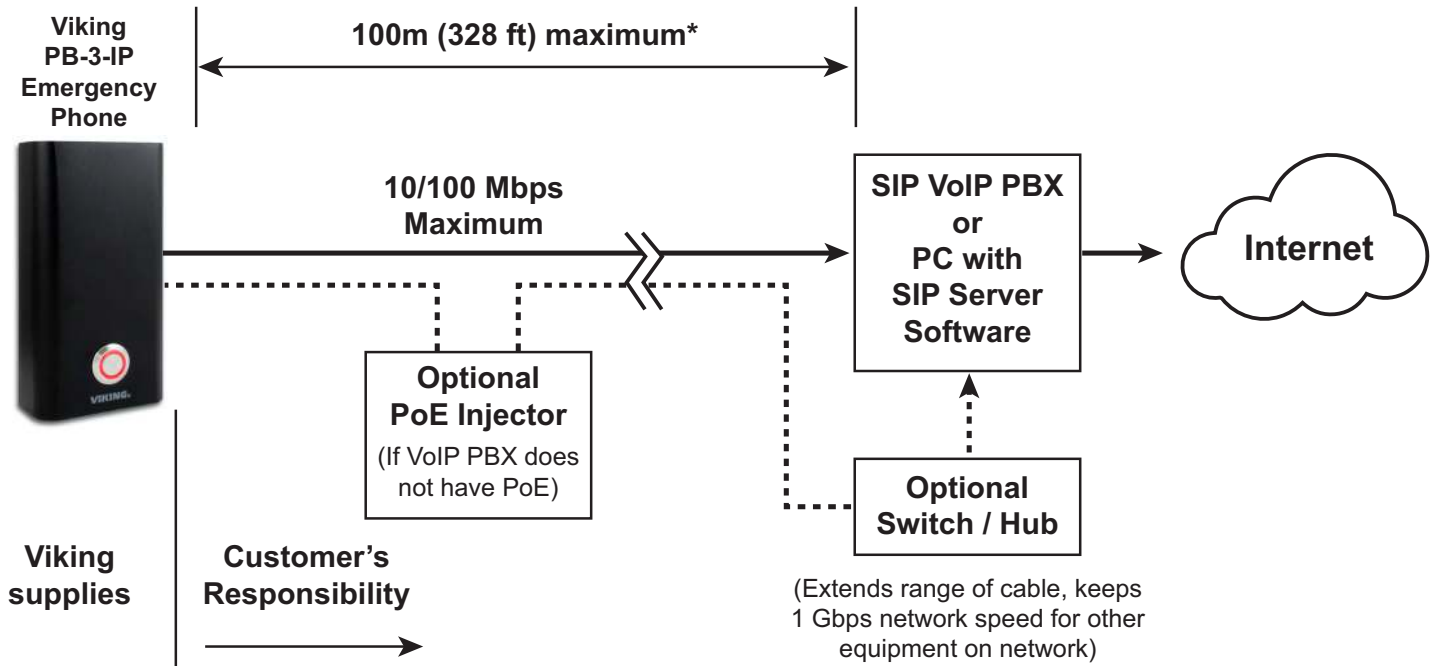
Shipping Weight: 2.5 lbs. (1.3 kg)

Connections: Gel-filled butt connectors

Mounting: Surface mount under desks, under counter tops, to walls, posts or single gang electrical boxes



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 7, 8 or 10
- Adobe Acrobat Reader 8 or higher
- **PB-3-IP** hardware
- Available LAN with PoE (class 1, < 4 watts)
- Ethernet cable (CAT5 min.)
- 1 MB minimum free hard drive space for installation
- 16MB of free physical RAM

