

Touch-Free VoIP Entry Phones

The **E-20TF-IP**, **E-30TF-IP** and **E-32TF-IP** Touch-Free VoIP Entry Phones are equipped with Vikings touchless motion sensor. A simple wave over the sensor will activate a call. Touch-Free calling eliminates the exposure to germs and bacteria from typical push button switches.

The Entry Phones are designed to provide quick and reliable handsfree communication for SIP VoIP phone systems with PoE. They can be programmed from any Touch Tone phone, PC, or remotely using a static IP address. The Entry phones can dial up to 5 programmable numbers. On-board 2 Amp relay contacts are provided for activating doorstrikes or gate controllers. An optional **RC-4A** Secure Relay Controller can also be used.

The **E-20/30/32TF-IP** entry phones motion sensor LED lights blue during idle, flashes green during dialing and automatically lights solid green when the call is answered.

The **E-20/30/32TF-IP-EWP** shares all the features of the standard **E-20/30/32TF-IP** in addition to Enhanced Weather Protection (EWP) for outdoor installations where the unit is exposed to precipitation or condensation. EWP products are designed to meet IP66 standards and may feature foam rubber gaskets, sealed connections, gel-filled butt connectors, as well as potted circuit boards with internally sealed, field-adjustable trim pots and DIP switches for easy on-site programming. For more information on EWP, see **DOD 859**.



E-30TF-IP / E-30TF-IP-EWP
Flush Mount, Brushed 316
Stainless Steel



E-32TF-IP / E-32TF-IP-EWP
Flush Mount in a Standard Double
Gang Electrical Box, Brushed 316
Stainless Steel



E-20TF-IP / E-20TF-IP-EWP
Surface Mount, Light Grey
UV Stable Plastic Chassis

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

Features

- Touch-Free motion sensor with adjustable range from one to four inches
- Motion Sensors Ring LED lights Blue during idle, flashes Green during dialing and lights steady Green when call is answered
- Automatic polling and programming software included
- 2 Amp relay contacts for door/gate or SL-2 strobe light control
- SIP compliant (see page 2 for list of compatible IP-PBX phone systems)
- 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 environments
- VoIP eliminates the need for "Push to Talk" mode
- Network downloadable firmware
- T-10 Torx security screws for added security
- Can be used with optional **RC-4A** Secure Relay Controller (**DOD 582**)
- Marine grade 316 stainless steel prevents corrosion on the stainless steel models
- Laser etched graphics on stainless steel models
- Programmable to dial up to 5 numbers on busy or ring no answer
- Cycles through backup phone numbers on busy or no-answer
- Optional Enhanced Weather Protection (EWP), EWP products are designed to meet IP66 Ingress Protection Rating, see **DOD 859**
- Hangs up on busy signal, time-out or touch tone command
- Remotely programmable
- Extended temperature range (-40°F to 140°F)
- 3 different chassis
- Volume adjustments for microphone and speaker
- **E-20TF-IP** surface mounts to a wall or flat sided post
- **E-30TF-IP** is flush mountable using the included rough-in box or can be surface mounted using an optional **VE-5x5** Surface Mount Box (**DOD 424**)
- **E-32TF-IP** flush mounts in a standard double gang electrical box (not included)
- **Diagnostics** for testing microphone, speaker, and relay

Applications

- Contactless way to initiate a call, reducing the spread of germs and bacterias
- Gesture Activated Calling
- Gate Entrance
- Parking ramps/lots
- ATM machines
- Medical centers
- Lobbies
- Entryways
- Stadiums
- Convention centers
- Public access areas

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

Specifications

Power: PoE class 1 (<4 watts)

Maximum Sound Pressure: 90 dB SPL @ 1m.

Dimensions: See Installation and Specifications

Operating Temperature: -40°F to 140°F (-40° C to 60° C)

Humidity - Standard Products: 5% to 95% non-condensing

Humidity - EWP Products: Up to 100%

Audio Codecs: G711u, G711a, G722

Network Compliance: IEEE 802.3 af PoE, SIP 2.0 RFC3261, 100BASE-TX with auto cross over

Regulatory Compliance: FCC Part 15, Canada ICES-3 Class A, CE (except for **E-20TF-IP** and **E-20TF-IP-EWP**)

Connections: (1) RJ45 10/100 Base-T, (3) gel-filled butt connectors

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 **E-20/30/32TF-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

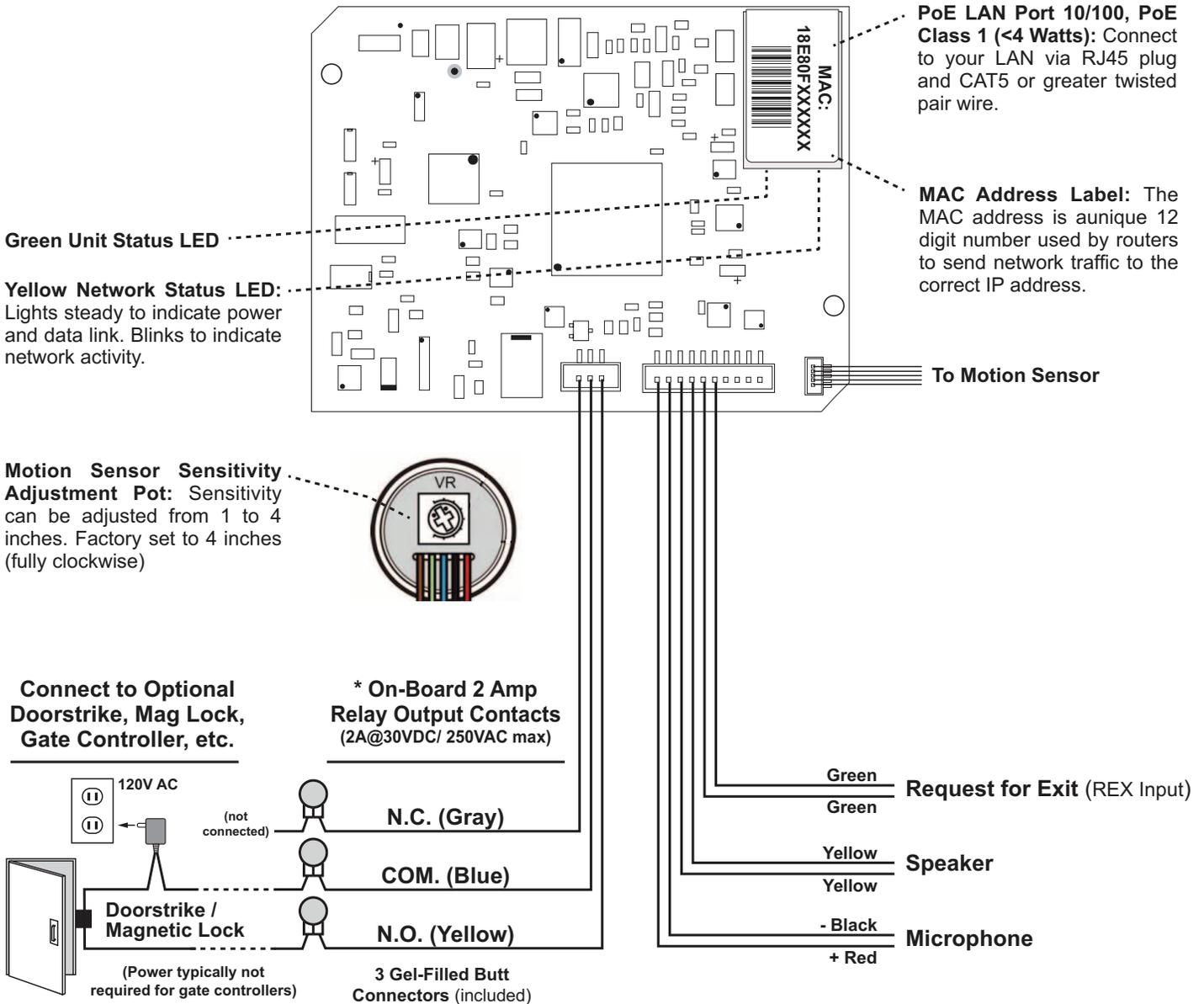
WAN: Wide Area Network. A WAN is a network comprising a large geographical area like a state or country. The largest WAN is the Internet.

