Designed, Manufactured and Supported in the USA

VIKING PRODUCT MANUAL

COMMUNICATION & SECURITY SOLUTIONS

1600A-CE Series
CE Marked
Emergency Phones
May 9, 2018

CE Marked Emergency Phones with Built-In Digital Voice Announcer

The **1600A-CE Series** CE marked Emergency Phones are designed to provide quick and reliable handsfree communication for any standard analog telephone line or analog phone system station port. All **1600A-CE Series** phones meet CE requirements for elevator / emergency telephones, and can be programmed from any Touch Tone phone. The phones can dial up to 5 programmable emergency numbers, as well as 2 central station numbers (except the **E-30-CE**). In addition, the **E-1600-20A-CE** and **E-1600-52A-CE** feature a second "**Info**" button that will dial up to 3 non-emergency numbers.

The **1600A-CE Series** phones (except the **E-30-CE**) can be programmed to automatically deliver a digital announcement to identify the location of the emergency call. Alternatively, a DTMF Touch Tone code may also be delivered. A "Call Connected" LED can be initiated manually or automatically. All programming parameters, including phone numbers and location numbers, are stored in non-volatile memory. All units are phone line powered, requiring no batteries or external power and are compatible with common Central Station Monitoring equipment.

For outdoor or harsh environments, select **1600A-CE Series** phones are available with Enhanced Weather Protection (**EWP**). EWP products feature rubber gaskets and boots, silicon sealed connections, gel-filled butt connectors, as well as urethane potted circuit boards with weather sealed, field-adjustable trim pots and DIP switches for easy on-site programming.

E-1600A-CE   E-1600-45A-CE   E-30-CE   E-1600-20A-CE

EMERGENCY PHONE

E-1600-03B-CE

EMERGENCY PHONE

E-1600-02A-CE

K-1600-EHFA-CE   E-1600-30A-CE   E-1600-55A-CE

Features

- Meets CE requirements for Emergency Phones
- New Automatic Noise Canceling (ANC) feature for proper operation in noisy environments
- Non-volatile digital voice announcer with 16 seconds of voice memory (except the E-30-CE**)**
- Advanced call progress detection
- Handsfree operation
- Phone line powered
- Non-volatile memory (no batteries required)
- Marine grade 316 stainless steel prevents corrosion (stainless models)
- Touch Tone or pulse dialing
- Dials up to 5 emergency numbers
- E-1600-20A-CE and E-1600-52A-CE dial up to 3 non-emergency "Info" numbers
- Cycles through backup emergency and non-emergency numbers on busy or no-answer
- Optional Enhanced Weather Protection (EWP)
- Hangs up on CPC, silence, busy signal, dial tone, time-out or TouchTone command
- Programmable to auto-answer on incoming calls
- Remotely programmable
- Extended temperature range (-15°F to 130°F)
- 8 different chassis or board only available
- Central Station Monitoring capability (dials 2 numbers) (except the E-30-CE)
- Separate central station voice speed dial number (except the E-30-CE)
- Push Button Delay Option
- 600 Ohm Output to drive Audio Induction Loop
- Optional Door Contact Input to Disable Phone

Applications

- Elevators
- Parking lots/ramps
- ATM machines
- Area of Refuge Locations
- Lobbies
- Entryways
- Campus Emergency stations
- Roadside Emergency stations
- Stadiums
- Convention centers

CAUTION - When installing on an analog extension of a phone system: Some phone systems do not conform to analog telecom standards and might not be compatible with the E-1600A-CE Series Emergency phones. For a detailed description of the telephone line specifications required for any of the E-1600A-CE Series Phones, contact Viking Electronics Inc.

⚠ **CAUTION: THIS EQUIPMENT MUST BE EARTHED**

Specifications

Power: Telephone line powered. 24V DC talk battery, with 20mA loop current minimum.
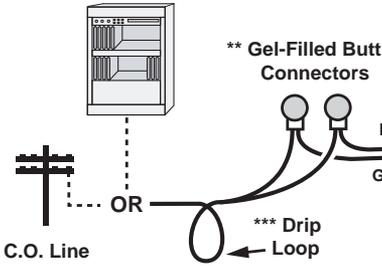**Dimensions:** See Installation and Specifications
Operating Temperature: -26°C to 54°C (-15°F to 130°F)
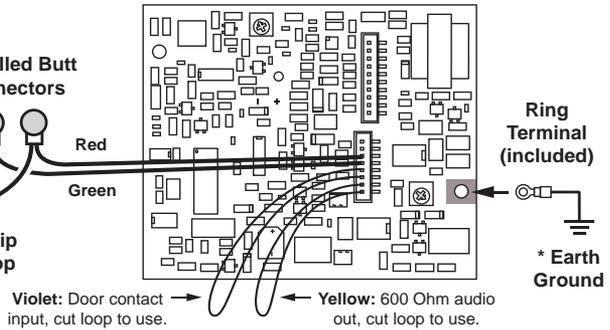**Humidity:** 5% to 95% non-condensing

⚠️ **IMPORTANT:** *Electronic devices are susceptible to lightning and power station electrical surges from both the AC outlet and the telephone line. It is recommended that a surge protector be installed to protect against such surges.*

Rear View of a 1600A-CE Series Phone

Analog PABX/KSU Station

** Gel-Filled Butt Connectors

Red

Green

OR

*** Drip Loop

C.O. Line

Ring Terminal (included)

* Earth Ground

Violet: Door contact input, cut loop to use.

Yellow: 600 Ohm audio out, cut loop to use.

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

** Note: *The gel-filled (water-tight) butt connectors are designed for insulation displacement on 19-26 gauge wires with a maximum insulation of 2mm. Cut off bare wire ends prior to terminating.*

*** Note: *When wires are routed from above, a "drip loop" is recommended to keep water away from the circuit board.*

Installation and Specifications

The following sections show specifications and installation instructions for the different chassis in the 1600A-CE Series.

E-1600A-CE / E-1600-40A-CE / E-1600-45A-CE

Dimensions: 133mm x 102mm x 51mm (5.25" x 4.0" x 2.0")

Shipping Weight: 1.13 kg (2.5 lbs.)

Material: .062" (16 gauge) steel

E-1600A-CE Finish: Red powder paint

E-1600-40A-CE Finish: Red without "EMERGENCY PHONE" verbiage

E-1600-45A-CE Finish: High visibility yellow powder paint

Connections: Gel-filled butt connectors

Mounting: Surface mount to walls, posts, single gang boxes or 4" x 4" electrical junction boxes or recess mount in elevator phone boxes.

Optional Enhanced Weather Protection (EWP) Available: The optional EWP products feature foam rubber gaskets and boots, sealed connections, gel-filled butt connectors, as well as urethane or thermal plastic potted circuit boards. See **DOD# 859**.

Note: For greater weather resistance, apply a bead of clear silicon caulking around the top edge and sides of the chassis.

Model **E-1600-45A-CE** only

0.15 x 0.31 Wire Exit Notch

EMERGENCY PHONE

PUSH FOR HELP

CALL CONNECTED

4.00

5.25

3/4" knockout

2.00

1.15

(Bottom View)

Condensation Drain Hole

Red Call Connected LED

Push to Call Button

Grade 2 Braille Label

2.00

EMERGENCY

(Side View)

3.40

(4) .20 dia. mounting holes

0.703 diameter

4.96

1.70

3.40

3.30

1.70

3.82

(2) .20 x .40 slots for single gang box

(Mounting Plate)

E-1600-02A-CE

Dimensions: 330mm x 267mm x 51mm (13" x 10.5" x 2")

Shipping Weight: 3.18 kg (7 lbs.)