PC Programming

Download and install the programming software

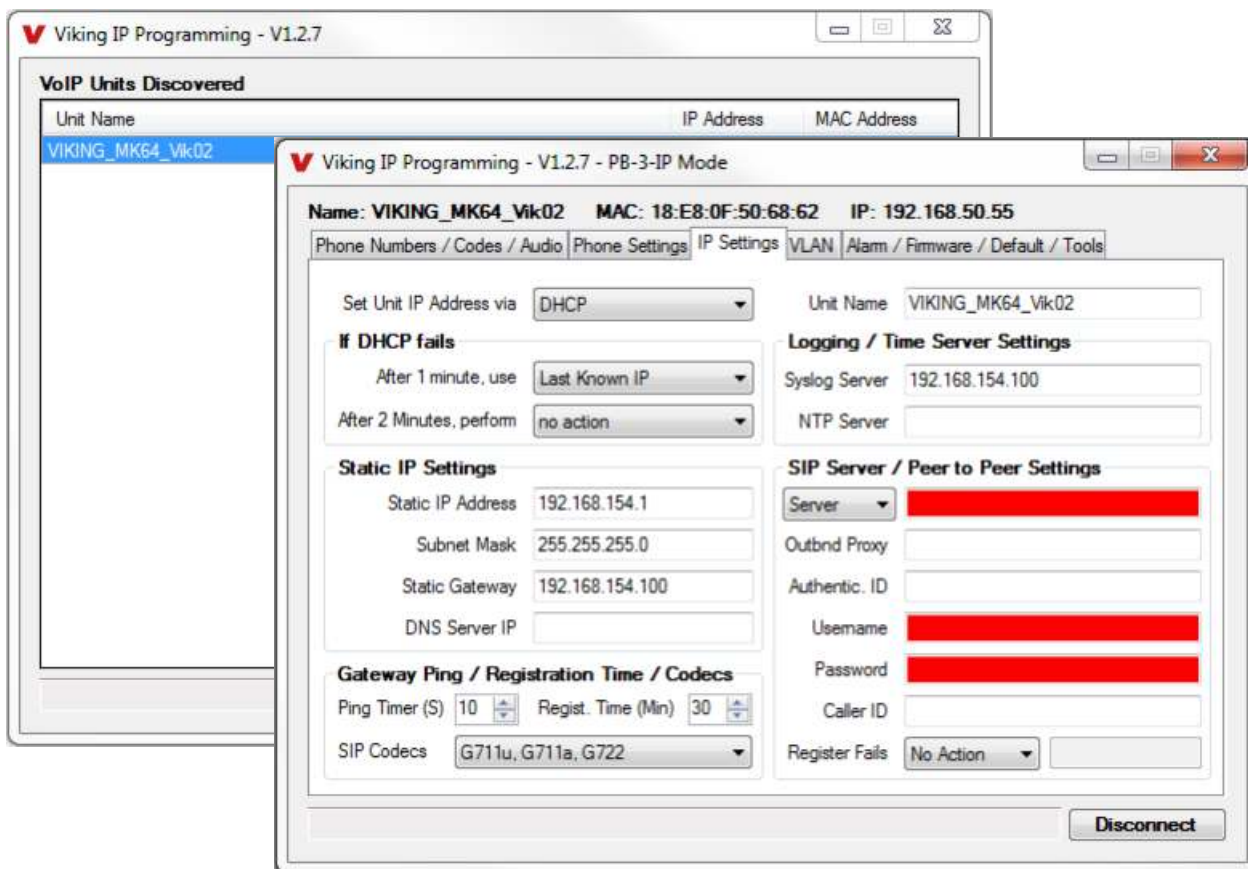
1. Go to www.vikingelectronics.com and enter **PB-3-IP** in the search box
2. Click **PB-3-IP** in the search results
3. Scroll down the page to Downloads, click **IP Programming Software**
4. Install the programming software by saving or opening the file and then clicking on **setup Viking IP Programming.exe**
5. Follow the prompts on your screen to complete software installation
6. 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 **PB-3-IP** connected to that LAN.

Note: PC must be connected to the same LAN as the **PB-3-IP**.

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 **PB-3-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. **PB-3-IP** 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.

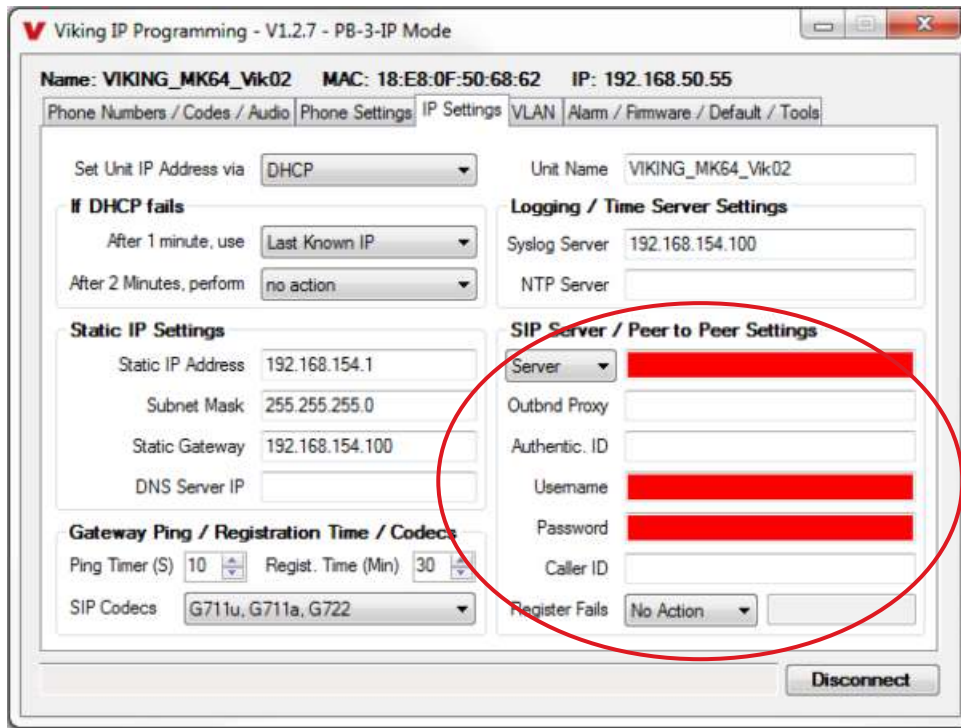


B. Manually Muting SIP/Network Failure Alarm Beeps (3 beeps repeated every 30 seconds)

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 Panic Button LED on and off once per second indicating a SIP registration failure, failure to receive an echo reply from a pinged gateway or Ethernet connection failure. You can manually disable the beeps by pressing and holding the Panic Button for 5 seconds (2 beeps will then be heard) or by clicking the “Mute Alarm Until Next Failure” tab in the Viking IP programming software. The Panic Button LED will continue to flash allowing you to troubleshoot the failure.

C. Configuring the PB-3-IP Network Settings

Step 1.	Open the “Viking IP Programming” software on a windows PC that is connected to the same LAN as the PB-3-IP phone to be programmed.
Step 2.	The window in the upper left corner of the menu will show you each PB-3-IP phone that is connected to that LAN. Select the unit with the same MAC address shown on the label located on the top of the Ethernet connector on the PB-3-IP phone.
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 PB-3-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. 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.



