

VIKING APPLICATION NOTE

SECURITY AND COMMUNICATION SOLUTIONS

E-IP Series* Touch Tone
Programming

December 5, 2019

Touch Tone Programming for E-IP Series* Phones

A. Accessing the Touch Tone Programming Mode

Viking IP emergency and entry phones can be programmed by calling the unit from any touch tone phone.

1. Using the Security Code to Enter Programming

Step 1.	From a touch tone phone call the Viking IP Emergency / Entry phone you would like to program.
Step 2.	When the Viking IP Emergency / Entry phone answers, enter the 6-digit security code (factory set to 845464 , see section B). A double beep should then be heard indicating you have entered the programming mode.
Step 3.	You can now touch tone program the Quick Programming Features .

2. Manually Resetting the Security Code to Enter Programming

Step 1.	Power down the Viking IP Emergency / Entry phone by disconnecting the RJ45 plug.
Step 2.	Press and hold the HELP/CALL button, then reconnect the RJ45.
Step 3.	Continue to hold the button until you hear 2 beeps, (approximately 6 seconds). Then release the button. The "Call Connected" 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 touch tone programming by following the steps in section 1. Using the Security Code , above.

B. Security Code (#19)

The security code allows the user/installer to program the **Viking IP Emergency or Entry** phone. The factory set security code is 845464 (V-I-K-I-N-G). It is recommended that the factory set security code be changed.

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

Example: To store 123456 as the security code (shown below).

Step 1.	Access programming as shown in Programming section A.
Step 2.	Enter 123456 #19 .
Step 3.	Hang-up.

* E-IP Series includes: **E-10-IP, E-20-IP, E-30-IP, E-32-IP, E-35-IP, E-60-IP** Series and **E-1600-IP** Series.

Quick Programming Features (after accessing the Touch Tone Programming Mode)

DESCRIPTION	DIGITS	+	MEMORY LOCATION
First emergency speed dial number	0-32 digits	then	#00
Second emergency speed dial number	0-32 digits	then	#01
Third emergency speed dial number	0-32 digits	then	#02
Fourth emergency speed dial number	0-32 digits	then	#03
Fifth emergency speed dial number	0-32 digits	then	#04
First "Info" speed dial number (E-1600-20/22/52/53-IP only)*	0-32 digits	then	#05
Second "Info" speed dial number (E-1600-20/22/52/53-IP only)*	0-32 digits	then	#06
Third "Info" speed dial number (E-1600-20/22/52/53-IP only)*	0-32 digits	then	#07
Fourth "Info" speed dial number (E-1600-20/22/52/53-IP only)*	0-32 digits	then	#08
Fifth "Info" speed dial number (E-1600-20/22/52/53-IP only)*	0-32 digits	then	#09
To clear any speed dial number	(no digits)	then	#00 - #09
Talk/Listen Delay (VOX) (.1 to .9 sec, factory set to .5 sec)	1 digit (1-9)	then	#11
Call Length Time Out (0 to 9 min, 0 = disabled, factory set to 3 min)	1 digit (0-9)	then	#12
Repeat Announcement (0 to 9, 0 = play every 6 sec, factory set to 1)*	1 digit (0-9)	then	#15
Lap Counter (0 to 9, 0 = disabled, factory set to 0)	1 digit (0-9)	then	#16
Dial Next Number on Ring No Answer (0 or 1 = disabled, 2 - 9 = number of rings, factory set to 7)	1 digit (0-9)	then	#17
Dial Next Number on Busy (0 or 1, 0 = disabled, factory set to 1/enabled)	1 digit (0 or 1)	then	#18
Security code (factory set to 845464)	6 digits (0-9)	then	#19
Identification number (1-6 digits, blank = disabled, factory set to 987654)	0-6 digits (0-9)	then	#20
Access Code (1-6 digits, blank = disabled, factory set to 123456)	0-6 digits (0-9)	then	#21
Microphone volume (0-9, 0 = ANC, factory set to 5)	1 digit (0-9)	then	#22
Speaker Volume (0-9, factory set to 3)	1 digit (0-9)	then	#23
Relay Activation Command (1 or 2 digits, **** = **, *## = ##, 0-9 or 00-99, factory set to **) (Relay Mode must be set to 0 = Door Strike)	1 or 2 digits	then	#24
Relay Activation Time (2 digits, 00-99 sec, 00= 0.5 sec, factory set to 05)	2 digits (00-99)	then	#25
Relay Mode (0 = Door Strike, 1 = Outbound Call, 2 = In/Outbound Call, 3 = Doorbell, 4 = LV-1K Control, 5 = Ring, 6 = Ring Flash)	1 digit (0-4)	then	#26
Relay Activation Tone (Buzz) Volume (1 digit 0-3, 0 = off, factory set to 3)	1 digit (0-3)	then	#27
In-Band Audio Detection Sensitivity (1-9, 1 = minimum, 9 = maximum, factory set to 5, power cycle unit after setting)	1 digit (1-9)	then	#28
In-Band Audio Call Progress Detection (0 or 1, 0 = OFF, 1 = ON, factory set to 1)	1 digit (0 or 1)	then	#29
"Call Connected" LED Control (0 or 1, 0 = Automatic, 1 = Called Party Control / * entered to light LED, factory set to 0)	1 digit (0 or 1)	then	#30
Speaker Mode (0, 1 or 2, 0 = OFF/Silent Monitor, 1 = ON, 2 = OFF Until Answered)	1 digit (0-2)	then	#31
LED Mode (1 digit 0-3, 0 = OFF, 1 = Entry Phone, 2 = Emergency Phone, 3 = Emergency Phone Outbound Only)	1 digit (0-3)	then	#32
Inbound Call Mode (0 = Disabled, 1 = Auto Answer, 2 = Auto Answer - Secure, 3 = Ring, 4 = Ring with AGC, factory set to 1)	1 digit (0-3)	then	#33

