The E-40 Series entry phones are compact, weather and vandal resistant, telephone line powered speaker phones designed to provide two-way handsfree communication. The E-40's compact size allows it to be mounted in a standard single gang electrical box. The E-40 is available in five different attractive finishes to match your door hardware, light fixtures, etc. Replacement E-40 faceplates (PNL40) can be purchased separately and are available in all five standard finishes. The E-40’s blue LED continuously provides light for locating the push button in dark locations, dims to indicate off hook and flashes during incoming ring. Note: LED not available on all models. Contact Viking for more information. The E-40 entry phones can share a single phone line with house or small business telephones when used with a Viking model C-200, C-250 or C-2000B Entry Phone controller. The E-40 entry phones can also be connected to an unused analog station port (programmed for ring down) on a phone system or connected directly to a telephone line when used with a Viking model K-1900-5 or K-1900-30 auto dialer. The E-40 features microphone and speaker volume controls, selectable auto answer for monitoring and intelligent call progress detection for automatic hang-up when the call is completed. For outdoor installations where the unit is exposed to precipitation or condensation, the E-40 Series is available with Enhanced Weather Protection (EWP). For more information on EWP, see DOD# 859.

### Features
- **Compact size:** Front panel is the size of a typical single gang mid-size wall plate
- **Mounting:** Flush mounts in a single gang electrical box (2.25” deep x 2.0” wide x 2.84” tall minimum) or surface mounts in a Viking model VE-3x5 (not included, see DOD# 424)
- **Available in 5 standard faceplate finishes:** Brushed Stainless Steel, Oil Rubbed Bronze, Polished Brass, Satin Black and Satin White
- **PNL-40 faceplates:** Replacement faceplates with matching screws available in all five standard finishes
- **Vandal Resistant Features:** 16 gauge polished brass or 18 gauge 304 stainless steel faceplate, 316 stainless steel push button, carbon fiber reinforced plastic speaker screen, scratch resistant powder coating, hex drive mounting screws
- **Weather Resistant Features:** Mylar speaker, faceplate gasket, mic and speaker gasket, internally sealed (IP67) push button switch, self draining mic mount and UV stable weather resistant powder coating (excluding E-40-SS 304 Stainless Steel faceplate)
- **E-40-EWP** is designed to meet IP66 Ingress Protection Rating (see DOD# 859 for more information)
- **Telephone line powered**
- **Microphone and speaker volume controls**
- **Programmable Intelligent call progress detection for automatic hang-up on CPC, silence, busy signal, or time out**
- **Selectable auto answer feature for monitoring**
- **Programmable VOX (mic/speaker) switching speed**
- **Blue LED helps locate push button, indicate ringing and off hook**

### Applications
- **Door or gate communication, business delivery entrances**
- **Use with a Viking C-200 or C-250 to control an E-40 on a single line**
- **Use with a Viking C-2000B to control 1 to 4 E-40’s and doorgate control on a single phone line**
- **Provide unique front and back door chimes and paging when used with a Viking SLP-1, SLP-4 and C-2000B**
- **Residential, commercial and industrial door security**
- **Use with a Viking K-1900-5 or K-1900-30 for automatic speed dialing on telephone lines or analog PABX/KSU station ports**
- **Use on any analog PABX station port with programmable ringdown capability**

### Specifications
- **Power:** Telephone line powered. Minimum 18V DC talk battery voltage with a minimum loop current of 20mA. Loop current may be boosted on low current lines with a Viking model TBB-1B Talk Battery Booster (see DOD# 832)
- **Dimensions:** Faceplate: 123.8mm x 79.4mm x 4.6mm (4.875” x 3.125” x 0.18”), Phone: 72mm x 46mm x 42mm (2.84” x 1.8” x 1.65”)  
- **Shipping Weight:** 0.45 kg (1.0 lbs)
- **Operating Temperature:** -34° C to 65° C (-30° F to 150° F)
- **Humidity:** Standard model: 5% to 95% non-condensing humidity, EWP model: up to 100% humidity
- **Speaker Volume:** Approximately 62dB maximum @ 1m
- **Ring Voltage:** 25V AC RMS minimum (for auto answer)
- **CPC Disconnect Time:** 300ms minimum
- **REN:** 0.8A
- **Connections:** (2) gel-filled butt connectors
**IF YOU HAVE A PROBLEM WITH A VIKING PRODUCT, PLEASE CONTACT: VIKING TECHNICAL SUPPORT AT (715) 386-8666**