Example 1: On-Premise SIP Phone System
(Panasonic TDE 100/200)

Example 2: Cloud Based Service Provider
(Voip.ms)

Example 3: Cloud Based Service Provider requiring Outbound Proxy and Authentication ID (Ring Central)

SIP Server / Peer to Peer Settings

Server: 192.168.0.101

Outbnd Proxy:

Authentic. ID:

Username: 117

Password: 9140

Caller ID: Door 1

Register Fails: Re-Resolve

SIP Server / Peer to Peer Settings

Server: chicago4.voip.ms

Outbnd Proxy:

Authentic. ID:

Username: 190106

Password: Bear987654!

Caller ID: Door 1

Register Fails: Re-Resolve

SIP Server / Peer to Peer Settings

Server: sip.ringcentral.com:5060

Outbnd Proxy: sip20.ringcentral.com:5090

Authentic. ID: 16572241020

Username: 17159644561

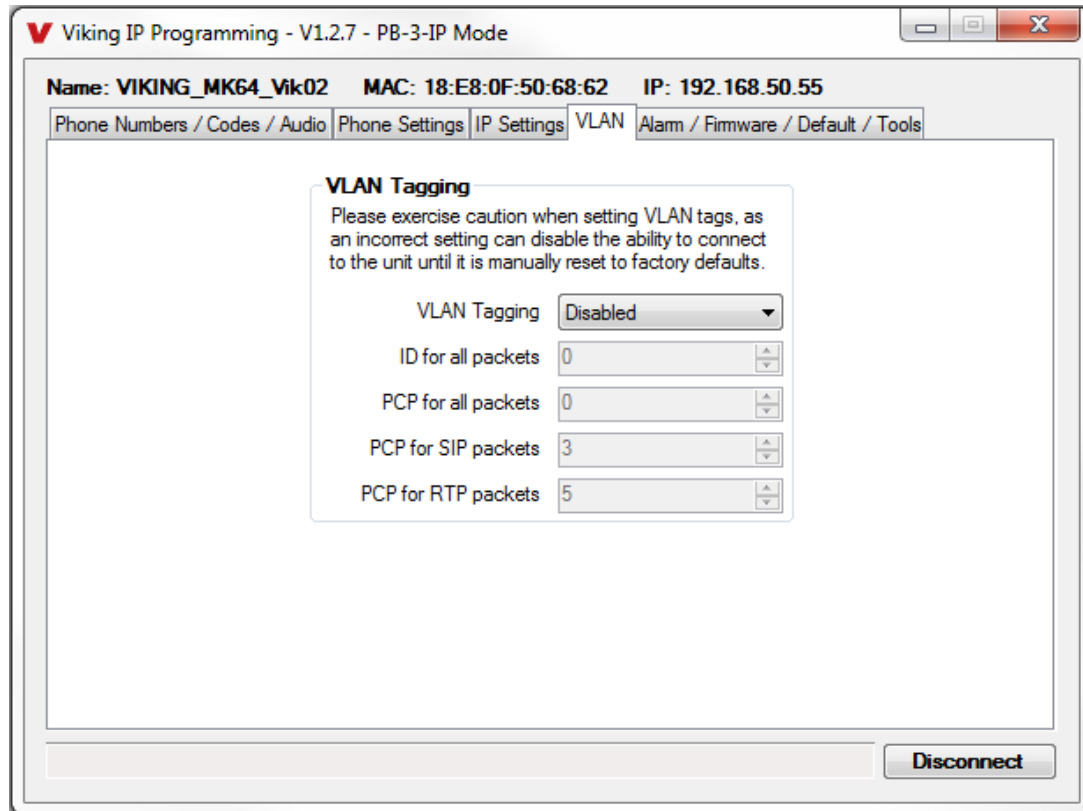
Password: 5j8QA28Lp

Caller ID: Door 1

Register Fails: Re-Resolve

D. Configuring PB-3-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: 0, 1, 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 PB-3-IP phone by disconnecting the LAN Cable (RJ45 plug).
Step 2.	Press and hold the Panic button, then reconnect the LAN Cable (RJ45 plug).
Step 3.	Continue to hold Panic button until you hear 2 beeps, (approximately 6 seconds). Then release the button. The Panic Button 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 PB-3-IP phone by disconnecting the LAN Cable (RJ45 plug).
Step 2.	Press and hold the Panic button, then reconnect the LAN Cable (RJ45 plug).
Step 3.	Continue to hold the Panic button until you hear 2 beeps, (approximately 6 seconds). Continue to hold Panic button until you hear 4 more beeps, approximately 6 seconds later, then release the button. The Panic Button 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 .

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1. Unit Name

Up to a 31 character unit name can be assigned to the **PB-3-IP** Phone being programmed.