Connections: Gel-filled butt connectors

Material: .105" (12 gauge) brushed stainless steel

Mounting: Flush mount in elevator cabs, ATMs, stairwells, hallways, etc.

Suggested Hardware: (6) #8 x 3/4 flat head phillips sheet metal type A screws (not included)

EMERGENCY PHONE

Minimum Cutout

PUSH FOR HELP

Grade 2 Braille Label

CALL CONNECTED

Red Call Connected LED

Push to Call Button

(6) 0.188 diameter countersunk holes

0.25   0.25   10.5   10.0   3.1   3.8   4.8   6.25   13.0   12.5   4.7   (Side View)   2.0

E-1600-03B-CE

Dimensions: 183mm x 149mm x 39mm (7.22" x 5.86" x 1.55")

Material: .074" (14 gauge) Brushed stainless steel panel and extra heavy duty button with LED

Shipping Weight: 1.36 kg (3 lbs.)

Connections: Gel-filled butt connectors

Mounting: Surface mount to walls, posts, single gang boxes or 4" x 4" electrical junction boxes or recess mount in elevator phone boxes.
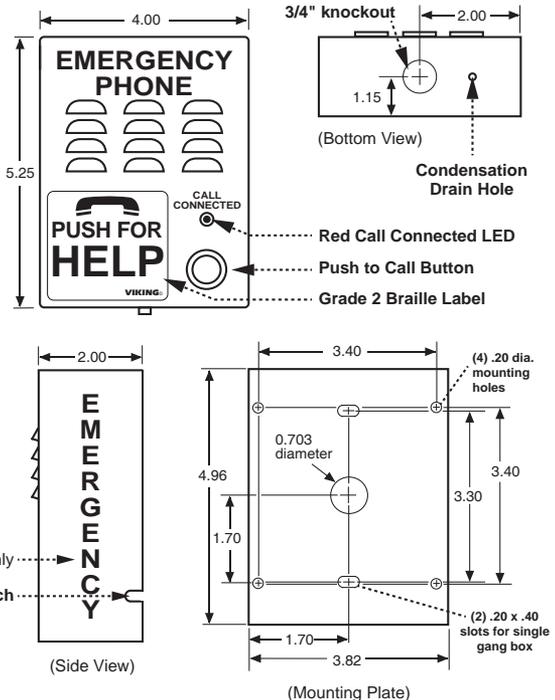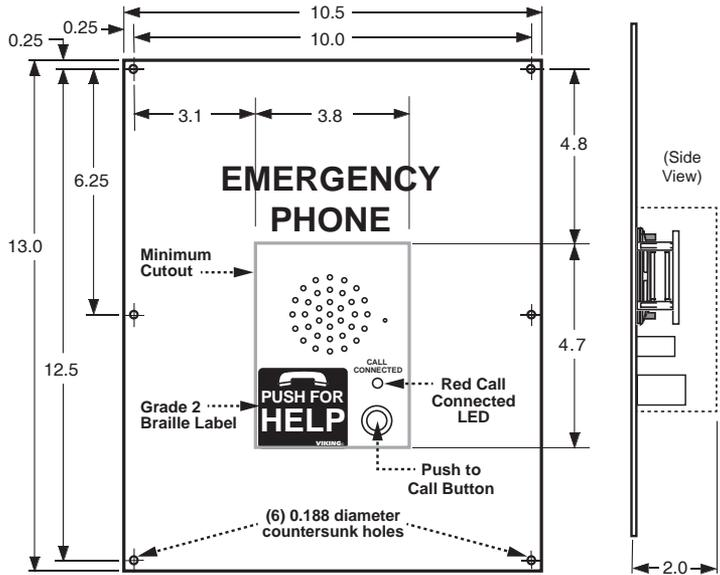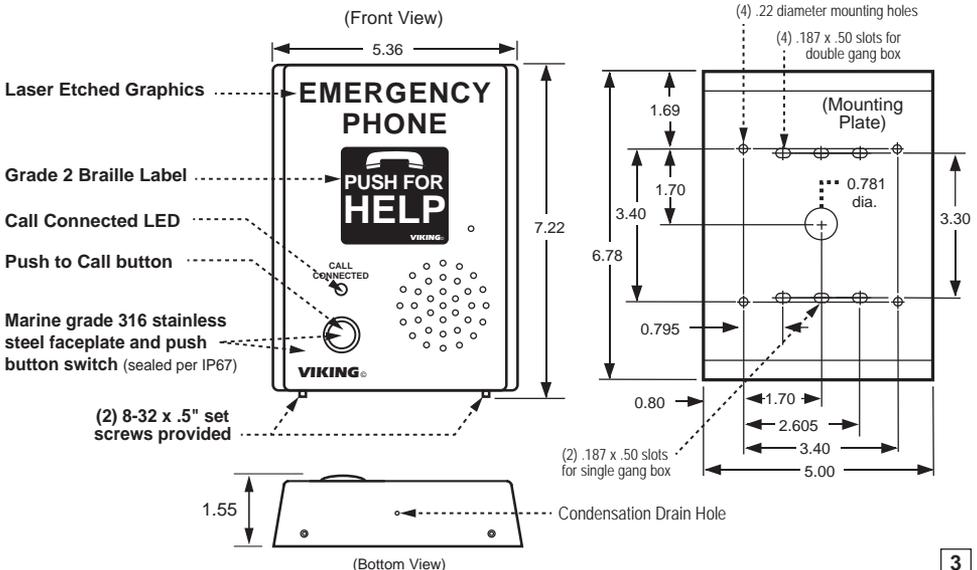
Optional Enhanced Weather Protection (EWP) Available: The optional EWP products feature foam rubber gaskets and boots, sealed connections, gel-filled butt connectors, as well as urethane or thermal plastic potted circuit boards. See **DOD 859**.

Note: For greater weather resistance, apply a bead of clear silicon caulking around the top edge and sides of the chassis

(Front View)

Laser Etched Graphics

EMERGENCY PHONE

Grade 2 Braille Label

PUSH FOR HELP

Call Connected LED

Push to Call button

CALL CONNECTED

Marine grade 316 stainless steel faceplate and push button switch (sealed per IP67)

VIKING®

(2) 8-32 x .5" set screws provided

5.36   7.22

(4) .22 diameter mounting holes

(4) .187 x .50 slots for double gang box

(Mounting Plate)

1.69   1.70   3.40   6.78   0.795   0.80   1.70   2.605   3.40   5.00   0.781 dia.   3.30

(2) .187 x .50 slots for single gang box

1.55

Condensation Drain Hole

(Bottom View)