DESCRIPTION	ENTER DIGITS
Diagnostic tones (used to check mic and speaker operation)	*0
Enable Alternate Switch Action	*1
Disable Alternate Switch Action	*2
Erase Message*	*3
Record Message (enter # to stop recording)*	*4
Playback Message*	*5
Enable Relay Latching Commands	*6
Disable Relay Latching Commands (factory setting)	*7
To add a * at any point in the dialing string or relay command	**
To add a # at any point in the dialing string or relay command	*#
Reset all Quick Programming Features (except phone numbers) to factory default settings	###
Hang up	##7

* These features are only available in the E-1600-IP Series phones.

Programming Features

Note: Up to 32 digits can be stored in each dial position via touch tone programming, up to 90 characters via PC programming. Touch tone * and # count as single digits.

1. Speed Dial Numbers (#00 - #09)

A. Emergency Speed Dial Numbers (memory locations #00 - #04)

The emergency speed dial number programmed in location #00 is the number that is dialed when the "HELP" / "CALL" button is first pressed. Additional speed dial numbers will be dialed when there is no answer or a busy signal is detected and the next number redial features are activated. To program, enter the desired speed dial number followed by the location number (#00 - #04). To clear a speed dial location, simply enter the memory location (#00 - #04) alone. The **Viking IP Emergency or Entry** phone is factory set with no speed dial number programmed.

To Program:	Enter:
*	**
#	*#
0, 1, 2 9	0, 1, 2 9

B. "INFO" Speed Dial Numbers (E-1600-20/22/52/53-IP only) (memory locations #05 - #09)

The information speed dial number programmed in location #05 is the telephone or extension number that is dialed when the "INFO" button is first pressed (E-1600-20/22/52/53-IP). Additional information speed dial numbers will be dialed when there is no answer and the next number redial feature is activated. The **1600-IP Series** phone will cycle through the programmed speed dial numbers until answered. To program, enter the desired speed dial number followed by the location number (#05 - #09). To clear a speed dial location, simply enter the location (#05 - #09) alone.

C. Speed Dial Programming Examples

To Program the Viking IP Emergency or Entry Phone...	Step 1	Step 2
...to store 555-1234 as the first emergency speed dial number	Enter Programming (see A. Accessing the Touch Tone Programming Mode)	Enter digits: 5 5 5 1 2 3 4 # 0 0
...to clear the first emergency speed dial number	Enter Programming (see A. Accessing the Touch Tone Programming Mode)	Enter digits: # 0 0

2. Talk / Listen Delay (VOX) (#11)

This feature selects switching time between talk and listen modes (VOX switching time). Use chart at the right.

* **Note:** The factory default is 0.5 seconds.

Touch Tone	Talk/Listen Delay
1	0.1 sec
2	0.2 sec
3	0.3 sec
4	0.4 sec
5	0.5 sec *
6	0.6 sec
7	0.7 sec
8	0.8 sec
9	0.9 sec

3. Call Length Time Out (#12)

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 (Touch Tones 1 - 9). Program 0 in this location to disable the call length time out. With the call length disabled, the **Viking IP Emergency or Entry** phone must rely on a busy signal, or call ended signal to hang-up. Use chart at the right.

* **Note:** The factory default is 3 minutes.