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 E-20/30/32TF-IP Entry 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:** The front panels of the **E-30/32TF-IP** are mounted using security Torx screws to help prevent intruders from removing the panel and accessing the on board door strike/gate control relays. For applications requiring additional security, 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 **E-30/32TF-IP**. For more information on the **RC-4A** Secure Relay Controller, see **DOD 582**.

Installation and Specifications

A. E-30TF-IP / E-30TF-IP-EWP

The **E-30TF-IP** is designed to be flush mounted to the included 4" x 4" x 2" deep plastic rough in box or surface mounted using an optional Viking model **VE-5x5**. **Note: The E-30TF-IP will NOT mount to a standard double gang box. If your application requires a double gang box, see Model E-32TF-IP. The plastic rough in box (part # 259576) may be purchased separately. Go to www.vikingelectronics.com and click on "Spare Parts".**

Dimensions: Overall: 5" x 5" x 2.25" (127mm x 127mm x 57mm), Plastic Rough-In Box: 4" x 4" x 2.12" (102mm x 102mm x 57mm)

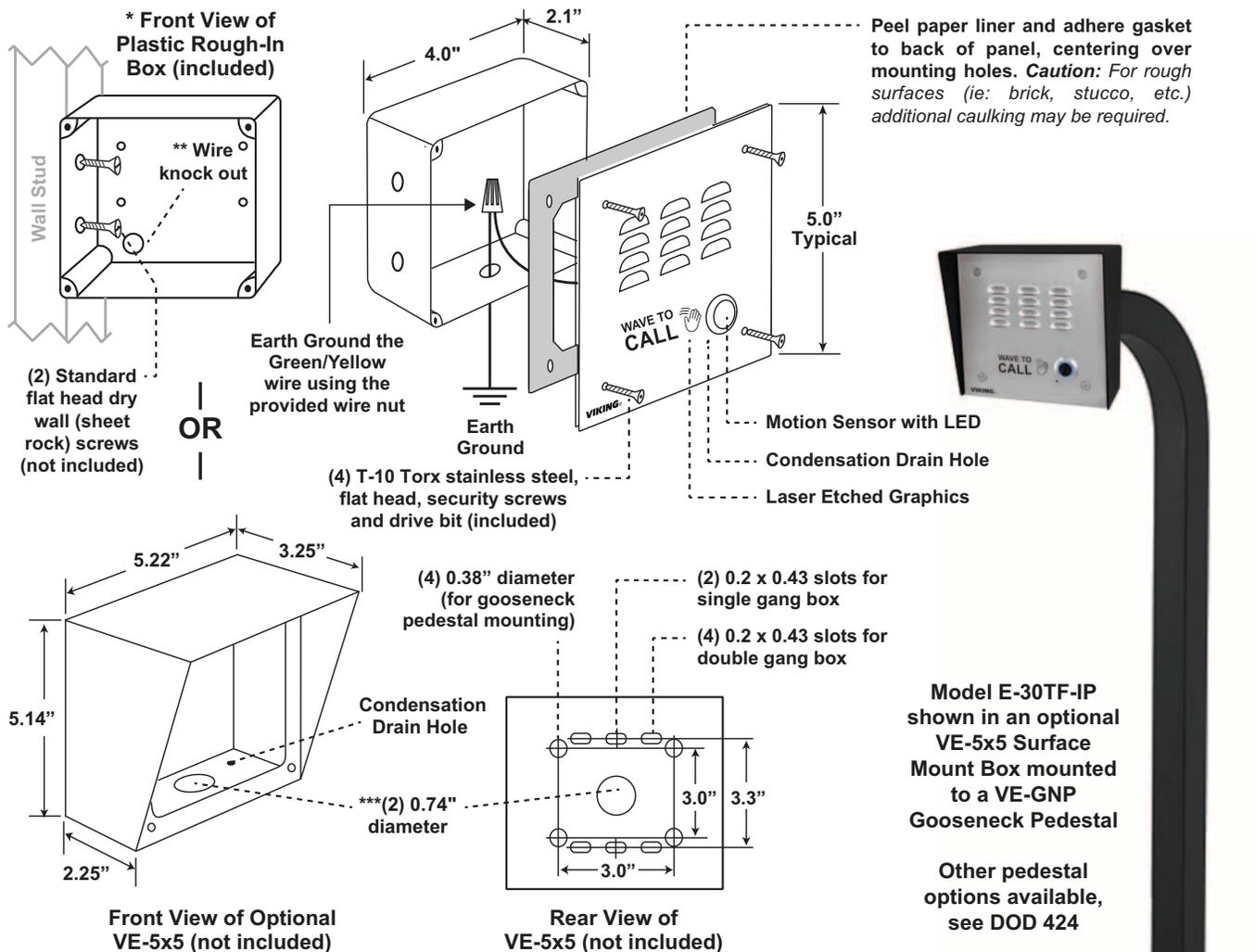
E-30TF-IP Faceplate: 14 gauge 316 stainless steel with #4 brushed finish

Shipping Weights: E-30TF-IP: 2.12 lbs (1.0 kg)

Motion Sensor LED : Motion sensor LED lights steady Blue to help locate the sensor in low light, flashes Green during dialing, then lights steady Green when answered.

Note: When European CE compliance is required, mount in optional **VE-5X5** metal enclosure.

Note: When mounting outside to rough or uneven surfaces (brick, stucco, etc.) apply a bead of clear silicone caulking around the top edge / sides of faceplate or **VE-5x5**.



Optional **VE-5x5** Surface Mount Box with black satin powder paint finish, not included (DOD 424). Optional **VE-LIGHT** kit can be used to illuminate the faceplate when used with a **VE-5x5** (DOD 428).

WARNING: Do NOT use a wet location box.

The optional **VE-5x5** Surface Mount Box (above) is designed to be surface mounted to a single gang box, double gang box or **VE-GNP** Gooseneck Pedestal (shown right). For more information on the **VE-5x5** and **VE-GNP**, see DOD 424.

B. E-32TF-IP / E-32TF-IP-EWP

The **E-32TF-IP** is designed to be flush mounted to a standard double gang electrical box (minimum dimensions of: 3.65"W x 2.84"H x 2.25"D). * **CAUTION:** Excessive wire length and/or using a rough-in box with inadequate depth can apply force to the circuit board causing physical damage.