3

Dimensions: Overall - 127mm x 127 x 57mm (5.0" x 5.0" x 2.25")
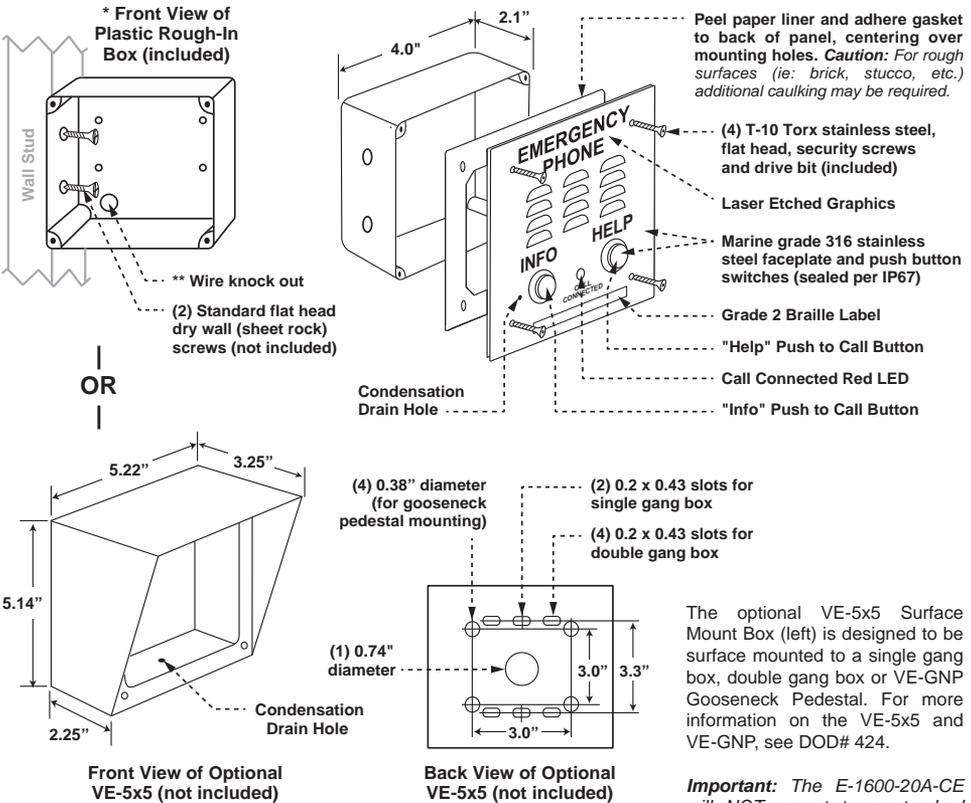Plastic Electrical Box - 102mm x 102mm x 54mm (4.0" x 4.0" x 2.14")

Shipping Weight: 1 kg (2.12 lbs.)

Front Panel Material: Marine grade 14 gauge brushed stainless steel

Connections: Gel-filled butt connectors

Optional Enhanced Weather Protection (EWP) Available: The optional EWP products feature foam rubber gaskets and boots, sealed connections, gel-filled butt connectors, as well as urethane or thermal plastic potted circuit boards. See **DOD# 859** for more information on EWP.

Mounting with Plastic Rough-In Box (included): Flush into walls, mounts to side of wall stud **Mounting with Optional VE-5x5:** Surface mount to walls, single gang boxes, double gang boxes, posts, or to a Viking **VE-GNP** Gooseneck pedestal (see options below).

* Front View of Plastic Rough-In Box (included)

Wall Stud

Peel paper liner and adhere gasket to back of panel, centering over mounting holes. *Caution: For rough surfaces (ie: brick, stucco, etc.) additional caulking may be required.*

** Wire knock out

(2) Standard flat head dry wall (sheet rock) screws (not included)

OR

(4) T-10 Torx stainless steel, flat head, security screws and drive bit (included)

Laser Etched Graphics

Marine grade 316 stainless steel faceplate and push button switches (sealed per IP67)

Grade 2 Braille Label

"Help" Push to Call Button

Call Connected Red LED

"Info" Push to Call Button

Condensation Drain Hole

(4) 0.38" diameter (for gooseneck pedestal mounting)

(2) 0.2 x 0.43 slots for single gang box

(4) 0.2 x 0.43 slots for double gang box

(1) 0.74" diameter

Condensation Drain Hole

Front View of Optional VE-5x5 (not included)

Back View of Optional VE-5x5 (not included)

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

Important: The E-1600-20A-CE will NOT mount to a standard double gang box.

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.

** Note: The black plastic rough-in box (**part # 259576**) may be purchased separately (**Example:** Mounting boxes to studs before the walls are finished for flush installation). Go to **www.vikingelectronics.com** and click on "Spare Parts" to order these rough-in boxes.*

*** Caution: When warm air comes in contact with cold surfaces, such as outside walls and conduits, it causes condensation. To prevent condensation from accumulating inside the **E-1600A-CE Series** phone, always bring conduit into the bottom of the unit. If this is not possible, drill a 1/4" diameter hole in the bottom of the black plastic box.*

Dimensions: Overall - 127mm x 127 x 57mm (5.0" x 5.0" x 2.25")
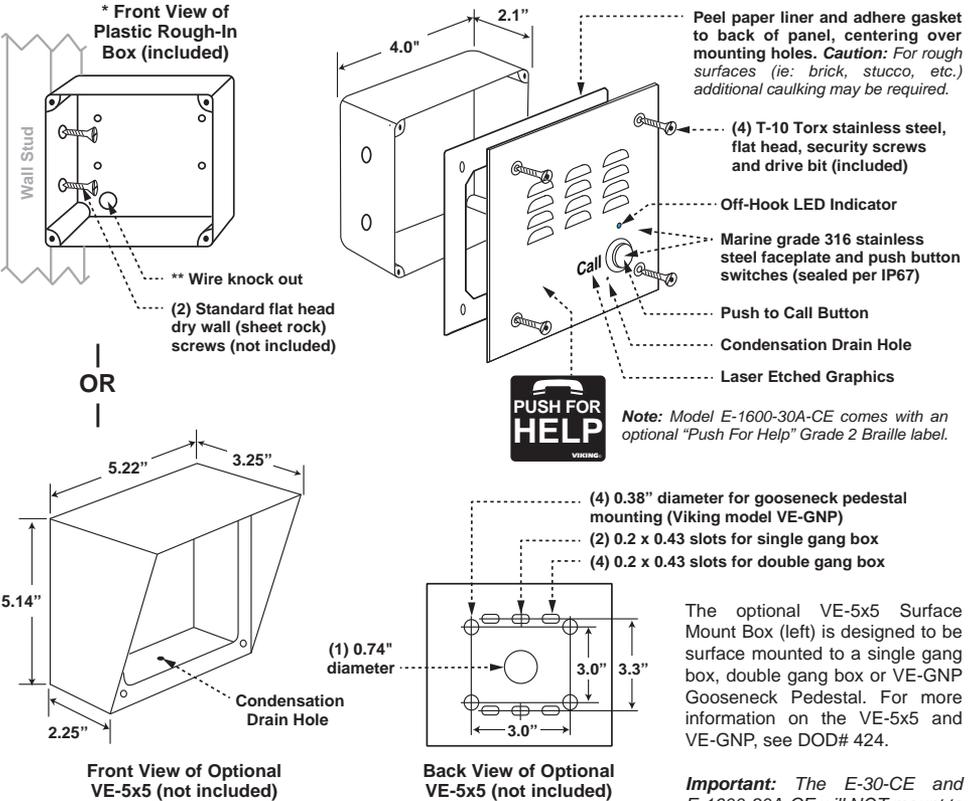Plastic Electrical Box - 102mm x 102mm x 54mm (4.0" x 4.0" x 2.14")

Shipping Weight: 1 kg (2.12 lbs.)

Front Panel Material: Marine grade 14 gauge brushed stainless steel

Connections: Gel-filled butt connectors

Optional Enhanced Weather Protection (EWP) Available: The optional EWP products feature foam rubber gaskets and boots, sealed connections, gel-filled butt connectors, as well as urethane or thermal plastic potted circuit boards. See **DOD# 859** for more information on EWP.

Mounting with Plastic Rough-In Box (included): Flush into walls, mounts to side of wall stud **Mounting with Optional VE-5x5:** Surface mount to walls, single gang boxes, double gang boxes, posts, or to a Viking **VE-GNP** Gooseneck pedestal (see options below).