Our Technical Support Department is available for assistance Monday 8am - 4pm and Tuesday through Friday 8am - 5pm central time. So that we can give you better service, before you call please:

1. Know the model number, the serial number and what software version you have (see serial label).
2. Have your Technical Practice in front of you.
3. Is it 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. Packaging: Return equipment in original box or in proper packing so that damage will not occur while in transit. Static sensitive equipment such as a circuit board should be in an anti-static bag, sandwiched between foam and individually boxed. All equipment should be wrapped to avoid wearing material lodging in or sticking to the equipment. Include ALL parts of the equipment and/or 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 P.O. Box.
4. RA number on carton: In large printing, write the R.A. number on the outside of each carton being returned.

**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 one year from the date of purchase from any authorized Viking distributor or 18 months from the date manufactured, whichever is greater. During this 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 (RA) number.

NOTE: 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.

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**FCC REQUIREMENTS**

This equipment complies with Part 68 of the FCC rules and the requirements adopted by the ACTA. The front panel of this equipment is a label that contains, among other information, a product identifier in the format US:AAAEQ##TXXXX. If requested, this number must be provided to the telephone company so that the equipment can be made usable in the telephone network. The REN is used to determine the maximum number of devices that may be connected to a telephone line. Excessive REN's on a telephone line may result in the devices not ringing in response to an incoming call. In most but not all areas, the sum of the REN's for each device on a line may not exceed five (5.0). To be certain of the number of devices that may be connected to a line, as determined by the total REN's, contact the local telephone company. For products approved after July 23, 2001, the REN for this product is part of the product identifier that has the format US:AAAEQ##TXXXX. The digits represented by ## are the REN's. To determine the REN's, contact the local telephone company. The plug used to connect this equipment to the premises wiring and telephone network must comply with the applicable FCC Part 68 rules and requirements adopted by the ACTA. If your home has specially wired alarm equipment connected to the telephone line, ensure the installation of this E-40 does not disable your alarm equipment. If you have questions about what will disable your alarm equipment, consult your telephone company or a qualified installer.

**FCC PART 15 LIMITATIONS**

Connection to Party Line Service is subject to State Tariffs. The customer may be required to provide a separate line for E-40 service. The customer is responsible for determining the compatibility of the equipment to be used with local lightning strikes and other electrical surges.

**PART 15 LIMITATIONS**

This equipment has been tested and found to comply with the limits for a Class B 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.

**Installation**

The E-40 is designed to be flush mounted into a standard single gang rough-in box with minimum inside dimensions of 2.25" deep x 2.00" wide x 2.84" tall. The E-40 can also be surface mounted in a Viking model VE-3x5 (not included, see DOD# 424). **WARNING: Do NOT use a typical "wet location box" as not all styles seal properly with the E-40 faceplate.**

**A. New Construction Flush Mounting**

1. **Front of box should stick out approximately 1/2" from front surface of wall stud (this may vary depending on the walls sheathing and siding conditions). Caution:** Rough-In box must be mounted LEVEL and must NOT stick out beyond the front surface of siding.
2. To maintain a vapor barrier on outside wall applications, caulk around the box, filling any gaps between the box and the rough opening. Apply caulking to any holes in the box around wires, etc.
3. When installing siding cut a hole just large enough for the Rough-In box opening. **Caution:** Too large of a hole can cause plate misalignment and compromise the gasket seal. **Note:** When mounting to 4 inch or less horizontal lap siding, the unit can be mounted horizontally flush against siding or a siding mounting block can be used (recommended with vinyl siding). Contact siding installer for the correct mounting block.