2. SIP Server

Enter the IP address or URL of your SIP server or service provider in this field. The SIP server IP address is limited to 74 characters. **Note:** *If an alternate SIP server IP address is programmed, the IP address for the SIP server and alternate SIP server will be limited to 31 characters each.*

3. Peer to Peer Settings

When set to the Peer to Peer mode, a SIP server is not used. The **PB-3-IP** will register to itself. Applications for the Peer to Peer mode are very limited, as the **PB-3-IP** is only able to call other IP phones or SIP devices that are on the same LAN. The **PB-3-IP** can not call analog extensions, digital phone extensions or telephone numbers that are outside the phone system in this mode. To use the unit in the Peer to Peer mode, change the drop-down in the “SIP Server / Peer to Peer Settings” from “Server” to “Peer to Peer”, a Username must be assigned (can be any alpha/numeric string up to 31 characters) and the unit should be programmed with a static IP address. Here is an example to show how the calling process works:

	PB-3-IP	Destination IP Phone
IP Address	192.168.210.1	192.168.210.3
Extension Number	N/A	200
Username	Viking1	N/A

PB-3-IP calling the IP phone – you populate the first phone number field with 200@192.168.210.3 (the extension number you are trying to call + @ + the IP address of the extension you are calling).

The IP phone calling the **PB-3-IP** – a button on the IP phone is configured to dial Viking1@192.168.210.1 (the Username assigned in the **PB-3-IP** + @ + the IP address of the **PB-3-IP**).

4. Outbound Proxy

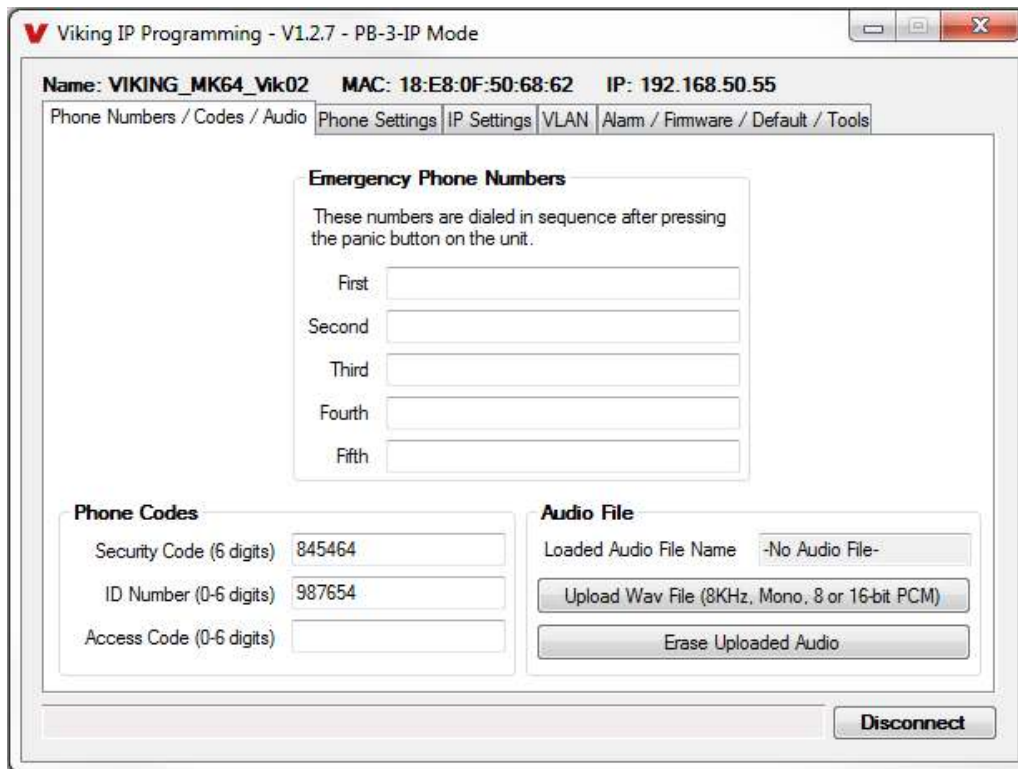
If your SIP provider requires an outbound proxy IP address enter it in the Outbnd Proxy field. If outbound proxy is not required leave this field blank.

5. Authentication ID

If your SIP provider requires Authentication ID, enter it in the Authentic. ID field. If Authentication ID is not required, leave this field blank.

6. Register Fails (No Action, Re-Resolve or Alternate Server)

In the event the registration with the server is lost, you can program the unit to take no action, re-resolve using the current SIP server or register to an alternate SIP server. If an alternate server is not available, the Re-resolve option provides the best reliability. If switching to an alternate server is desired, enter the IP address of the alternate server in the field to the right of the Register Fails drop-down box. The same SIP credentials are used when registering with the alternate SIP server. **Note:** *With an alternate SIP server IP address programmed, the IP address for the SIP server and alternate SIP server will be limited to 31 characters.*



Note: A majority of the features below can also be Touch Tone (In-Band DTMF) programmed, see DOD 949.

7. Emergency Phone Numbers

Note: Up to 79 digits can be stored in each of the 5 speed dial phone number positions.

The number programmed in the first location under “Emergency Numbers” is the telephone or extension number that is dialed when the panic button is 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 **PB-3-IP** Phone will also detect busy and move on (Dial Next Number on Busy Enabled). The **PB-3-IP** Phone will cycle through the programmed Emergency numbers until answered.

8. Security Code

The security code allows the user/installer to program the **PB-3-IP** phone. Programming can be done by way of a PC and Viking IP Programming software or limited programming can be done using the touch tone program mode. If the security code of the **PB-3-IP** is still set to default (845464), the PC software will not require entering a security code to connect to the phone. It is recommended however, that the factory set security code be changed.

Factory Setting: 845464 **Note:** The security code must be 6 digits and cannot include a * or a #.