* Front View of Plastic Rough-In Box (included)

Wall Stud

** Wire knock out

(2) Standard flat head dry wall (sheet rock) screws (not included)

OR

2.1"

4.0"

Peel paper liner and adhere gasket to back of panel, centering over mounting holes. *Caution: For rough surfaces (ie: brick, stucco, etc.) additional caulking may be required.*

(4) T-10 Torx stainless steel, flat head, security screws and drive bit (included)

Off-Hook LED Indicator

Marine grade 316 stainless steel faceplate and push button switches (sealed per IP67)

Call

Push to Call Button

Condensation Drain Hole

Laser Etched Graphics

PUSH FOR **HELP**

Note: Model E-1600-30A-CE comes with an optional "Push For Help" Grade 2 Braille label.

5.22" 3.25"

5.14"

(1) 0.74" diameter

2.25"

Condensation Drain Hole

Front View of Optional VE-5x5 (not included)

(4) 0.38" diameter for gooseneck pedestal mounting (Viking model VE-GNP)
(2) 0.2 x 0.43 slots for single gang box
(4) 0.2 x 0.43 slots for double gang box

3.0" 3.3"

3.0"

Back View of Optional VE-5x5 (not included)

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

Important: The E-30-CE and E-1600-30A-CE will NOT mount to a standard double gang box.

Optional VE-5x5 Surface Mount Box with black satin powder paint finish, not included (DOD 424). Optional VE-LIGHT kit (DOD 428) can be used to illuminate the faceplate when used with a VE-5x5. WARNING: Do NOT use a wet location box.

** Note: The black plastic rough-in box (**part # 259576**) may be purchased separately (**Example:** Mounting boxes to studs before the walls are finished for flush installation). Go to **www.vikingelectronics.com** and click on "**Spare Parts**" to order these rough-in boxes.*

*** Caution: When warm air comes in contact with cold surfaces, such as outside walls and conduits, it causes condensation. To prevent condensation from accumulating inside the **E-1600A-CE Series** phone, always bring conduit into the bottom of the unit. If this is not possible, drill a 1/4" diameter hole in the bottom of the black plastic box.*

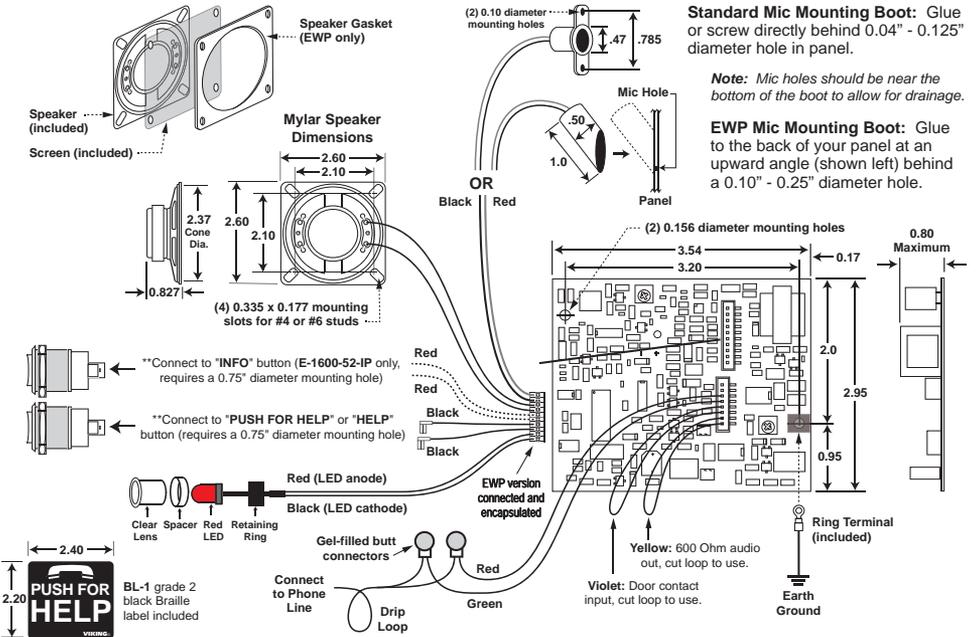## BEFORE OPERATING THIS UNIT, IT MUST BE INSTALLED INTO A CHASSIS IN ACCORDANCE WITH EN60950

Note: *This is a 1600A-CE parts kit without chassis.*
Shipping Weight: .45 kg (1 lb)
Connections: Gel-filled butt connectors

Optional Enhanced Weather Protection (EWP) Available: The optional EWP products feature foam rubber gaskets and boots, sealed connections, gel-filled butt connectors, as well as urethane or thermal plastic potted circuit boards. See **DOD 859**.

Standard Mic Mounting Boot: Glue or screw directly behind 0.04" - 0.125" diameter hole in panel.

Note: Mic holes should be near the bottom of the boot to allow for drainage.

EWP Mic Mounting Boot: Glue to the back of your panel at an upward angle (shown left) behind a 0.10" - 0.25" diameter hole.

Speaker Gasket (EWP only)

Speaker (included)

Screen (included)

Mylar Speaker Dimensions

2.60
2.10

2.37 Cone Dia.

2.60
2.10

0.827

(4) 0.335 x 0.177 mounting slots for #4 or #6 studs

(2) 0.10 diameter mounting holes

.47 .785

Mic Hole

.50

1.0

Panel

OR

Black   Red

(2) 0.156 diameter mounting holes

3.54
3.20

0.17

0.80 Maximum

2.0

2.95

0.95

Connect to "INFO**" button (**E-1600-52-IP** only, requires a 0.75" diameter mounting hole)

Connect to "PUSH FOR HELP**" or "**HELP**" button (requires a 0.75" diameter mounting hole)

Red
Red
Black
Black

Clear Lens   Spacer   Red LED   Retaining Ring

Red (LED anode)

Black (LED cathode)

EWP version connected and encapsulated

Ring Terminal (included)

2.40

2.20

PUSH FOR HELP
VIKING

BL-1 grade 2 black Braille label included

Gel-filled butt connectors

Connect to Phone Line

Drip Loop

Red

Green

Yellow: 600 Ohm audio out, cut loop to use.

Violet: Door contact input, cut loop to use.
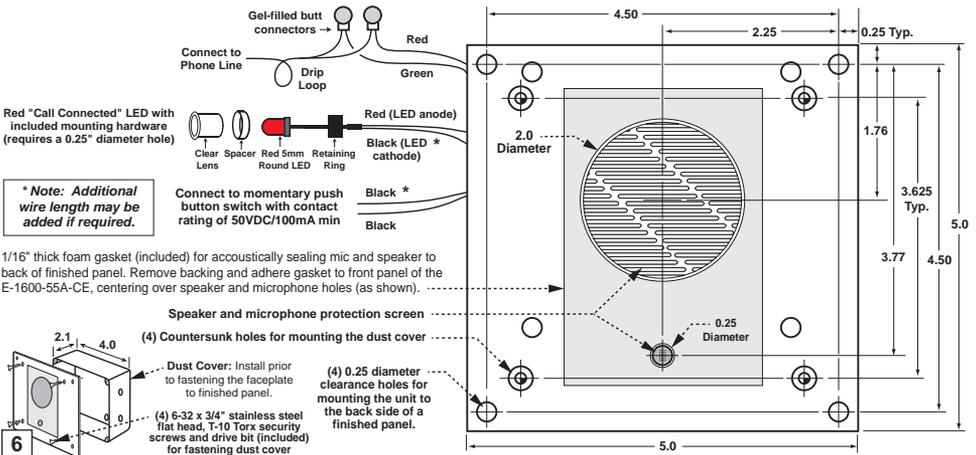
Earth Ground

The **E-1600-55A-CE** is a universal emergency phone kit for installing behind elevator panels, or an installation requiring a custom panel. The finished panel should provide: (4) studs (#6 diameter minimum) for mounting plate, audio holes for speaker and microphone, a momentary SPST push button switch and a 0.25" diameter mounting hole for the LED. Alternatively, the LED can be cut off and the wires connected to a integral switch with LED (often found in elevators).