Touch Tone	Call Length Time Out
0	Disabled
1	1 min
2	2 min
3	3 min*
4	4 min
5	5 min
6	6 min
7	7 min
8	8 min
9	9 min

4. Repeat Announcement Option (#15)

The **1600-IP Series** phone can be programmed to play the announcement from 1-9 times, or to continuously repeat the announcement every 6 seconds until a Touch Tone * is detected from the distant party. The call connected LED will turn on automatically after the announcement has stopped repeating.

* **Note:** The factory default for the **1600-IP Series** phone is to play the voice announcement one time.

Touch Tone	Repeat Announcement
0	Repeat every 6 seconds
1	1 time*
2	2 times
3	3 times
4	4 times
5	5 times
6	6 times
7	7 times
8	8 times
9	9 times

5. Lap Counter (#16)

With the lap counter disabled (factory setting), if the **Viking IP Emergency or Entry** phone is programmed to dial the next number on ring-no-answer and/or busy signal (see section 6 and 7 below), the **Viking IP Emergency or 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 **Viking IP Emergency or Entry** phone will cycle through its list of up to 5 emergency numbers (or up to 5 "Info" 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 **Viking IP Emergency or Entry** phone hangs up.

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

Touch Tone	Lap Counter
0	Disabled*
1	1 time
2	2 times
3	3 times
4	4 times
5	5 times
6	6 times
7	7 times
8	8 times
9	9 times

6. Dial Next Number on Ring No Answer (#17)

If enabled and a ring-no-answer is detected, the **Viking IP Emergency or Entry** phone will dial the next programmed speed dial number, and continue to cycle through the emergency numbers until a call is completed. When disabled, the extension will ring until call timer expires.

* **Note:** Factory set to redial if not answered after 7 rings.

Touch Tone	Ring No Answer
0	Disabled
1	1 ring
2	2 rings
3	3 rings
4	4 rings
5	5 rings
6	6 rings
7	7 rings*
8	8 rings
9	9 rings

7. Dial Next Number on Busy (#18)

If enabled and a busy is detected, the **Viking IP Emergency or Entry** phone will dial the next programmed speed dial number, and continue to cycle through the numbers until a call is completed.

Touch Tone	Dial on Busy
0	Disabled
1	Enabled*

* **Note:** This feature is enabled in the factory default setting. If the busy signal is interrupted with a promotional message, contact your central office to have it removed.

8. Identification Number (#20)

The Touch Tone I.D. number (up to 6 digits) is used by emergency personnel to identify the location of the caller and is given out when the receiving party presses a Touch Tone *. The security office can display the number using a Touch Tone decoder. To program the I.D. number, enter the desired number followed by #20. **Example:** To store 333 as the I.D. number, enter: **3 3 3 # 2 0** The I.D. number can be transmitted as RFC 2833 (default setting) or as In-Band DTMF.

9. Access Code (#21)

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 relay and not the ability to change any of the programming parameters. Once entered, any of the "Remote Access Operation Commands" can be used. The code can be 1 to 6 digits in length and cannot contain a "*", "#", or match the numbers used for the security code. To disable the Access Code enter no digits then #21 in programming. Simply call the **Viking IP Emergency or Entry** phone, the unit will automatically answer the line and output two beeps. You then enter the programmed 1 to 6 digit access code, 2 beeps should be heard. You can now enter any "Remote Access Operation Commands" (see page 31 of your product manual).

10. Microphone Volume/Automatic Noise Cancelling Mode (#22)

The microphone volume can be set from 1 to 9 (1 = lowest volume setting, 9 = the highest, factory set to 5) by entering the single digit then the memory location #22. Alternatively the microphone can be placed in the "ANC" Automatic Noise Cancelling mode by entering 0#22 in programming. With the mic in the ANC mode, when background noise increases, the mic gain will automatically decrease. When background noise decreases the mic gain will automatically increase. The ANC mode is useful in applications where the background noise level can change drastically such as a gas car running vs a diesel truck.

11. Speaker Volume (#23)

The speaker volume can be set from 0 to 9 (0 = lowest volume setting, 9 = the highest, factory set to 3) by entering the single digit then the memory location #23. Alternatively the speaker can be turned off for silent monitoring by entering 0#31 (see Speaker Mode section 19).

12. Relay Activation Command (#24)

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 actuate the relay (door strike/mag-lock/gate controller, etc). The code can contain the numbers 0 - 9, 00 - 99, ## or ** (factory default). The code must not match the first 1 or 2 digits of the security code. To program the code to "##" you must enter **## #24 in programming. To program the code to "**" you must enter ** ** #24 in programming. To disable this feature enter #24 without any preceding digits. The code must be entered while the remote phone is communicating with the Emergency/Entry phone. The Emergency/Entry phone determines which direction the touch tone is coming from and only responds to touch tones from the called phone.