9. ID Number:

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 or RFC 2833. This can be cleared out by leaving the field blank. **Factory Setting:** 987654 (RFC 2833 format)

10. Access Code

The Access Code adds basic security on inbound calls in the **Auto Answer – Secure** or **Auto Answer Inbound Call Modes**. It is useful for installations where only select personnel are allowed to monitor audio or control the relay of the **PB-3-IP**. The code can be 1 to 6 digits in length, can not contain a “*” or “#” or match the numbers used for the security code.

Once programmed, simply call the **PB-3-IP** phone, the unit will automatically answer the line and output 1 beep. You can then enter the programmed 1 to 6 digit Access Code and 2 beeps will be heard. Communication with the **PB-3-IP** is now established and/or touch tone commands can be dialed to control the relay.

On outbound calls from the **PB-3-IP**, the Access Code does not need to be entered prior to monitoring the **PB-3-IP**’s audio or controlling the relay. If however, emergency personnel may be calling back to the **PB-3-IP**, they will need to enter the Access Code or the call will be dropped after 10 seconds. Information about the requirement to enter a valid Access Code could be included in the **PB-3-IP**’s voice announcement to remind emergency personnel to enter the Access Code. **Factory Setting:** Disabled

11. Audio File (optional)

The **PB-3-IP** 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 12 below).

WAV File Guidelines:

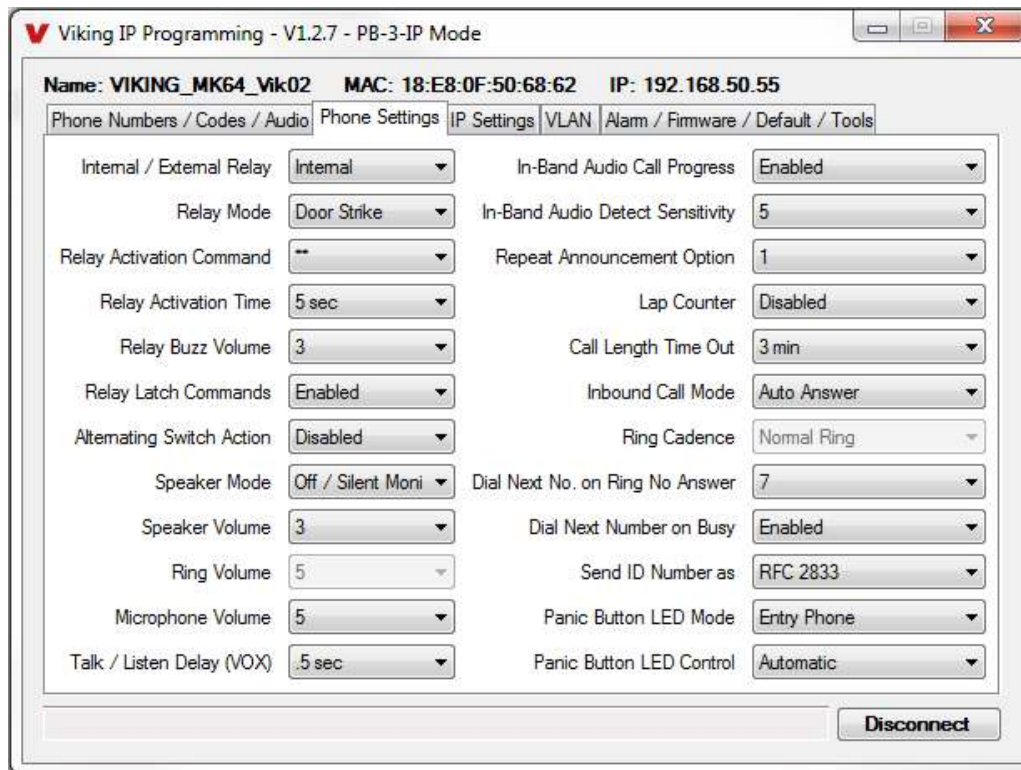
1.	The WAV file should be 8 or 16 bit PCM mono or stereo.
2.	Sampling rates of 8k,16k or 32kHz are acceptable.
3.	The WAV file may be stereo or multi-channel, but only the Left Channel will be loaded.
4.	When saved, wave files will be converted to 8KHz, mono, 16 bit, PCM.
5.	The internal flash memory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

12. Recording Emergency Announcement from a Phone

Step 1.	Call into the PB-3-IP 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: “Emergency, Hudson High School classroom 243 needs assistance. Press the asterisk (*) key on your telephone to hear this announcement again. Press “#” key for two-way communications.”



13. Relay Internal / External

With the relay set to “Internal” the **PB-3-IP** Phone 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 DOD 582). **Factory Setting:** Internal

14. Relay Mode

Door Strike Mode. When programmed for Door Strike Mode the relay will momentarily activate for the preprogrammed relay activation time after detecting the correct relay activation command (one or two digit touch tone) from the called party.

Outbound Call Mode. When programmed for Outbound Call Mode the relay will activate continuously for the duration of any outbound call from the Emergency/Entry phone. This mode is useful for activating strobe lights for Emergency VoIP phones.

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 Emergency/Entry phone. This mode is useful for turning on IR flood lights, VoIP phones with cameras, etc.

Doorbell Mode. When programmed for Doorbell Mode the relay will momentarily activate the relay for the preprogrammed relay activation time on any outbound call from the Emergency/Entry 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.

Ring Mode. When programmed for Ring Mode the relay will continuously activate when the **PB-3-IP's** 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 when the **PB-3-IP's** extension is called. This mode is useful for activating a Viking **LPL-1** Remote Visual Indicator, etc.