Shipping Weight: .73 kg (1.6 lb)
Connections: Gel-filled butt connectors
Material: 0.062" thick (16 gauge) zinc plated steel

Optional Enhanced Weather Protection (EWP): The optional EWP products feature foam rubber gaskets and boots, sealed connections, gel-filled butt connectors, as well as urethane or thermal plastic potted circuit boards. See **DOD 859**.

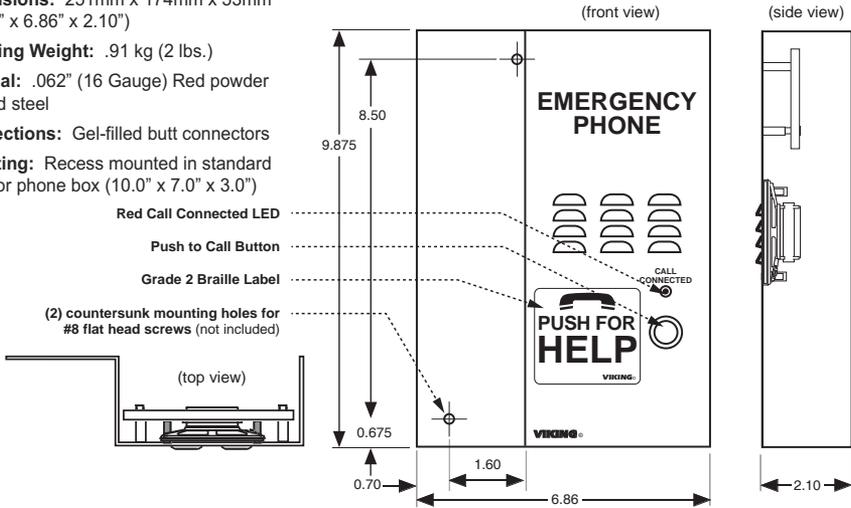**Gel-filled butt connectors**

Connect to Phone Line

Drip Loop

Red

Green

Red "Call Connected" LED with included mounting hardware (requires a 0.25" diameter hole)

Clear Lens   Spacer   Red 5mm Round LED   Retaining Ring

Red (LED anode)

Black (LED cathode) *

* Note: Additional wire length may be added if required.

Connect to momentary push button switch with contact rating of 50VDC/100mA min

Black *

Black

1/16" thick foam gasket (included) for accoustically sealing mic and speaker to back of finished panel. Remove backing and adhere gasket to front panel of the E-1600-55A-CE, centering over speaker and microphone holes (as shown).

Speaker and microphone protection screen

(4) Countersunk holes for mounting the dust cover

Dust Cover: Install prior to fastening the faceplate to finished panel.

(4) 0.25 diameter clearance holes for mounting the unit to the back side of a finished panel.

(4) 6-32 x 3/4" stainless steel flat head, T-10 Torx security screws and drive bit (included) for fastening dust cover

4.50

2.25

0.25 Typ.

2.0 Diameter

1.76

3.625 Typ.

5.0

3.77   4.50

0.25 Diameter

5.0

2.1   4.0

6

Dimensions: 251mm x 174mm x 53mm (9.875" x 6.86" x 2.10")

Shipping Weight: .91 kg (2 lbs.)

Material: .062" (16 Gauge) Red powder painted steel

Connections: Gel-filled butt connectors

Mounting: Recess mounted in standard elevator phone box (10.0" x 7.0" x 3.0")

(front view)

(side view)

EMERGENCY PHONE

CALL CONNECTED

PUSH FOR **HELP**

VIKING®

VIKING®

Red Call Connected LED

Push to Call Button

Grade 2 Braille Label

(2) countersunk mounting holes for #8 flat head screws (not included)

(top view)

8.50

9.875

0.675

0.70

1.60

6.86

2.10

Programming

A. Accessing the Programming Mode

The **E-1600A-CE Series** emergency phone can be programmed from any Touch Tone phone using a C.O. line, analog PABX/KSU station, or a **DLE-200B** Line Simulator. For more info on the **DLE-200B**, see **DOD 605**.

1. With the Security Code

Step 1.	Move DIP switch 2 to the **ON** position (sets unit to answer incoming calls - see section **J**).
Step 2.	From a Touch Tone phone call the line attached to the **1600A-CE Series** phone.
Step 3.	When the **1600A-CE Series** phone answers, enter the 6-digit security code (factory set to **845464** - see section **B**). A double beep should be heard indicating you have entered the programming mode.

2. Without the Security Code

Step 1.	Move DIP switch 2 to the **ON** position (sets unit to answer incoming calls- see section **J**).
Step 2.	Move DIP switch 3 to the **OFF** position (incoming calls enter programming without security code, see section **J**).
Step 3.	From a touch tone phone call the line attached to the **1600A-CE Series** phone.
Step 4.	When the **1600A-CE Series** answers, a double beep should be heard indicating you have entered the programming mode.
Step 5.	When finished programming, move DIP switch 3 back to the **ON** position. (see section **J**).

*Warning: Failure to do step 5 above will cause the **1600A-CE Series** phone to call Viking Technical Support instead of your programmed number. See Section **I**, Assisted Programming.*
Note: If a valid memory position is entered, a double beep will be heard, four beeps indicate an error.

B. Security Code (memory location #19)

The security code allows the user/installer to program the **1600A-CE** phone while DIP switch **3** is in the **ON** (normal) position. The factory set security code is 845464 (V-I-K-I-N-G). It is recommended that the factory set security code be changed. **Example:** To store 123456 as the security code:

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

Enter Your Security Code Here:

						#19

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

C. Quick Programming Features

Description	Enter Digits	+	Location
First emergency speed dial number	0-20 digits	then	**#00**
Second emergency speed dial number	0-20 digits	then	**#01**
Third emergency speed dial number	0-20 digits	then	**#02**
Fourth emergency speed dial number	0-20 digits	then	**#03**
Fifth emergency speed dial number	0-20 digits	then	**#04**
Central station receiver number	0-20 digits	then	**#05**
Central station voice number	0-20 digits	then	**#06**
First "Info" speed dial number (**E-1600-20A-CE** and **E-1600-52A-CE** only)	0-20 digits	then	**#07**
Second "Info" speed dial number (**E-1600-20A-CE** and **E-1600-52A-CE** only)	0-20 digits	then	**#08**
Third "Info" speed dial number (**E-1600-20A-CE** and **E-1600-52A-CE** only)	0-20 digits	then	**#09**
Voice announcer/miscellaneousoptions(factory set to 000210)	6 digits	then	**#17**
Timing/Dialing options (factory set to 234721)	6 digits	then	**#18**
Security code (factory set to 845464)	6 digits	then	**#19**
Identification number (factory cleared)	0-20 digits	then	**#20**
Second central station identification number (factory cleared)	0-20 digits	then	**#21**
To clear any speed dial number	(no digits)	then	**#00-#09**

Description	Enter Digits
To add a ✳ at any point in the dialing string	**✳✳**
To add a **#** at any point in the dialing string	**✳#**
To add a four second pause at any point in the dialing string	**✳7**
To switch to pulse dialing at any point in the dialing string	**✳6**
Diagnostic tones (used to check mic and speaker operation)	**✳0**
Exit programming and disconnect	**#7**
Reset all programming to factory default settings	**###**

Note: *A double beep indicates a valid memory position, four beeps indicate an error.*

D. Speed Dial Numbers

Note: *Up to 20 digits can be stored in each dial position. Special features such as pause, mode change, Touch Tone ✳ and # count as single digits.*

1. 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 **1600A-CE** series phone is factory set with no speed dial number programmed.