13. Relay Activation Time (#25)

The value stored in the Relay Activation Time is the amount of time the relay will be energized after a correct touch tone command is entered. This two digit number can range from 01 to 99 seconds, or enter 00 for 0.5 seconds. The factory setting is 5 seconds. This timer also affects the length of "Doorbell" closures.

14. Relay Mode (#26)

The 2 amp relay contacts can be programmed to one of five different modes by entering 0,1,2,3 or 4 #26 in programming.

0 = Doorstrike Mode. When programmed for Doorstrike 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.

1 = 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.

2 = 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, for VoIP phones with cameras, etc.

3 = 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.

4 = 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.

5 = 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.

6 = 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.

15. Relay Activation Tone (Buzz) Volume (#27)

The relay activation tone is a buzzing sound that is heard at the Emergency/Entry phone 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 Emergency 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 in memory location #27. The tone can also be turned off/disabled by entering 0#27.

16. In-Band Audio Detection Sensitivity (#28)

The In-Band Audio Detection Sensitivity can be set from 1 to 9 (1 = minimum setting, 9 = the highest, factory set to 5) by entering the single digit then the memory location #28. 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 of the distant party answering to turn on the call connected LED and/or play the location ID message on Emergency VoIP phones. NOTE: Power cycling the unit is required after touch tone programming this feature.

17. In-Band Audio Call Progress Detection (#29)

The In-Band Audio Call Progress Detection can be set to 0 or 1 (0 = OFF, 1 = ON, factory set to 0) by entering the single digit then the memory location #29. In-Band Audio Call Progress detection should be turned ON in applications where you are making an outbound call through your VoIP phone system and are relying on In-Band analog audio detection of the distant party answering to turn on the call connected LED and/or play the location ID message on Emergency VoIP phones.

18. "Call Connected" LED Control (#30)

The call connected LED on the **1600-IP Series** phone can be programmed to:

0 = LED will automatically light when the distant party has answered, this is the factory default setting.

1 = LED will light steady, only after a Touch Tone * is entered from the called party.

19. Speaker Mode (#31)

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

0 = 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.

1 = ON (factory setting): In the "ON" mode the speaker is enabled during In-bound and Out-bound calls.

2 = 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. The speaker will work normally on inbound calls.

20. LED Mode (#32)

The "Call / Call Connected" LED can be programmed to one of four different modes: 0/OFF, 1/Entry Phone, 2/Emergency Phone (factory setting) or 3/Emergency Phone Outbound Only.

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

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

2 = Emergency Phone Mode: The LED will remain OFF in the idle state, blink during dialing, light steady when the call is connected, then turn OFF when the call is completed.

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

21. Inbound Call Mode (#33)

The Auto Answer / Ring feature can be set to one of five modes.

0 = Disabled: In the “Disabled” mode the phone will not automatically answer an incoming call. **CAUTION:** In the “Disabled” mode, touch tone programming will not be possible.

1 = Auto Answer (factory setting): In the “Auto Answer” mode the phone will automatically answer an incoming call on the first ring.

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

3 = Ring: In the “Ring” mode the 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 call can then be answered by pressing the button.

4 = Ring with AGC: In the “Ring with AGC” mode the 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 pressing the button.

22. Enable/Disable Alternate Switch Action (*1, *2) (Panic Button Mode)

With “*1” (factory default) programmed the HELP/CALL button alternately connects and disconnects calls. With “*2” programmed the HELP/CALL button connects calls only. Pressing the button again after the call has been initiated will not terminate the call.

23. Recording the Announcement

Step 1.	Call into the 1600-IP Series phone with a Touch Tone phone and access programming.
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 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: “Elevator number 1215, located in the Financial Building, needs assistance. Press the star (*) key on your telephone to hear this announcement again.”

24. Enable/Disable Relay Latching Commands (*6, *7)

With “*6” programmed the Remote Access Operation Commands (*0 and *1) to Un-Latch or Latch the relay are enabled. Relay Mode must be set to “Doorstrike”.

With “*7” (factory default) programmed the Remote Access Operation Commands (*0 and *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.

25. Reset All Quick Programming Features (###)

Entering ### in programming will reset all of the Quick Programming Features back to their factory default settings. **Notes:** The ### command will not change or reset your IP settings.

Product Support: 715-386-8666

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