Alarm Mode: When programmed in Alarm Mode the relay will activate continuously while the unit 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 with external relay control (RC-4A).*

Factory Setting: Outbound Call Mode

15. 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.

Factory Setting: **

16. 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 - 99 seconds. This also affects timing in Doorbell Mode. **Factory Setting:** 5 seconds

17. 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. **Factory Setting:** 3

18. Relay Latch Commands

When set to "Enabled" the 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 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. **Factory Setting:** Enabled

19. Alternating Switch Action

With Alternate Switch Action Enabled the Panic Button alternately connects and disconnects calls. With Alternate Switch Action Disabled the Panic Button connects calls only. Pressing the button again after the call has been initiated will not terminate the call. **Factory Setting:** Disabled

20. Speaker Mode

The Speaker Mode can be set to one of the following three modes. **Factory Setting:** OFF/Silent Monitoring Mode

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

ON: 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.

21. Speaker Volume

The Speaker volume can be set from 0 - 9, 0 = lowest volume setting, 9 = highest volume setting. Adjusting this will set the volume level for incoming/outgoing Phone calls. **Factory Setting:** 5

22. Ring Volume

When set to Ring or Ring with AGC, The **PB-3-IP** Phone will output a loud ring when it is called. The level can be adjusted from 0 - 9. **Factory Setting:** 5

23. Microphone Volume / Automatic Noise Cancelling Mode

The microphone volume can be set from 1 to 9, 1 = lowest volume setting, 9 = highest volume setting. 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. **Factory Setting:** 5

24. 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 0.1 - 0.9 seconds. **Factory Setting:** 0.5 seconds

25. 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 when the **PB-3-IP** is calling a number outside the VoIP phone system or is being used with a cloud-based SIP provider. In these cases, the **PB-3-IP** relies on In-Band analog audio for ringback or busy detection.

Factory Setting: Enabled.

26. In-Band Audio Detect Sensitivity

The In-Band Audio Detection level (Sensitivity) can be set from 1 - 9, 1 = minimum setting, 9 = highest setting. Increasing or decreasing the sensitivity may be required when the In-band Audio Call Progress feature is enabled and the **PB-3-IP** is relying on In-Band analog audio detection. **Factory Setting:** 5

27. Repeat Announcement Option

The **PB-3-IP** 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 Panic Button LED will turn on automatically after the announcement has stopped repeating.

Factory Setting: 1 (play the announcement 1 time)

28. Lap Counter

With the lap counter disabled, if the **PB-3-IP** Phone is programmed to dial the next number on ring-no-answer and/or busy signal, the **PB-3-IP** 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 **PB-3-IP** Phone will cycle through its list of 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 **PB-3-IP** Phone hangs up. **Factory Setting:** Disabled

29. Call Length Timeout

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 **PB-3-IP** Phone must rely on a call ended signal or other methods of disconnect detection. **Factory Setting:** Disabled

30. Inbound Call Mode

The Inbound Call Mode determines how the **PB-3-IP** Phone handles incoming SIP calls. One option is to auto answer a SIP call for silent monitoring or two way communication. The **PB-3-IP** Phone can also generate a loud ring sound from the speaker. Alternatively inbound calls can be disabled when using the **PB-3-IP** for Panic Button applications, and the **PB-3-IP** will only make outbound calls. **Factory Setting:** Auto Answer

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 Programming section 20). For more security use the Auto Answer Secure Mode. When Auto Answer mode is used, the announcement can “be listened to” (or repeated) by dialing a “*” on an inbound call. If a “#” is dialed during playback, the **PB-3-IP** will stop the announcement and enable the speaker. If an access code is programmed and someone calls in, the access code can be dialed to monitor audio or control the relay of the **PB-3-IP**. The **PB-3-IP** will hang up if the access code is not dialed within 10 seconds.

Auto Answer Secure – In the “Auto Answer - Secure” mode, the phone will automatically answer an incoming call and output 1 beep but will not go into two-way voice mode. After the beep is heard, you will have 10 seconds to enter the pre-programmed 1 - 6 digit Access Code (see Programming section 10). When the correct code is entered, 2 beeps will be heard and the unit will enable the Two-Way Mode (mic and speaker audio) or Silent Monitor Mode (mic only), depending on the Speaker Mode selected. After the correct Access Code is entered, any of the “Operation Commands” can be used (see Operation section C), when the Relay Mode is set to Door Strike. **Note:** *If the wrong Access Code is entered or more than 10 seconds have elapsed, the phone will output 3 beeps and disconnect.*

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 factory programmed 2 seconds on, 4 seconds off ring pattern. There are four available ring cadences. The call can then be answered by momentarily pressing the Panic button.

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 factory programmed 2 seconds on, 4 seconds off ring pattern. There are four available ring cadences. 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 Panic button.