To Program:	Enter:
✳	✳✳
#	✳#
4 second pause	✳7
Switch to pulse mode	✳6
0, 1, 2...9	0, 1, 2...9

2. "INFO" Speed Dial Numbers (E-1600-20A-CE/52A-CE Only) (memory locations #07 - #09)

The information speed dial number programmed in location **#07** is the telephone or extension number that is dialed when the "**INFO**" button is first pressed. Additional information 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. The **E-1600-20A-CE** phone will cycle through the programmed speed dial numbers until answered. To program, enter the desired speed dial number followed by the location number (**#07 - #09**). To clear a speed dial location, simply enter the location (**#07 - #09**) alone.
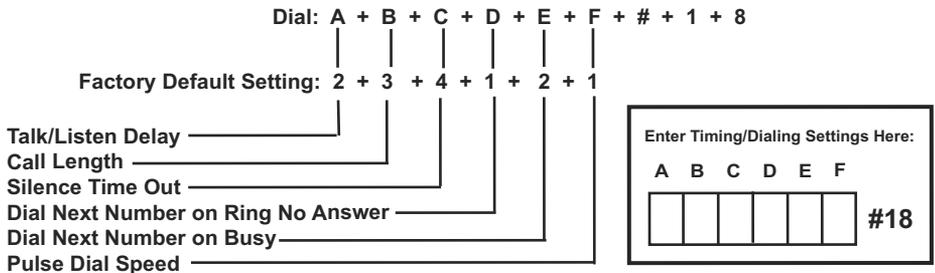
3. Speed Dial Programming Examples

To Program the 1600A-CE Series Phone...	Step 1 See Section A	Step 2 Enter Digits:
...to store 555-1234 as the first emergency speed dial number	Enter Programming	**5 5 5 1 2 3 4 # 0 0**
...to store a Touch Tone 9, a four second pause and then a pulse dialed 333-4444 into the second "Info" speed dial memory position	Enter Programming	**9 *7 *6 3 3 3 4 4 4 4 # 0 8**
...to clear the first emergency speed dial number	Enter Programming	**# 00**

E. Identification Number (memory location #20)

The touch tone I.D. number (up to 20 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**

F. Timing/Dialing Options (Memory Location #18)

There are six positions in the timing/dialing options. To program these options, enter the six desired timing/dialing digits followed by **#18**. The six available timing/dialing options are defined as shown below.

Dial: **A + B + C + D + E + F + # + 1 + 8**

Factory Default Setting: **2 + 3 + 4 + 1 + 2 + 1**

Talk/Listen Delay
Call Length
Silence Time Out
Dial Next Number on Ring No Answer
Dial Next Number on Busy
Pulse Dial Speed

Enter Timing/Dialing Settings Here:

A B C D E F

#18

Setting A - Talk/Listen Delay

This feature selects switching time between talk and listen modes (VOX switching time). Use chart on the right. * *Note: The factory default is .2 seconds.*

Touch Tone	Talk/Listen Delay
1	.1 sec
2	.2 sec*
3	.3 sec
4	.4 sec
5	.5 sec
6	.6 sec
7	.7 sec
8	.8 sec
9	.9 sec

Setting B - Call Length Time Out

This feature selects the maximum length of time that calls can be connected. Programmable in increments of 1 minute up to a maximum of 9 minutes (Touch Tones 1 - 9). Program 0 in this location to disable the call length time out. With the call length disabled, the **1600A-CE** series phone must rely on CPC, busy, silence or return to dial tone 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

Setting C - Silence Time Out

This feature selects the length of time that calls will remain connected without voice activity. Programmable in increments of 10 seconds up to a maximum of 90 seconds (Touch Tones 1 - 9). To disable the silence time out, program 0 in this location. Use chart at the right.

* *Note: The factory default is 40 seconds.*

Touch Tone	Silence Time Out
0	Disabled
1	10 sec
2	20 sec
3	30 sec
4	40 sec*
5	50 sec
6	60 sec
7	70 sec
8	80 sec
9	90 sec

Setting D - Dial Next Number on Ring No Answer

If enabled and a ring-no-answer is detected, the **E-1600A-CE** phone will dial the next programmed speed dial number, and continue to cycle through the emergency numbers until a call is completed.

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

Touch Tone	Setting D
1 or 0	Disabled
2, 3, 4...9	*Dials second number after 2, 3, 4...9 rings respectively

Setting E - Dial Next Number on Busy

If enabled and a busy is detected, the **1600A-CE** series phone will dial the next programmed speed dial number, and continue to cycle through the emergency numbers until a call is completed.

* *Notes: 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.*

Touch Tone	Setting E
1	Disabled
2	Enabled*

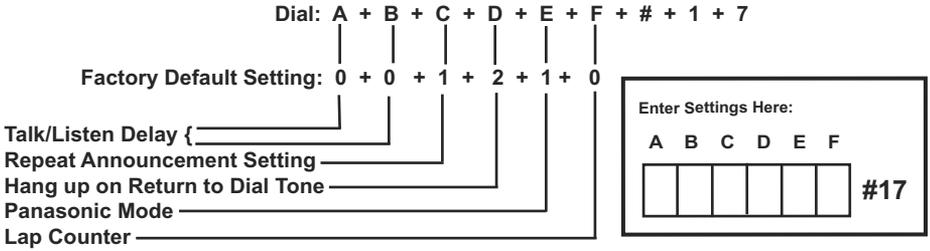## Setting F - Pulse Dialing Rate (Pulses per Second)

The **1600A-CE** series phone is capable of different pulse dialing speeds.

* *Note: The factory default setting is 10pps (pulses per second).*

Touch Tone	Setting F
1	10 pps*
2	20 pps

G. Voice Announcer/Miscellaneous Options (memory location #17)

The **1600A-CE** series phones have a built-in non-volatile digital voice announcer that may be used to identify the location of the emergency phone call. The 16 seconds of digital record time is recorded remotely from a Touch Tone phone. Programming options are as follows:

Dial: **A + B + C + D + E + F + # + 1 + 7**

Factory Default Setting: **0 + 0 + 1 + 2 + 1 + 0**

Talk/Listen Delay {
Repeat Announcement Setting
Hang up on Return to Dial Tone
Panasonic Mode
Lap Counter

Enter Settings Here:

A	B	C	D	E	F
						#17

Settings A and B - Announcement Delay (except E-30-CE, keep set at 00)

The **1600A-CE** series phone is factory set to automatically start playing the voice announcement after it has determined the call has been answered. Alternately, the announcement may be programmed to play after a programmed amount of time, from 1 to 99 seconds after dialing.