Dimensions: Overall: 5" x 5" x 2.25" (127mm x 127mm x 57mm)

E-32TF-IP Faceplate: 14 gauge 316 stainless steel with #4 brushed finish

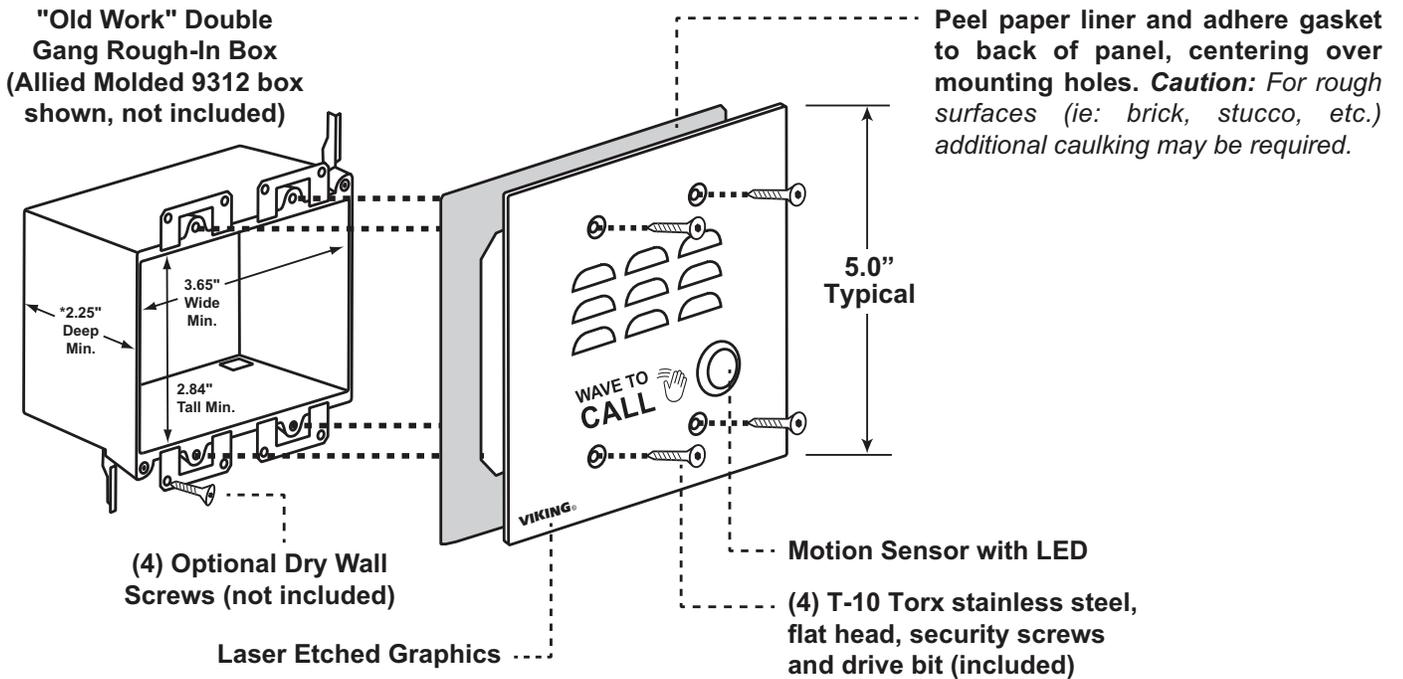
Shipping Weight: 2.12 lbs (1.0 kg)

Motion Sensor LED : Motion sensor LED lights steady Blue to help locate the sensor in low light, flashes Green during dialing, then lights steady Green when answered.

Note: When mounting outside to rough or uneven surfaces (brick, stucco, etc.) apply a bead of clear silicone caulking around the top edge and sides of faceplate.

Note: When European CE compliance is required, mount as shown in a metal enclosure.

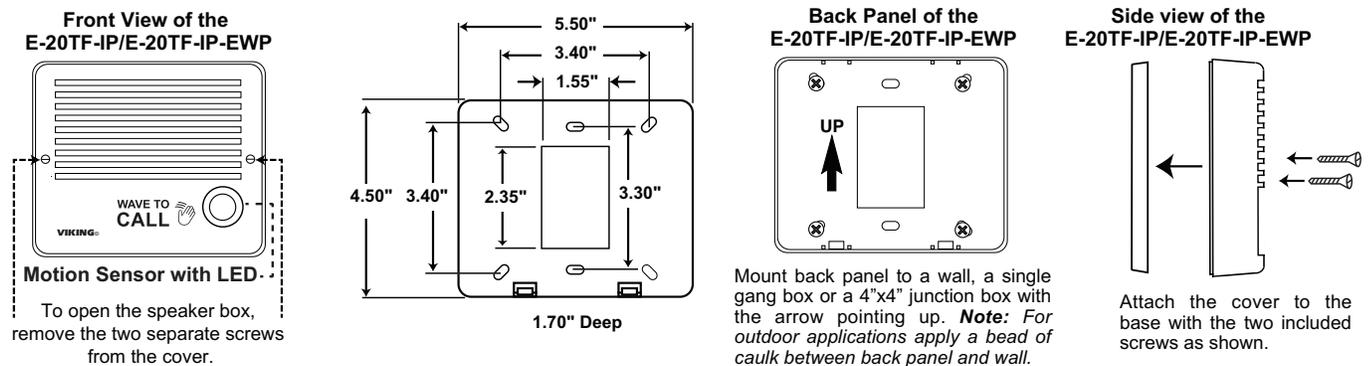
Note: For surface mount installations, use Model **E-30TF-IP / E-30TF-IP-EWP** with **VE-5x5** surface mount box.



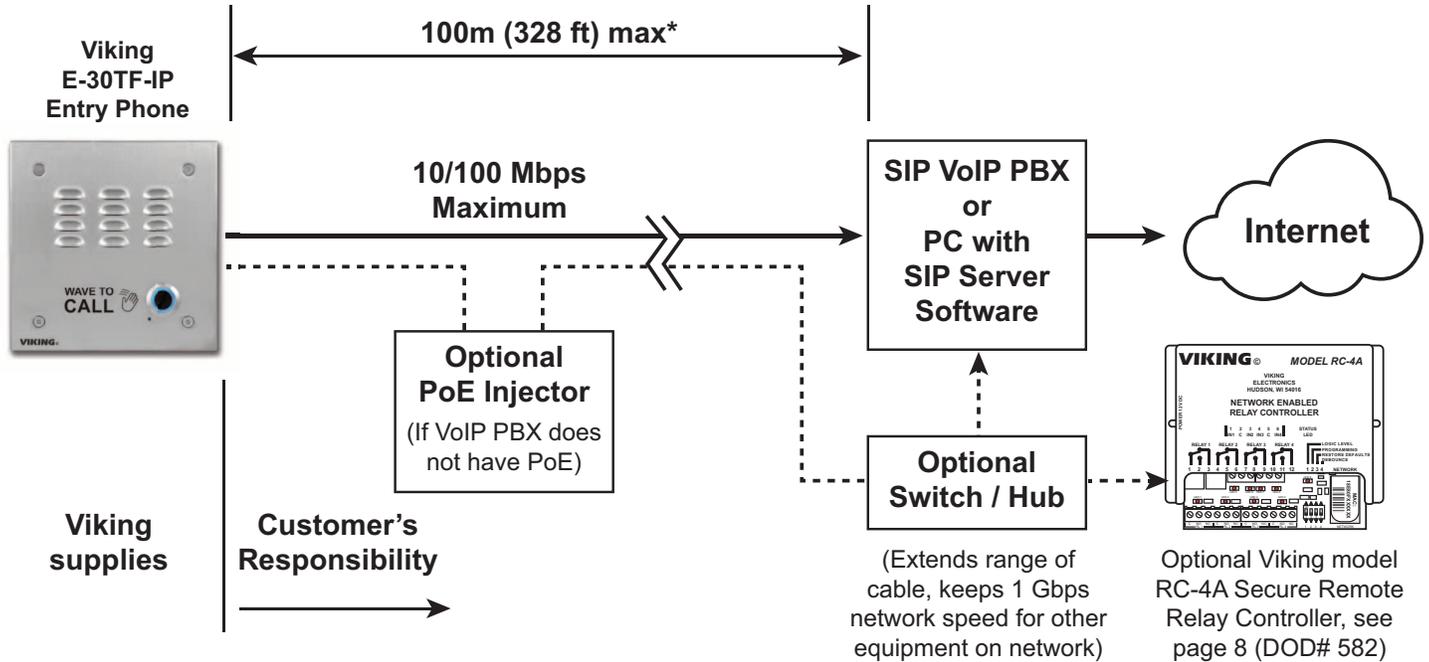
C. E-20TF-IP / E-20TF-IP-EWP

The **E-20TF-IP** and **E-20TF-IP-EWP** are designed to be surface mounted to a single gang box (not included), a standard 4" x 4" electrical junction box (not included), or directly to a wall or flat sided post. **Caution:** For rough surfaces (ie: brick, stucco, etc.) additional caulking may be required.