31. Ring Cadence

The Ring cadence can be programmed to one of 4 different cadences. **Factory Setting:** Normal Ring

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

Double Ring (double ring, 1 second on 0.5 seconds off 1 second on 3.5 seconds off)

Short-Short-Long (triple ring, 0.5 seconds on 0.5 seconds off 0.5 seconds on 0.5 seconds off 1 second on 3 seconds off)

Short-Long-Short (triple ring, 0.5 seconds on 0.5 seconds off 1 second on 0.5 seconds off 0.5 seconds on 3 seconds off)

32. Dial Next Number on Ring No Answer

If enabled and a ring-no-answer is detected, the **PB-3-IP** Phone will dial the next programmed Emergency Phone number after the programmed amount of rings. A momentary press of the Panic button will dial the first programmed Emergency number. **Factory Setting:** 7 (will redial after 7 rings)

33. Dial Next Number on Busy

If enabled and a busy is detected, the **PB-3-IP** phone will dial the next programmed Emergency Phone number. A momentary press of the Panic button will dial the first programmed Emergency number. **Factory Setting:** Enabled

34. Send ID Number as

The I.D. number can be transmitted as RFC 2833 or as In-Band DTMF. **Factory Setting:** RFC 2833

35. Panic Button LED Mode

The Panic Button LED on the **PB-3-IP** can be programmed to one of four different modes.

Factory Setting: Emergency Phone Mode

OFF Mode: Useful for silent monitoring applications. In this mode the Panic Button 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.

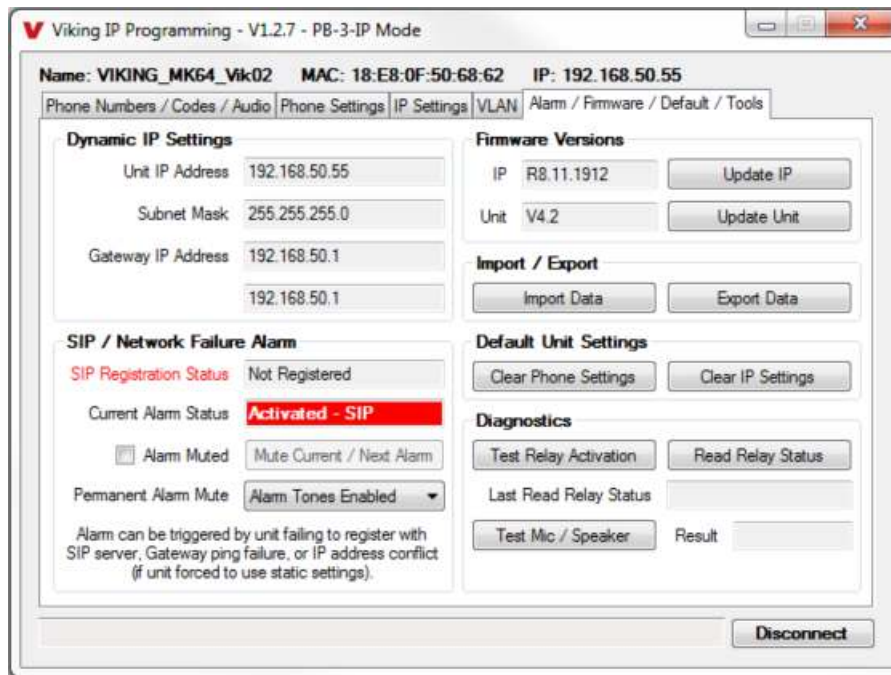
Entry Phone Mode: The Panic Button LED will remain ON in the idle state, turn off while button is pressed, blink during dialing, light steady when the call is answered, then turn OFF momentarily when the call is completed. The panic Button LED will also turn off when the announcement is playing.

Emergency Phone Mode: The Panic Button LED will remain OFF in the idle state but will light steady during an inbound call. During an outbound call, the Panic Button LED will turn on while the button is pressed, blink during dialing, light steady when the call is connected, then turn off when the call is completed. The Panic Button LED will also turn off when the announcement is playing.

Emergency Phone Outbound Only: The Panic Button LED will remain OFF in the idle state and stays off during an inbound call. During an outbound call, the Panic Button LED will turn on while the button is pressed, blink during dialing, light steady when the call is connected, then turn off when the call is completed. The Panic Button LED will also turn off when the announcement is playing. This mode is useful for silent monitoring on inbound calls.

36. Panic Button LED Control

During outbound SIP calls the Panic Button 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 “*”. **Factory Setting:** Automatic



37. 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 manually disabled with the Panic Button (see PC Programming section B). The alarm beeps can also be permanently disabled. See Programming section 38.

38. Permanent Alarm Mute

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

39. IP Firmware

Update IP is currently not available. The ability to update IP firmware will be made available in a later release of Viking IP Programming software. If an IP firmware update is needed, Viking Technical Support will assist in updating the IP firmware.

40. Unit Firmware

If new **PB-3-IP** Phone 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 Unit firmware “Update Unit” 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.

41. Import / Export

The Import / Export feature is useful for backing up all the **PB-3-IP** Phone’s programming or for importing programming when installing multiple units with a majority of the same programming.

42. Clear Phone Settings

Clicking on the “Clear Phone 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.*

43. Clear IP Settings

Clicking on the “Clear IP Settings” will reset all of the IP settings back to their factory default settings. **Note:** *This will not effect any phone settings.*

44. 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.*

A. “Panic” Button

When the “Panic” button is pressed, the **PB-3-IP** phone dials a pre-programmed telephone or extension number. The Panic Button LED may momentarily flash during dialing, depending on the LED Mode selected (see Programming section 35). In the event the first telephone or extension number is busy or there is ring-no-answer, the unit can be programmed to call additional phone numbers. The unit then cycles through up to 5 pre-programmed numbers until the call is answered. When the call is answered, the digital voice announcement will automatically play to identify the location of the emergency call. The **PB-3-IP** is factory programmed to play the announcement once and then automatically light the Panic Button LED to show that handsfree communication to personnel is established. The “*” key will send the I.D. number (if programmed) and play the announcement again. The distant party will know the location of the emergency call by either the voice announcement, the caller ID information or by decoding the touch tone I.D. number. When the Speaker Mode is set to the “Off Until Answered” mode, the speaker will be muted until the call is answered. When the Speaker Mode is set to “Off/Silent Monitor”, the speaker will be muted until the party that answers the call dials a “#”. When the call has been answered and the Relay Mode is set to Door Strike (see Programming section 14), any of the Operation Commands can be entered (see Operation section C).