**B. Old Work / Remodel Flush Mounting (Using an Allied Molded 9331 Rough-In Box)**

1. **Make sure mounting location is free of wall studs, wires, etc.**
2. **Place Rough-In box LEVEL against siding. Trace outline of box onto siding. Note:** When mounting to 4 inch or less horizontal lap siding, the unit can be mounted horizontally flush against siding or a siding mounting block can be used. Contact your siding installer for the correct mounting block part number. **Note:** A siding mounting block is recommended when mounting to vinyl siding.
3. **Cut a hole through the siding and wall sheathing just large enough for the rough-in box. Caution:** Too large of a hole can cause plate misalignment and compromise the gasket seal.
4. **The front surface of the Rough-In box can be mounted flush against wood siding or can be recessed and mounted flush with wall sheathing when mounting on aluminum, steel or vinyl siding.**
5. **When mounting to 5/8 inch thick or less wall sheathing the two attached screws with wing brackets can be used to secure the rough-in box. When mounting to surfaces thicker than 5/8 inch, four standard flat head dry wall screws can be used to secure the Rough-In box through its mounting ears.**
6. **To maintain a vapor barrier on outside wall applications, caulk around the box, filling any gaps between the box and the rough opening. Apply caulking to any holes in the box around wires, etc.**
C. Surface Mounting
A Viking model VE-3x5 can be used to surface mount an E-40 to a wall or post. Drill a small wire exit hole in wall. Pull wire through and seal hole around wire with putty or caulking. Route wire into the VE-3x5 box, securely screw it to wall or post and seal hole in box around wire with putty or caulking. **Note:** Conduit may also be used when surface mounting wire, but should not enter through the top of the VE-3x5. When routing wiring from above, a drip loop is required. **WARNING:** Do NOT use a typical “wet location box” as not all styles seal properly with the E-40 faceplate.

D. Mounting the Faceplate
After the Rough-In box or VE-3x5 is securely mounted, caulking between the box and rough opening is completed (if required), and wires are connected, remove paper liner from face plate gasket. While firmly holding the LED light pipe in the faceplate, carefully slide the faceplate gasket over the back of the light pipe and press gasket to the back of the faceplate. Push the 1-1/4" 6-32 screws through faceplate holes and small holes in gasket, the faceplate gasket should retain the screws. Position Circuit board mounting plate over screws. Align screws with single gang box bosses and tighten face plate until gasket is fully collapsed and the push button is protruding through the clearance hole in the face plate. Included 1/4" thick gasket will provide an adequate seal for most siding surfaces; however for rough surfaces (ie: brick, stucco, etc.) additional caulking may be required.

E. Wiring the E-40

**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.

**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. Do not strip wires prior to terminating.

**Note:** To increase surge protection, loosen the PCB mounting screw labeled ‘(as shown above)’ and fasten a wire with ring terminal (included) from the mounting screw to Earth Ground (grounding rod, water pipe, etc.) After fastening ring terminal to PCB mounting screw, bend terminal up to avoid interference with single gang box.

**Note:** Talk battery must be a minimum of 28V DC when using the speaker phone with a Viking K-1900-5 Dialer (DOD# 317) or K-1900-30 Multi-Number Dialer (DOD# 300).

**Note:** When installing a line powered phone on a low voltage and/or low loop current phone system extension, a Viking Ringdown Controller may be required. See DOD# 632.

**Programming**

A. Adjusting Speaker Volume
The speaker volume pot can be adjusted to increase or decrease the speaker volume to the level desired.

B. Adjusting the Microphone Volume
In certain noisy locations (background traffic, machinery or wind), the microphone volume may need to be decreased. A symptom of this is one-way talk path, in which the distant party cannot be heard over the speaker. A microphone volume pot is provided for increasing or decreasing the microphone volume. **Note:** If the microphone volume is set too high or too low, one-way talk path may occur.
C. **DIP Switch Programming**

1. **Auto Answer Feature ON/OFF (DIP Switch 1)**
   DIP switch 1 is for turning the Auto Answer feature ON and OFF. The E-40 is factory set to auto answer when an inbound call is detected.

2. **Dial Tone Detection ON/OFF (DIP Switch 2)**
   With DIP switch 2 in the ON position, if the E-40 detects more than 5 seconds of continued dial tone, the unit will automatically disconnect. If the E-40 is installed on a continuously noisy line, it may detect the noise as dial tone and automatically disconnect. If this happens, turn the dial tone detection (DIP switch 2) OFF.

3. **Programming Mode ON/OFF (DIP Switch 3)**
   With DIP switch 3 in the OFF position, the E-40 is in the “Normal Operation Mode” (factory setting). By placing DIP switch 3 in the ON position, the E-40’s programming mode is enabled. The programming mode is used for adjusting the Call Length Time Out, Silence Time for automatic disconnect and the Talk/Listen delay (VOX switching speed). These features are set from the factory and normally do not need adjustment. If adjustment is necessary, see Programming sections D - I.

4. **LED On/Off (DIP Switch 4)**
   With DIP switch 4 in the ON position, the blue faceplate LED will remain on at all times (to help locate push button switch in dark locations), dim to indicate off hook and flash to indicate incoming ring. When connecting an E-40 to a C.O. line, turn the LED off to comply with FCC regulations.

D. **Accessing the Programming Mode**

The E-40 can be programmed from any Touch Tone phone using a telephone line, Viking model C-200, C-250 or C-2000B Entry Phone Controller, analog PABX/KSU station or a Viking model DLE-200B Line Simulator.