Shipping Weight: 1.5 lbs (0.75 kg)



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
- **E-20/30/32TF-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

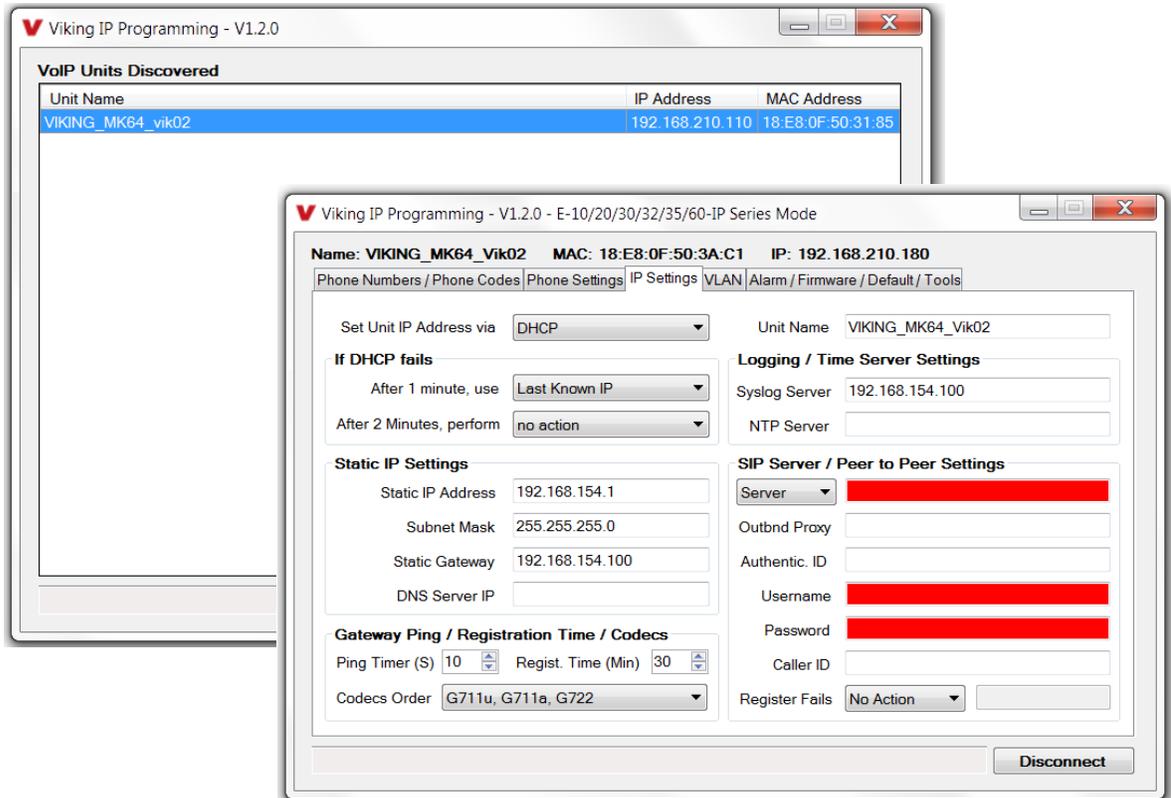
1. Go to www.vikingelectronics.com and enter **E-20TF-IP**, **E-30TF-IP**, or **E-32TF-IP** in the search box
2. Click **E-20TF-IP**, **E-30TF-IP**, or **E-32TF-IP** in the search results
3. Scroll down the page to Downloads, click **IP Programming Software**
4. Install the programming software by saving 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 desktop. The Main screen will appear, allowing the user to program any **E-20TF-IP**, **E-30TF-IP**, or **E-32TF-IP** connected to that LAN.

Note: PC must be connected to the same LAN as the **E-20TF-IP**, **E-30TF-IP**, or **E-32TF-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 Entry Phone 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. Entry Phone’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 (RJ45 Green LED on and Yellow LED off or blinking) it will output 3 beeps every 30 seconds and turn the Motion Sensor Blue LED on and off once per second indicating a SIP registration failure, failure to receive an echo reply from pinged gateway or Ethernet connection failure. You can manually disable the beeps by holding your hand over the motion sensor for 5 seconds (2 beeps will then be heard) or by clicking the “Mute Alarm Until Next Failure” tab in the Viking VoIP programming software. The LED will continue to flash allowing you to trouble shoot the failure.

C. Configuring the E-20/30/32TF-IP Network Settings

Step 1.	Open the “Viking IP Programming” software on a windows PC that is connected to the same LAN as the E-20/30/32TF-IP phone to be programmed.
Step 2.	The window in the upper left corner of the menu will show you each E-20/30/32TF-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 E-20/30/32TF-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 E-20/30/32TF-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.

Viking IP Programming - V1.2.0 - E-10/20/30/32/35/60-IP Series Mode

Name: VIKING_MK64_Vik02 MAC: 18:E8:0F:50:3A:C1 IP: 192.168.210.180

Phone Numbers / Phone Codes | Phone Settings | IP Settings | **VLAN** | Alarm / Firmware / Default / Tools

Set Unit IP Address via: DHCP Unit Name: VIKING_MK64_Vik02

If DHCP fails

After 1 minute, use: Last Known IP **Logging / Time Server Settings**

After 2 Minutes, perform: no action Syslog Server: 192.168.154.100

NTP Server:

Static IP Settings

Static IP Address: 192.168.154.1 **SIP Server / Peer to Peer Settings**

Subnet Mask: 255.255.255.0 Server: [Redacted]

Static Gateway: 192.168.154.100 Outbnd Proxy:

DNS Server IP:

Authentic. ID:

Gateway Ping / Registration Time / Codecs

Username: [Redacted]

Ping Timer (S): 10 Regist. Time (Min): 30 Password: [Redacted]

Codecs Order: G711u, G711a, G722 Caller ID:

Register Fails: No Action

Disconnect

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

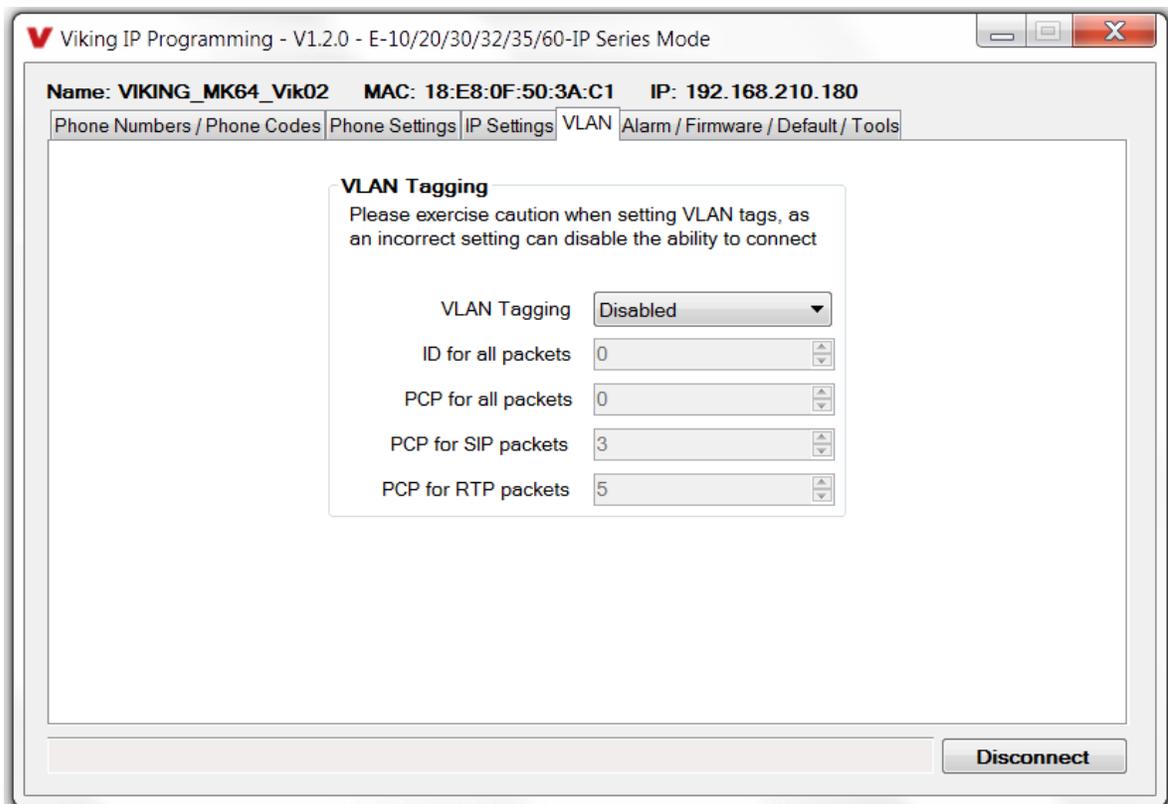
Password: 5j8QA28Lp

Caller ID: Door 1

Register Fails: Re-Resolve

D. Configuring E-20/30/32TF-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 E-20/30/32TF-IP phone by disconnecting the LAN Cable (RJ45 plug) then reconnect the LAN Cable (RJ45 plug).
Step 2.	A few seconds after reconnecting the LAN Cable the motion sensor LED will light steady green for 2 seconds. When the LED lights steady green, immediately cover the sensor with your hand for 3 seconds. The unit will start slow flashing the LED when your hand is detected. After 3 seconds, 2 beeps should be heard and the LED will start fast flashing. Immediately remove your hand from covering the sensor. LED should stop flashing and light steady blue.
Step 3.	The security code is now reset to 845464 (factory default).
Step 4.	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 E-20/30/32TF-IP phone by disconnecting the LAN Cable (RJ45 plug) then reconnect the LAN Cable (RJ45 plug).
Step 2.	A few seconds after reconnecting the LAN Cable the motion sensor LED will light steady green for 2 seconds. When the LED lights steady green, immediately cover the sensor with your hand. The unit will start slow flashing the LED when your hand is detected. After 3 seconds, 2 beeps should be heard and the LED will start fast flashing. Continue to cover the sensor for 6 more seconds. The unit should output 4 beeps and the LED should stop flashing and light steady blue.
Step 3.	The security code is now reset to 845464 and all network parameters are set to factory default.
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 **Entry 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.* **Note:** *If outbound proxy is not required, enter the SIP server IP address into the Outbnd Proxy field.*

3. Peer to Peer Settings

When set to the Peer to Peer mode, a SIP server is not used. The **Entry Phone** will register to itself. Applications for the Peer to Peer mode are very limited, as the **Entry Phone** is only able to call other IP phones or SIP devices that are on the same LAN. The **Entry Phone** can not call analog extensions, digital phone extensions, telephone numbers that are outside the phone system or another handsfree Viking IP device in this mode (see note below). 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:

	Entry Phone	Destination IP Phone
IP Address	192.168.210.1	192.168.210.3
Extension Number	N/A	200
Username	Viking1	N/A

Entry Phone 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 **Entry Phone** – a button on the IP phone is configured to dial Viking1@192.168.210.1 (the Username assigned in the **Entry Phone** + @ + the IP address of the **Entry Phone**).

Note: *A Viking handsfree IP Device calling another Viking handsfree IP Device is not recommended.*

4. Outbound Proxy

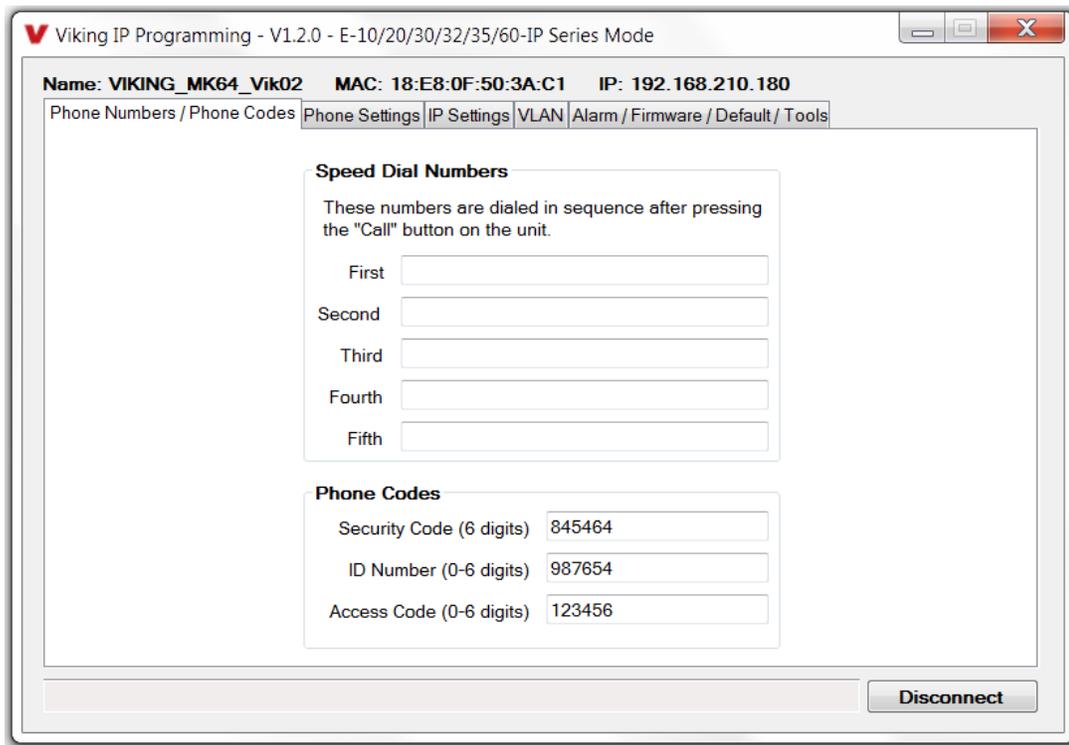
If your SIP provider requires an outbound proxy IP address enter it in the Outbnd Proxy field. If outbound proxy is not required enter the SIP server IP address into the Outbnd Proxy field. **Note:** *If not required, this field must match your SIP server IP address.*

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 (Re-Resolve or 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. **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. Speed Dial 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 “Speed Dial Numbers” is the telephone or extension number that is dialed when the call 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 **Entry Phone** will also detect busy and move on (Dial Next Number on Busy Enabled). The **Entry Phone** will cycle through the programmed Speed Dial numbers until answered.