B. Inbound Calls

How inbound SIP calls are handled depends on the Inbound Call Mode selected (see Programming section 30). The **PB-3-IP** can answer automatically, emit ringing through the speaker and allow users to manually answer by pressing the Panic Button or inbound calls can be disabled. If the Inbound Call Mode is set to Auto Answer or Auto Answer - Secure, the **PB-3-IP** will automatically answer inbound calls. If no Access Code is programmed (default), the **PB-3-IP** will provide 2 beeps. If an Access Code has been programmed (the Auto Answer – Secure mode always requires an Access Code), 1 beep will be heard upon answer, 2 beeps will be heard following entry of the Access Code and if the correct Access Code is not entered within 10 seconds, the **PB-3-IP** will hang up. After receiving the 2 beeps, if the Speaker Mode is set to either “OFF Until Answered” or “ON” modes, you will have two-way communication with the **PB-3-IP**. If the Speaker Mode is set to “Off/Silent Monitor” (default), microphone audio will be heard allowing you to silently monitor the **PB-3-IP** or you may break into two-way communication by entering a touch tone “#”. Pressing the “*” key will send the I.D. number (if programmed) and play the voice announcement once.

The Inbound Call Mode also has options that allow the **PB-3-IP** to output a loud ring on any inbound calls. The Ring option outputs a programmable fixed volume ring. The Ring with AGC option makes the **PB-3-IP** vary the volume of the loud ring based on the background noise around the unit. When the Panic Button is pressed (to manually answer a ringing call), the **PB-3-IP** will immediately go into two-way communication regardless of the Speaker Mode selected.

C. Operation Commands Relay Mode must be set to “Door Strike”

The following commands can be entered after answering an outbound call from the **PB-3-IP** or on an inbound call to the unit, when the Inbound Call Mode is set to Auto Answer or Auto Answer – Secure. If the Access Code has been disabled (Auto Answer mode only), you will hear 2 beeps when the unit answers and you can now enter the Operation Commands listed below. If an Access Code has been programmed, you will hear 1 beep when the unit answers and you must enter the Access Code digits. Once the correct code has been entered, two beeps will be heard and you can now enter the Operation Commands listed 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.
Two Way Communications	#	When in Silent Monitoring Mode, entering touch tone # enables two way communication.
Send ID and Play Message	*	Send I.D. number (if programmed) and plays the announcement.

* **Note:** Latching commands must be enabled (*6) in programming.

Troubleshooting

If the unit cannot register with the programmed SIP server, the Panic Button 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 Panic Button for 5 seconds (see PC Programming section B) or by clicking the “Mute Alarm Until Next Failure” button in the Viking IP Programming Software (see Programming section 37). The error beeps automatically re-enable once the unit is registered, to alert of any new problems that arise.

Related Products

Panic Button with User Recorded ID Message

Model **PB-3** is an Emergency Phone Panic Button designed to mount under a desk or countertop and provide a quick and reliable way to make a silent analog emergency call. The called party can silently monitor the situation or engage in two-way handsfree communication by entering a touch tone “#”.

The **PB-3** is designed to connect to any standard analog telephone line, analog phone system station or FXS port. All programming parameters, including phone numbers and location numbers, are stored in non-volatile memory. The unit is telephone line powered, requiring no batteries or external power, and is compatible with common Central Station Monitoring equipment.

The **PB-3** dials up to 5 emergency numbers, as well as 2 central station numbers, and can be easily programmed from any touch tone phone. The Panic Button can be programmed to automatically deliver a digital announcement identifying the location of the emergency call, and an optional DTMF touch tone code may also be delivered. The red LED integrated into the push button will light, indicating that an emergency call is in progress.

For more information, see DOD 239.



Warranty

IF YOU HAVE A PROBLEM WITH A VIKING PRODUCT, CONTACT VIKING TECHNICAL SUPPORT: 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 the 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. The original product boxes are not designed for shipping - an overpack box is required to prevent damage 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 RA 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 (RA) number will be issued. This number is valid for fourteen (14) calendar days from the date of issue.
3. After obtaining the RA number, return the approved equipment to your distributor. Please reference the RA number on the paperwork being shipped back with the unit(s), and also the outside of the shipping box. The original product boxes are not designed for shipping - an overpack box is required to prevent damage in transit. Once your distributor receives the package, they will replace the product over the counter at no charge. The distributor will then return the product to Viking using the same RA number.
4. **The distributor will NOT exchange this product without first obtaining the RA 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 **PB-3-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.

CANADA

This class A digital apparatus complies with Canadian ICES-003. Cet appareil numérique de la classe A est conforme a la norme NMB-003 du Canada.

Product Support: 715-386-8666

Due to the dynamic nature of the product design, the information contained in this document is subject to change without notice. Viking Electronics, and its affiliates and/or subsidiaries assume no responsibility for errors and omissions contained in this information. Revisions of this document or new editions of it may be issued to incorporate such changes.