Touch Tone	Settings A/B
00	Play Automatically
01-99	1-99 seconds*

Note: *If the announcement delay time is used, you must allow enough time for the **1600A-CE** series phone to detect ring-no-answer and busy signals when using the redial features. The factory default is set to play automatically.*

Settings C - Repeat Announcement Option (except E-30-CE)

The **1600A-CE** can be programmed to play the announcement from 1-9 times, or continuously repeat the announcement every 8 seconds until a Touch Tone ✶ is detected from the distant party. The I.D. number (if programmed) will be sent and the call connected LED will turn on automatically after the announcement has stopped repeating.

Touch Tone	Setting C
0	Repeat every 8 secs
1-9	Play 1-9 times*

Note: *The factory default for the **1600A-CE** series phone is to play the voice announcement once (digit **1**).*

Setting D - Hang Up on Return to Dial Tone

If enabled and return dial tone is detected, the **1600A-CE** will hang up.

Note: *The factory default setting is enabled.*

Touch Tone	Setting D
1	Disabled
2	Enabled*

Setting E - Panasonic Mode

The **1600A-CE** series phone can be programmed to recognize the double ring cadence that is typical of Panasonic phone systems. If the **1600A-CE** is connected to a Panasonic extension, (or any other system that provides a double ring cadence) enable "Panasonic Mode" will allow for proper call progress detection.

Touch Tone	Setting E
1	Disabled*
2	Enabled

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

Setting F - Lap Counter

With the lap counter disabled (factory setting), if the **1600A-CE** is programmed to dial the next number on ring-no-answer and/or busy signal (see page 10), the **1600A-CE** series 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

Touch Tone	Setting F
0	Disabled*
1-9	Lap count = 1-9 times

times the **1600A-CE** series phone will cycle through its list of up to 5 emergency number (or up to 3 "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 **1600A-CE** series phone hangs up. ***Note:*** *This feature is disabled in the factory default setting.*

H. Recording the Announcement Option (except E-30-CE)

Step 1	Call into the **1600A-CE** series phone with a Touch Tone phone and access programming.
Step 2	Enter ✱**4**, wait for the tone and then begin recording. Sixteen seconds of record time is available.
Step 3	Enter any Touch Tone 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 asterisk (✱) key on your telephone to start and stop this announcement..."

I. Assisted Programming (USA Only)

When attempting to program the **1600A-CE** Series emergency phone, if the phone number of the line it is connected to is not known, the phone can be set to automatically call Viking technical support for assistance. With DIP switch 3 set to OFF (programming mode), pushing the CALL button will cause the **1600A-CE Series** phone to call Viking, whether it be connected directly to a CO line, or behind a "dial 9" PBX.
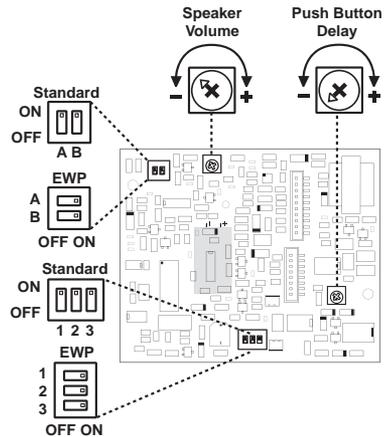
The **1600A-CE Series** phone will first dial 9, and then listen for second dial tone; if detected it will continue to dial Viking's assisted programming phone number. If a second dial tone is not detected, it then knows is not behind a PBX, so it will momentarily hang up and then directly dial Viking's assisted programming phone number. Since this is a long distance phone call, the line must be capable of placing long distance calls for the call to go through. When finished programming, it is very important to set DIP switch 3 back to ON (normal operating mode), and place a test emergency call to be sure all programming was done properly.

Warning: Failure to set DIP switch 3 back to ON when finished programming will cause the 1600A-CE Series phone to call Viking Technical Support, instead of your programmed emergency number. Yet, as a fail-safe measure, after 3 calls to Viking, the unit will ignore switch 3 and dial its programmed phone numbers.

J. DIP Switch Programming and Speaker / Microphone Adjustments

A speaker volume POT is provided to increase or decrease the speakerphone volume. ***Note: The Microphone Sensitivity POT has been removed because the microphone sensitivity is now microprocessor controlled. This allows the mic gain to be automatically increased in a quiet environment, allowing the distant party to clearly hear even soft or distant sounds. The microprocessor will automatically reduce the mic sensitivity when the location becomes noisy. This Automatic Noise Canceling (ANC) feature will allow speakerphone two-way communications to continue to work properly, even when subjected to loud noise such as a diesel engine or traffic.***

Switch A	Switch B	Description
ON	ON	Normal audio detection
OFF	OFF	Increase audio detect sensitivity for low level lines. Useful in applications in which voice or busy signals have trouble breaking over the speaker.

Switch	Position	Description
1	ON	"HELP / CALL" button alternately connects and disconnects calls (factory default)
1	OFF	"HELP / CALL" button connects calls only
2	ON	Incoming calls answered (factory setting)
2	OFF	Incoming calls are not answered
3	ON	Normal operation mode (factory setting)
3	OFF	Learn mode - Any incoming calls are automatically entered into the programming mode (no security code required). Use this option if you have forgotten your security code. Any outbound call will dial Viking Technical Support (see section I). *WARNING: When finished programming, set this switch back to the ON position, otherwise the 1600A Series phone will only call Viking Technical Support instead of your programmed emergency number.*

12

K. Push Button Delay

The Push Button Delay POT (shown in the diagram above right), allows the installer to delay the reaction time of the push-to-call buttons. The POT is factory set to the recommended minimum position (fully counterclockwise), which allows the phone to initiate an outbound call with a momentary push of the button. Increasing the POT setting slows down the reaction time of the push-to-call button, requiring the user to press and hold the button for some time before a call is initiated. The amount of time delay can be set by experimentation. The POT range is large enough that the delay time is infinite. Be sure to test both "HELP" and if applicable, "INFO" button.

L. Optional Audio Induction Loop (Yellow Wire)

A 600 ohm audio output is availabe to source an Audio Induction Loop amplifier (also known as a "Hearing Loop), used to drive hearing aids with T-Coils. To use this option cut the YELLOW wire loop in two, and connect the wire pair to the input of the amplifier.

M. Optional Door Contact Input (Violet Wire)

The **1600A-CE** Series phone is equipped with the option to disable the phone whenever the elevator doors are open. This option is useful in installations in which prank calls are common. A call for help can only be initiated when the elevator doors are closed. To use this option cut the VIOLET wire loop in two, and connect the wire pair to a door switch that opens when the doors are open.

N. Central station Programming

The standard **1600A-CE** emergency phone is capable of communicating using the "Ademco Contact I.D.", "Ademco High Speed", "DTMF 4+1 Express", or the "DTMF 4+2 Express" formats. All formats use the programming memory location **#20** to store the account code and alarm details.

1. Central Station Programming Features

a. Accessing the Programming Mode

Before programming, you must access the programming mode (see **Programming** section **A**).

b. Enabling/Disabling Central Station Mode

The **1600A-CE** Series emergency phone can be placed in the "Central Station Mode" by entering a central station phone number in position **#05** while programming. To cancel the "Central Station Mode," clear position **#05** by entering **#05** only (see **Programming** section **D**).