8. Security Code

The security code allows the user/installer to program the **Entry Phone**. It is recommended that the factory set security code be changed. **Factory Setting:** 845464

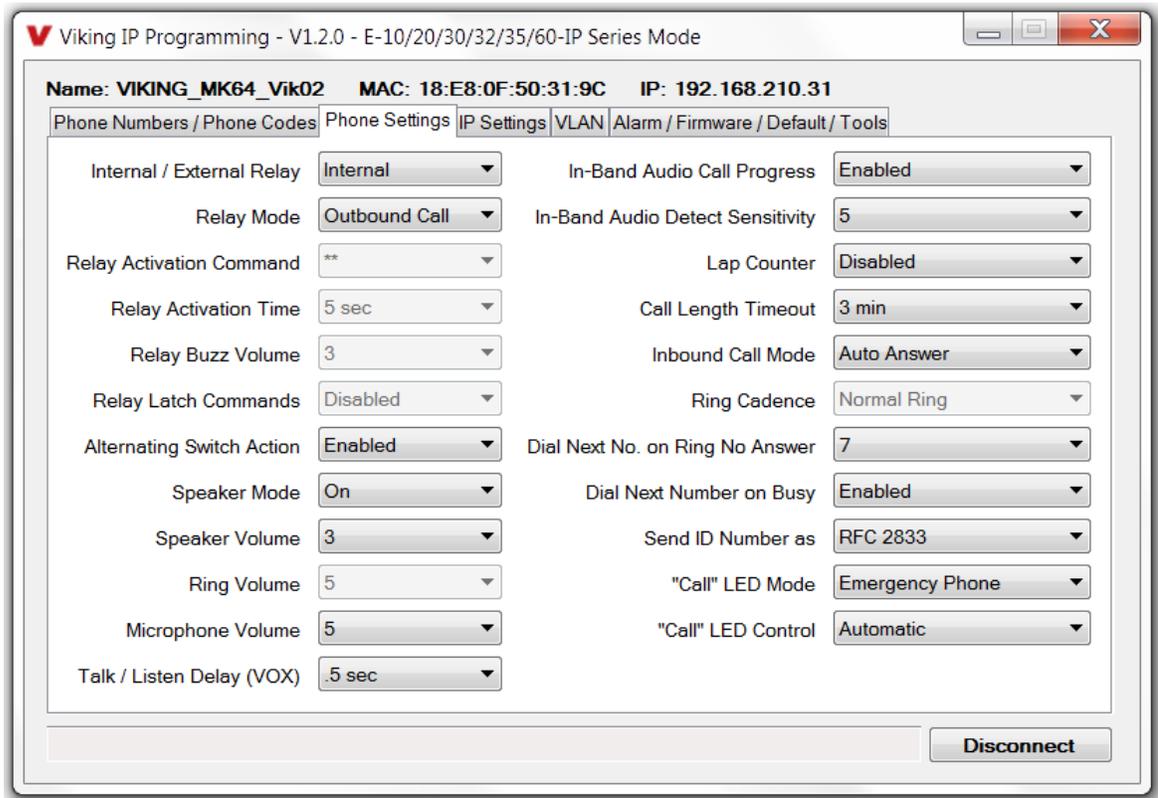
Note: The security code must be 6 digits and cannot include a * or a #.

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. This can be cleared out by leaving the field blank. **Factory Setting:** 987654

10. 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 - 6 digits in length and cannot contain a “*” or “#” or match the numbers used for the security code. Simply call the **Entry 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 - 6 digit access code, 2 beeps should be heard. You can now enter any “Remote Access Operation Commands” (see page 21). This code will also enable audio to/from the speaker and the caller. The access code can be cleared (by leaving the field blank) if this additional level of security is not required. **Factory Setting:** 123456



11. Relay Internal / External

With the relay set to “Internal” the **Entry 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 page 22). **Factory Setting:** Internal

12. 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.

LV-1K Control Mode. When programmed for LV-1K Control Mode the relay will activate continuously while the Emergency/Entry 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, activating LV-1K’s flashing LED and audible beep signals.

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.

Factory Setting: Door Strike

13. 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: ****

14. 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**

15. 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**

16. Relay Latch Commands

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

17. Alternating Switch Action (Panic Button Mode)

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

18. Speaker Mode

The Speaker Mode can be set to one of the following three modes. **Factory Setting: ON**

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: 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.

19. 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: 3**

20. Ring Volume

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

21. Microphone Volume / Automatic Noise Cancelling Mode

The microphone volume can be set from 1 - 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

22. 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

23. 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. **Factory Setting:** Enabled

24. In-Band Audio Detect Sensitivity

The In-Band Audio Detection level (Sensitivity) can be set from 1 - 9 (1 = minimum setting, 9 = the highest). 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. **Factory Setting:** 5

25. Lap Counter

With the lap counter disabled, if the **Entry Phone** is programmed to dial the next number on ring-no-answer and/or busy signal, the **Entry 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 **Entry Phone** will cycle through its list of up to 5 Speed Dial 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 **Entry Phone** hangs up. **Factory Setting:** Disabled

26. 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 **Entry Phone** must rely on a call ended signal, busy signal, Ring No Answer limit, or touch tone # to hang-up. **Factory Setting:** 3

27. Inbound Call Mode

The Inbound Call Mode determines how the **Entry Phone** handles incoming SIP calls. One option is to generate a loud ring sound through the speaker. The **Entry Phone** 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.

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 page 16. For more security use the Auto Answer Secure Mode.

Auto Answer Secure – In the “Auto Answer - Secure” mode, the phone will automatically answer an incoming call on the first ring. The unit will then output 2 beeps but will not go into two-way voice mode. After the 2 beeps are heard, you will have 10 seconds to enter the pre-programmed 1 - 6 digit Access Code (see section 10 on page 14). When the correct code is entered, 2 beeps will be heard and the unit will enable the Two-Way Mode (mic and speaker audio). After the correct Access Code is entered, any of the “Remote Access Operation Commands” can be used (see Operation, section B on page 21). **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 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.

28. Ring Cadence

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

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

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)

29. Dial Next Number on Ring No Answer

If enabled and a ring-no-answer is detected, the **Entry Phone** will dial the next programmed Speed Dial number after the programmed amount of rings. A momentary press of the call button will dial the first programmed Speed Dial number.

Factory Setting: 7 (will redial after 7 rings)

30. Dial Next Number on Busy

If enabled and a busy is detected, the speaker phone will dial the next programmed Speed Dial number. A momentary press of the call button will dial the first programmed phone number. **Factory Setting:** Enabled

31. Send ID Number as

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

32. Call (Motion Sensor) LED Mode

The “Call” (Motion Sensor) LED on the **E-20/30/32TF-IP** can be programmed to one of four different modes.

Factory Setting: Entry Phone

OFF Mode: Useful for silent monitoring applications. In this mode the motion sensor LED will not light during normal operation. It will only flash ON/OFF Blue if it cannot register with the programmed SIP server or while manually resetting all network parameters to factory default.

Entry Phone Mode: The motion sensor LED will remain steady Blue in the idle state, flash Green during dialing, light steady Green when the call is answered, then turn back to steady Blue when the call is completed.