**Step 1.** Move DIP switch 1 to the ON position (sets unit to answer incoming calls - see section C).

**Step 2.** Move DIP switch 3 to ON (incoming calls automatically enter the programming mode - see section C).

**Step 3.** From a Touch Tone phone call the line attached to the E-40.

**Step 4.** When the E-40 answers, 2 beeps will be heard and you will automatically enter the programming mode.

**Step 5.** When finished programming, enter “0000” to exit programming and move DIP switch 3 back to OFF (see section C).

E. **Quick Programming Features**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Select Feature</th>
<th>Wait for Beep(s)</th>
<th>Enter Time Value</th>
<th>Wait for 2 Beeps</th>
</tr>
</thead>
<tbody>
<tr>
<td>Call length time out (1-9 minutes), 10 = disabled (factory set to 11111 = 5 minutes)</td>
<td>0 beep</td>
<td>111... beep beep</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Silence time out for disconnect (10-90 seconds), 10 = disabled (factory set to 1111 = 40 secs)</td>
<td>00 beep</td>
<td>111... beep beep</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Talk/listen delay (VOX switching speed) 0.1 - 0.9 seconds (factory set to 111 = 0.3 secs)</td>
<td>000 beep</td>
<td>111... beep beep</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Forced hang-up command (used to exit programming and hang up the E-40) | 0000 3 beeps

**See Table A below**

F. **Programming Beeps**

If a valid “Feature” is entered, a single beep will be heard and you will have 20 seconds to enter a “Time” value. If an invalid “Feature” (five or more zeros) or forced hang-up command (four zeros) is entered, 3 beeps will be heard and the E-40 will hang up. If a valid “Time” is entered 2 beeps will be heard and you will have 20 seconds to enter your next “Feature”. If an invalid “Talk/Listen Delay Time” is entered (10 or more ones), 3 beeps will be heard and you will have 20 seconds to enter your next “Feature”.

G. **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. To disable the call length time out, program ten ones in the “Time” value location. With the call length disabled, the E-40 phone must rely on CPC, busy, silence or return dial tone to hang-up. Use the chart at the right. * **Note:** The factory default is 5 minutes.

<table>
<thead>
<tr>
<th>Time Value</th>
<th>Call Length Time Out</th>
<th>Silence Time Out</th>
<th>Talk/Listen Delay</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1 min</td>
<td>10 sec</td>
<td>.1 sec</td>
</tr>
<tr>
<td>11</td>
<td>2 min</td>
<td>20 sec</td>
<td>.2 sec</td>
</tr>
<tr>
<td>111</td>
<td>3 min</td>
<td>30 sec</td>
<td>.3 sec*</td>
</tr>
<tr>
<td>11111</td>
<td>4 min*</td>
<td>40 sec*</td>
<td>.4 sec</td>
</tr>
<tr>
<td>111111</td>
<td>5 min*</td>
<td>50 sec</td>
<td>.5 sec</td>
</tr>
<tr>
<td>1111111</td>
<td>6 min</td>
<td>60 sec</td>
<td>.6 sec</td>
</tr>
<tr>
<td>11111111</td>
<td>7 min</td>
<td>70 sec</td>
<td>.7 sec</td>
</tr>
<tr>
<td>111111111</td>
<td>8 min</td>
<td>80 sec</td>
<td>.8 sec</td>
</tr>
<tr>
<td>1111111111</td>
<td>9 min</td>
<td>90 sec</td>
<td>.9 sec</td>
</tr>
<tr>
<td>10 or more</td>
<td>Disabled</td>
<td>Disabled</td>
<td>Error</td>
</tr>
</tbody>
</table>

H. **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. To disable the silence time out, program ten ones in the “Time” value location. Use the chart at the right. * **Note:** The factory default is 40 seconds.

I. **Talk/Listen Delay (VOX Switching Speed)**

This feature selects switching time between talk/ listen modes (VOX switching time). Use the chart above. * **Note:** The factory default is .3 sec.

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**Operation**

When the push button is pressed, the E-40 phone goes off-hook, much like a standard speaker phone. In the event that the line is busy, the E-40 will hang-up. The E-40 will also automatically hang up on CPC, silence, busy signal, return to dial tone or time out. If programmed to auto-answer (DIP switch 1 ON), the E-40 will also answer any incoming call.

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**Product Support Line...715.386.8666  Fax Back Line...715.386.4345**