To Program the 1600A-CE Series Phone...	Step 1 :	Step 2 - Enter Digits:
...to enable central station programming and dial 952-2567	Enter Programming	9 5 2 2 5 6 7 # 0 5
...to disable central station programming	Enter Programming	# 0 5

c. Ring No Answer

When the **1600A-CE** Series emergency phone is in the "Central Station Mode", it is best to have the ring no answer set to a minimum of three, because some receivers send a long tone after answering the line that sounds like a ring back. If the **1600A-CE** is set to a ring no answer of two, the phone will disconnect (see **Programming** section **F**.)

d. Speed Dial Numbers

The **1600A-CE** Series phone can be programmed to dial a central station receiver only, or dial up to 5 voice numbers first, and if no answer, then dial the central station receiver. When calling the first numbers (memory positions **#00-#04** (see **Programming** section **D**), the phone stays in "two-way talk mode" allowing two-way conversation. When calling the Central Station number (memory position **#05**), the phone is in a "listen only mode" in order to interpret the hand shake signals of the receiver.

A second central station number position has been provided in location **#06** that is used when the central station receiver does not have a talk over mode. If a number is placed in position **#05** and position **#06** is cleared, the **E-1600A-CE** will call the central station monitor receiver. One or two alarm messages can be sent to the receiver (see **Operation** section **B**, note **3**). After the receiver sends a kiss-off, the **E-1600A-CE** lights the "Call Connected" LED and goes into two-way talk mode. If numbers are in both positions **#05** and **#06**, the **E-1600A-CE** will call the receiver first, and after the kiss-off, will hang-up and redial the number in position **#06** for two-way voice communication

Location	Call Type
#00	Voice - Emergency
#01	Voice - Emergency
#02	Voice - Emergency
#03	Voice - Emergency
#04	Voice - Emergency
#05	Central Station Receiver
#06	Central Station Voice Line
#07	Voice - "Info" (E-1600-20A/52A ONLY)
#08	Voice - "Info" (E-1600-20A/52A ONLY)
#09	Voice - "Info" (E-1600-20A/52A ONLY)

Notes: If only a central station is to be dialed, the central station phone number must be preprogrammed in memory location #05 and memory locations #00-#04 must be cleared.

2. Central Station Formats

The following examples explain the receiver formats and how to properly program memory location **#20**. Each format starts with a four digit account code. This is the code that is assigned by your central station for billing purposes. You must access the programming mode before programming these features (see **Programming** section **A**). *Important: If a number is shown, you must use that number. If an "X" is shown, use any appropriate number.*

*Note: A second information alarm message can be sent to the receiver, for any receiver that requires two separate messages. The second alarm message is programmed in #21 location. For additional information about the second alarm mesage, see **Operation** section **B**.*

a. Ademco Contact ID Format

This DTMF format consists of a four digit account code, two digit message type, and a nine digit data field.

```
          XXXX 18 1 14000 XXX #20
Account Code ──────┘  │ │    │        │        ┌─── Memory Location
Message Type ─────────┘ │    │        └──────────── Any number to identify phone
New Event ──────────────┘    └───────────────────── General Alarm
```

Enter Contact ID Settings Here:					18 1 14000				#20

b. Ademco High Speed Format

This DTMF format consists of a four digit account code, eight zone codes and one alarm type digit. With this format you can identify up to eight different phones by using a zone per phone. A "5" in a zone position means no alarm. The following example shows an alarm from the third phone.

```
          XXXX 55 1 55555 7 #20
Account Code ──────┘  │ │   │    │      ┌─── Memory Location
Idle Zone ────────────┘ │   │    └──────────── Normal Alarm
New Event ──────────────┘
```

Enter Ademco High Speed ID Settings Here:					55 1 55555	7	#20

c. 4+1 Express Format

This DTMF format consists of a four digit account code, two digit message type, and a single digit event code.

XXXX 17 X #20

Account Code
Message Type

Memory Location
Event Code

Enter 4 + 1 Express ID Settings Here: [ ][ ][ ][ ] 17 [ ] #20

d. 4+2 Express Format

This DTMF format consists of a four digit account code, two digit message type, and a two digit event code.

XXXX 27 XX #20

Account Code
Message Type

Memory Location
Event Code

Enter 4 + 2 Express ID Settings Here: [ ][ ][ ][ ] 27 [ ][ ] #20

Operation

A. Standard Operation

1. "HELP" / "CALL" Button

When the "**HELP**" / "**CALL**" button is pressed, the **1600A-CE** series phone goes off-hook and dials a pre-programmed telephone number. The Call Connected LED momentarily flashes during tone or pulse dialing. In the event that 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 emergency numbers until the call is answered. When the call is answered, handsfree communication to emergency personnel is established. The digital voice announcer will automatically play to identify the location of the emergency call. The ✳ key will stop the announcement, send the I.D. number (if programmed) and light the "Call Connected" LED. Alternatively, the phone can be programmed to automatically light the "Call Connected" LED after the announcement has played a programmed number of times. The distant party will know the location of the emergency call by either the voice announcement or by decoding the Touch Tone I.D. number. Pressing the ✳ key again will send the I.D. number and play the message again. Once the ✳ key has been pressed, the **#** key can be used to force the phone to hang-up. *Note: The E-30-CE phone's LED is on whenever the phone is in use and there is no voice announcer.*

2. "INFO" Button (E-1600-20A-CE and E-1600-52A-CE Only)

When the "**INFO**" button is pressed (**E-1600-20A-CE** and **E-1600-52A-CE** only), the phone goes off-hook and dials the first "**INFO**" phone number programmed. If a busy signal is detected or the call goes unanswered, the phone will cycle through all three "**INFO**" phone numbers until the call is answered. When answered, handsfree communication is established. *Note: The voice announcement is for **Emergency/Help** calls only and will not play on a call initiated from the "INFO" button.*

B. Central Station Operation (except the E-30-CE)

After the "**HELP**" / "**CALL**" button on the **1600A-CE** Series phone has been pressed the **1600A-CE** Series phone will begin to dial. If a voice number is programmed in memory locations **#00-#04**, these numbers will be dialed first. Upon detecting a busy signal or after a preprogrammed ring delay the **1600A-CE** Series phone will hang-up and dial the central station phone number stored in memory location **#05**. When the central station receiver answers, it will send a handshake tone to the **1600A-CE** phone. Upon detecting the handshake tone, the **1600A-CE** Series phone will begin uploading the information stored in memory location **#20**.

Once the **1600A-CE** Series emergency phone has sent the information stored in memory location **#20**, it waits for a "kiss-off" tone from the central station. When the "kiss-off" tone is received, the emergency phone turns on the call connected LED and goes into the "two-way talk mode" or hangs up and dials position **#06** if programmed (see Note 3 below).

Notes:

*1. The central station should have a "talk-over" feature that will allow a two-way conversation at this time. If your receiver does not support "talk-over", a voice phone number should be programmed into position **#06**.*

*2. If the central station answers the call, sends the handshake tone, but does not send a "kiss off" tone after the information is sent, the **1600A-CE** resends the information three additional times, waiting for a "kiss-off" after each attempt. If "kiss-off" has not been received after the fourth attempt, the **1600A-CE** hangs up and dials position **#05** again.*

*3. The **1600A-CE** has the capability to send a second informational message to the receiver after the first "kiss-off" is received, but only if a second informational message is stored in memory location **#21**. After the first "kiss-off" is received, the **1600A-CE** sends the information stored in memory location **#21**. It then waits for a second "kiss-off" from the central station receiver. When the second "kiss-off" is received, the emergency phone turns on the call connected LED and goes into the "two-way talk mode" or hangs up and dials position **#06** if programmed.*

THIS PRODUCT CONTAINS NO USER SERVICEABLE PARTS

If you have a problem with a Viking product, return the unit to: **Viking Electronics, Inc.**
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Hudson, WI 54016
USA

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