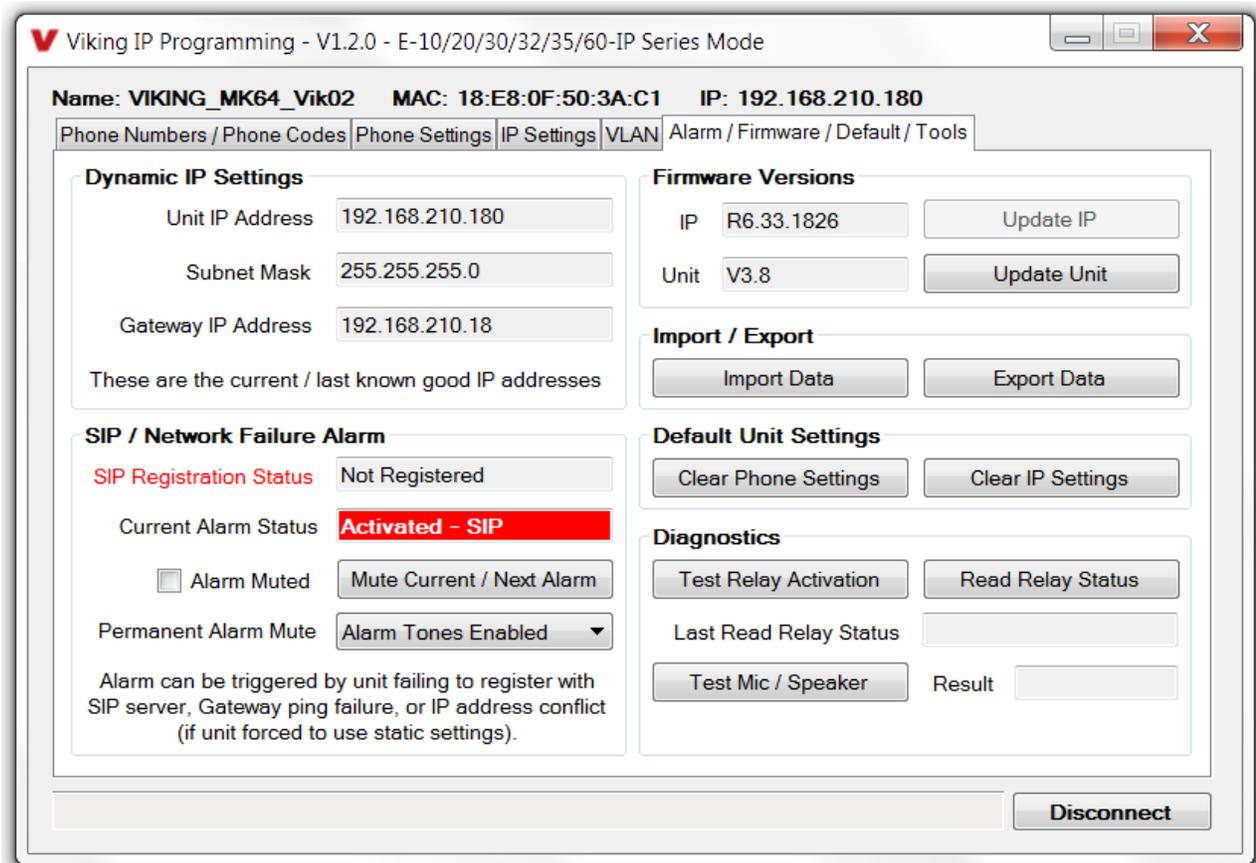
Emergency Phone Mode: The motion sensor LED will remain OFF in the idle state, flash green during dialing, light steady Green when the call is connected, then turn OFF when the call is completed.

Emergency Phone Outbound Only: On outbound calls, the motion sensor LED will remain OFF in the idle state, flash Green during dialing, light steady Blue 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.

33. “Call” (Motion Sensor) LED Control

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

Factory Setting: Automatic



34. 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.

35. 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

36. IP Firmware

If new **Entry Phone** 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 IP” 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.

37. Unit Firmware

If new **Entry 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.

38. Import / Export

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

39. Clear Unit Settings

Clicking on the “Clear Unit 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.*

40. 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.*

41. 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.*

42. REX Input

The two green Request for Exit (REX) wires can be wired to a normally open, momentary contact push button switch. With the relay in the Doorstrike Mode, when the push button switch is pressed, the relay will be activated to open the door.

Operation

A. Motion Sensor

When a momentary wave is detected in front of the motion sensor the **E-20/30/32TF-IP** phone dials a pre-programmed telephone number. The Motion Sensor LED momentarily flashes Green 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 motion detector LED steady Green to show that handsfree communication to personnel is established. Once the motion detector LED lights steady Green, 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 entry phone (door strike) relay. If the (door strike) relay is activated, a buzz sound will be heard confirming the relay has been activated. 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 entry phone. The commands can also be entered on an outbound call to the entry phone. After the entry 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	*	Send I.D. number (if programmed).

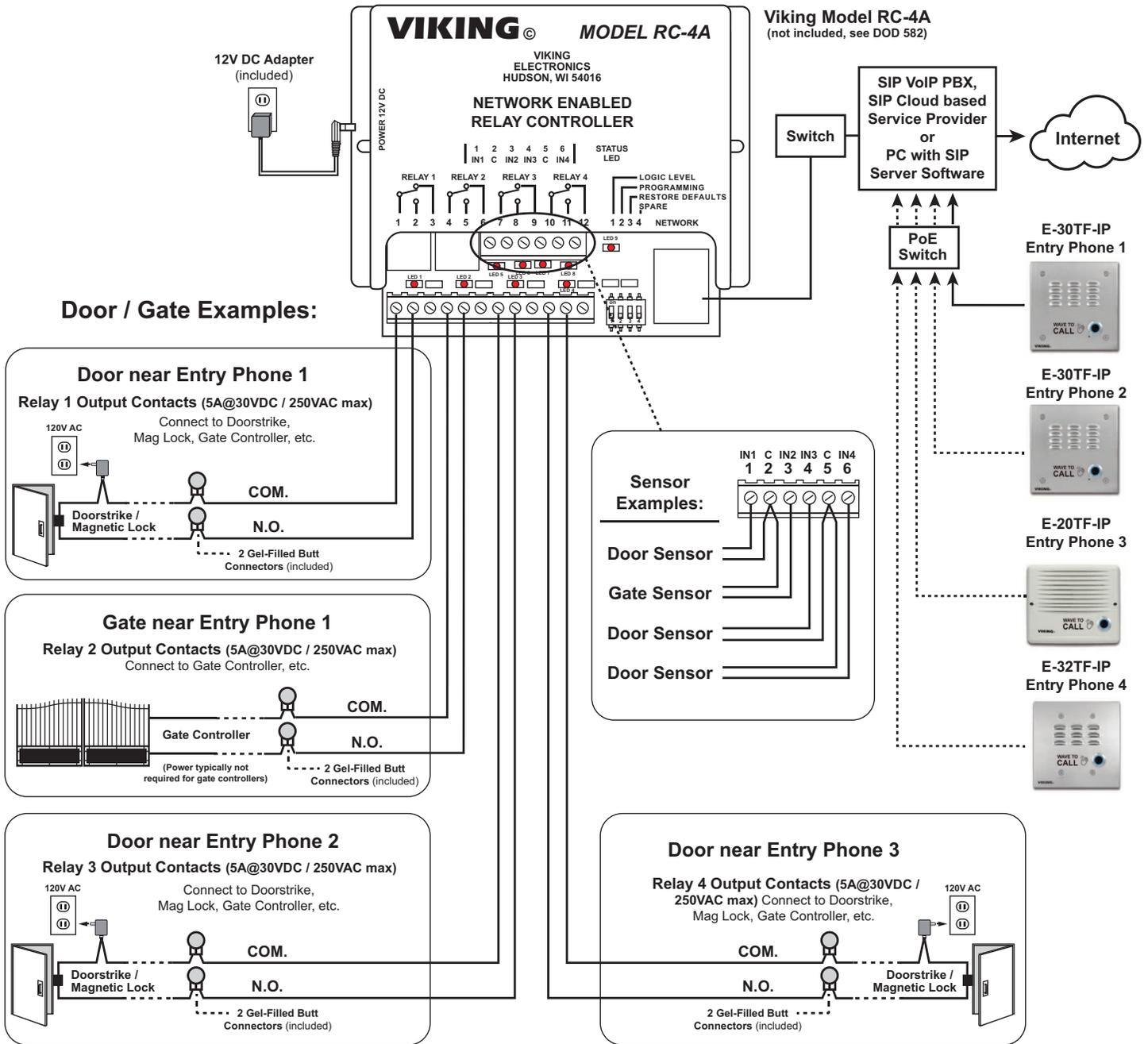
* **Note:** Latching commands must be enabled (*6) in programming.

Troubleshooting

If the unit cannot register with the programmed SIP server, the motion detector LED will blink on and off Blue 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 covering the motion sensor for 5 seconds or by clicking the “Mute Alarm Until Next Failure” button in the Viking IP Programming Software (see section **B** on page 9). The error beeps automatically re-enable once the unit is registered, to alert of any new problems that arise.

Using a Viking Model RC-4A for Secure Remote Relay Control



The front panel of the **E-30TF-IP / E-32TF-IP** is mounted using security Torx screws to help prevent intruders from removing the panel and accessing the on board door strike/gate control relays. For applications requiring additional security, 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 **E-30TF-IP / E-32TF-IP**. The on board door strike relays would not be used in this case as the **E-30TF-IP / E-32TF-IP** will send an encrypted message to the **RC-4A** to activate its relays which control the door strikes/gates.

Up to 4 Viking VoIP Entry Phones can communicate with one **RC-4A** allowing you to securely control four entrances.

When using an **RC-4A** for remote relay control the **E-20/30/32TF-IP** relays should be set to "External" in the PC programming.

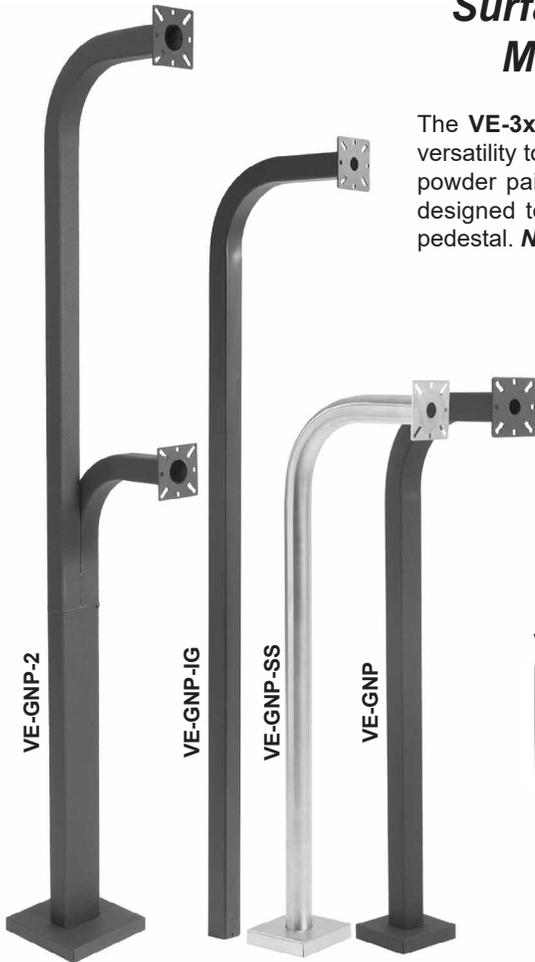
Note: If the Entry Phone loses communications with the **RC-4A**, the LED on the motion sensor will flash 3 times every 2 seconds indicating the communication error. If this error occurs, make sure the **RC-4A** is powered, has a network connection and has the correct IP address and security code of the **E-20TF-IP / E-30TF-IP / E-32TF-IP** displaying errors.

Related Products

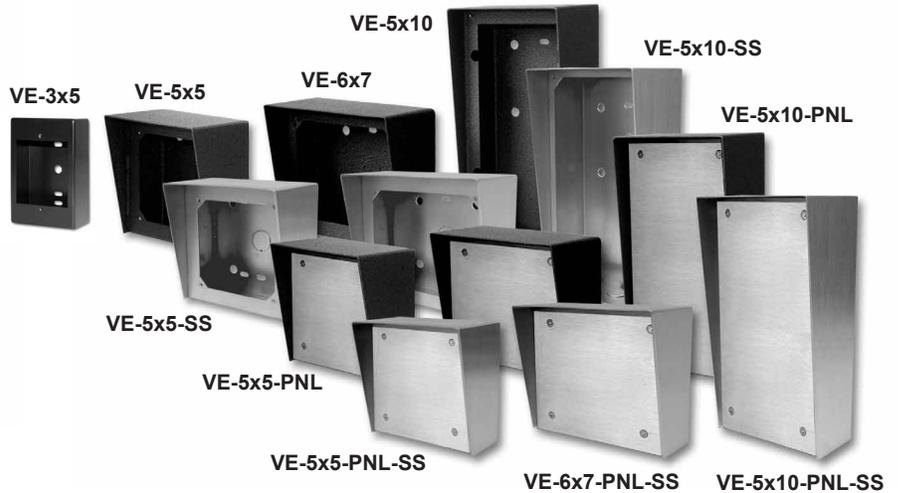
Surface or Pedestal Mount Viking Products While Maintaining Weather and Vandal Resistance

The **VE-3x5**, **VE-5x5**, **VE-6x7** and **VE-5x10** add vandal and weather resistance, as well as versatility to many Viking products. The **VE-Series** backboxes are available in black fine texture powder painted steel or Marine Grade 316 stainless steel. The weather resistant boxes are designed to be surface mounted to a wall, post, single gang box, or a **VE-GNP** gooseneck pedestal. **Note:** The **VE-3x5** is not compatible with the **VE-GNP** pedestals and is not available in stainless steel.

The **VE-3x5** is designed to be used with the **E-40-EWP** or **E-50-EWP** Series entry phones. The **VE-5x5** is designed to be used with the **E-10A-EWP**, **E-30-EWP**, **E-30-PT-EWP**, **E-60-EWP**, **E-65-EWP**, **E-70-EWP**, **E-75-EWP** entry phones, the **E-1600-20A-EWP**, **E-1600-20-IP-EWP**, **E-1600-30A-EWP** and **E-1600-30-IP-EWP** emergency phones, as well as the **W-1000-EWP** and **W-3000-EWP** handsfree doorboxes. The **VE-6x7** is designed to be used with the **K-1700-3-EWP** and **K-1705-EWP** entry phones and the **VE-5x10** is designed to be used with the **K-1900-7-EWP** and the **K-1900-8-EWP** vandal resistant phones.



For more information, see DOD 424



The **VE-GNP** gooseneck pedestals are designed to be used with the **VE-5x5**, **VE-6x7** and **VE-5x10** backboxes and are ideal for drive up communications. **Note:** The **VE-3x5** is not compatible with the **VE-GNP** pedestals. The **VE-PNL**'s are **VE-Series** backboxes with a blank aluminum panel. The user can customize the clear-coated aluminum panel to mount an **PRX-1** card reader, **PRX-2** keypad or switch. The kits come complete with box, gasket, panel and screws. Model numbers that end with "SS" are stainless steel version. **Note:** The use of magnets to mount the **VE-Series** enclosure to a metal surface can affect the operation of the enclosed product.

Add Panel Lighting to Your Viking VoIP Entry Phone

The **VE-LIGHT** kit adds bright LED illumination to any VoIP entry phone that is housed in a Viking **VE-5x5**, **VE-6x7** or **VE-5x10** enclosure.

The stainless steel bracket is easily mounted using existing holes and hardware. Two bright white LEDs are used as the light source, so there are no filaments to break or bulbs to burn out.

12 VDC power adapter included. Any power source between 12 and 24 volts, AC or DC can be used to supply the **VE-LIGHT** with power.

For more information, See **DOD 428**.

VE-LIGHT shown right with Viking E-30-IP and VE-5x5 (not included)



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 **E-20/30/32TF-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

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