The HD-1 Handset Dialer is a universal keypad Touch Tone generator capable of providing DTMF signaling.

The HD-1 permits access via DTMF signaling to beepers, voice mail and banking services from phone system consoles or other equipment which cannot provide Touch Tones. The HD-1 is easily installed in series with modular handsets and headsets or interfaces directly to Tip and Ring.

**Features**

- Easily connects in series with handset and headsets or interfaces directly to tip & ring with optional adapter kit
- Provides DTMF signaling across a dry pair of wires for in-house applications
- Compatible with console phone auxiliary handset jacks
- Powered by 9 V battery (provided) or optional PS-1A 13.8V AC adapter
- "Battery OK" LED indicator
- Adjustable Touch Tone volume control
- Switch selectable transmit (per handset wiring protocol)
- Optional Talk Battery adapter (PS-1A)

**Applications**

- Add DTMF Signaling to Console Phones for:
  1. Beeper paging
  2. Voice mail systems
  3. Automated attendants
  4. Banking services
- Access control (interfaced with an RC-3 or RC-2A for door/gate control)

**Specifications**

- **Power:** 9 Volt battery provided. Optional Viking PS-1A (120V AC/13.8V AC 1.25A UL listed adapter)
- **Battery Life:** 1 year average (under normal use)
- **Dimensions:** 6” x 3.25” x 1.75” (152mm x 83mm x 44mm)
- **Shipping Weight:** 2 lbs (.90 Kg)
- **Environmental:** 32°F to 90°F (0°C to 32°C) with 5% to 95% non-condensing humidity
- **Connections:** (1) handset plug, (1) handset jack, optional connections: (1) RJ11 plug, RJ11 jack

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HD-1
Handset Interfaced Touch Tone Dialer

December 29, 2016

Add Touch Tone Capability to PABX Consoles

Phone...715.386.8861

info@vikingelectronics.com
http://www.vikingelectronics.com
RETURNING PRODUCT FOR REPAIR

The following procedure is for equipment that needs repair:
1. Customer must contact Viking's Technical Support Department at 715-386-8666 to obtain a Return Authorization (RA) number. The customer MUST have a complete description of the problem, with all pertinent information regarding the defect, such as options set, conditions, symptoms, methods to duplicate problem, frequency of failure, etc.
2. Packing; Return equipment in original box or in proper packing so that damage will not occur while in transit. Static sensitive equipment such as a circuit board should be in an anti-static bag, sandwiched between foam and individual-ly boxed. All equipment should be wrapped to avoid packing material lodging in or sticking to the equipment. Include ALL parts of the equipment. C.O.D. or freight collect shipments cannot be accepted. Ship cartons prepaid to: Viking Electronics, 1531 Industrial Street, Hudson, WI 54016.
3. Return shipping address: Be sure to include your return shipping address inside the box. We cannot ship to a P.O. Box.
4. RA number on carton: In large printing, write the R.A. number on the outside of each carton being returned.
5. VIKING MAKES NO WARRANTIES RELATING TO ITS PRODUCTS OTHER THAN AS DESCRIBED ABOVE AND DISCLAIMS ANY EXPRESS OR IMPLIED WARRANTIES OR MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE.

RETURNING PRODUCT FOR EXCHANGE

The following procedure is for equipment that has failed out-of-box (within 10 days of purchase):
1. Customer must contact Viking's Technical Support at 715-386-8666 to determine possible causes for the problem. The customer MUST be able to step through recommended tests for diagnosis.
2. If the Technical Support Support specialist determines that the equipment is defective based on the customer's input and troubleshooting, a Return Authorization (R.A.) number will be issued. This number is valid for fourteen (14) calendar days from the date of issue.
3. After obtaining the R.A. number, return the approved equipment to your distributor, referencing the R.A. number. Your distributor will then replace the product over the counter at no charge. The distributor will then return the product to Viking using the same R.A. number.
4. The distributor will NOT exchange this product without first obtaining the R.A. number from you. If you haven't followed the steps listed in 1, 2 and 3, be aware that you will have to pay a restocking charge.

TWO YEAR LIMITED WARRANTY

Viking warrants its products to be free from defects in the workmanship or materials, under normal use and service, for a period of two years from the date of purchase from any authorized Viking distributor. If at any time during the warranty period, the product is deemed defective or malfunctions, return the product to Viking Electronics, Inc., 1531 Industrial Street, Hudson, WI 54016. Customer must contact Viking's Technical Support Department at 715-386-8666 to obtain a Return Authorization (R.A.) number. This warranty does not cover any damage to the product due to lightning, over voltage, under voltage, accident, misuse, abuse, negligence or any damage caused by use of the product by the purchaser or others. This warranty does not cover non-EVP products that have been exposed to wet or corrosive environments. This warranty does not cover stainless steel surfaces that have not been properly maintained.

FCC REQUIREMENTS

This equipment complies with Part 68 of the FCC rules and the requirements adopted by the ACTA. On the side 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.

The REN is used to determine the 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 should 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.

EXCLUSIVE REMEDY AND LIMITATION OF LIABILITY, WHETHER IN AN ACTION BASED ON CONTRACT, TORT (INCLUDING NEGLIGENCE OR STRICT LIABILITY) OR ANY OTHER LEGAL THEORY, ANY LIABILITY OF VIKING SHALL BE LIMITED TO REPAIR OR REPLACEMENT OF THE PRODUCT, OR AT VIKING'S OPTION, REFUND OF THE PURCHASE PRICE AS THE EXCLUSIVE REMEDY AND ANY LIABILITY OF VIKING SHALL BE SO LIMITED.

A. Handset Interface

Connect the HD-1 in series with your handset or headset as shown above.

Note: If the handset or headset is terminated with a 5/8" on center twin telephone plug, a modular adapter plug and socket must be used. Recommended WESTEK part numbers: W478 and PTL-6.
B. Tip & Ring Interface

The HD-1 can be used to dial touch tones directly on a Tip & Ring interface (C.O. line, analog PABX/KSU extension, etc.), it is necessary to change from the default handset cord to the Tip/Ring interface cord. To obtain an HD-1 Tip/Ring interface cord, contact Viking Electronics Technical Support at: 715-386-8666 (part number: 260597, $5.00 each).

Step 1. Obtain an HD-1 Tip/Ring interface cord (6 ft cord with 4 pin connector, RJ11C plug and jack) from Viking Technical Support: 715-386-8666.

Step 2. Remove the 4 screws on the back of the HD-1 and remove the cover.

Step 3. Locate J1 (as shown above) and cut the wires on pins 1-8 of the J1 connector. Then remove the cord and modular handset jack connected to J1. **Caution:** Do NOT cut the red and black battery wires connected to J1 pins 9 & 10.

Step 4. Connect the Tip/Ring interface cord to J2. **Note:** Connector position 1 to pin 1 of J2. Slide the modular Tip/Ring jack into place.

Step 5. Slide Wiring Protocol Switch to position “C” as shown.

Step 6. Replace the back cover and connect the modular cord from the phone to the modular jack on the HD-1.

Step 7. Plug the HD-1 cord into the modular jack the phone was connected to.

C. Talk Battery Interface

With the optional PS-1A installed, the HD-1 is capable of supplying its own 24VDC Talk Battery to be used in conjunction with the model RC-2A or RC-3 to create a stand alone door/gate security keypad control. This application will require the use of the HD-1 Tip/Ring interface cord and installation of the optional PS-1A. To obtain an HD-1 Tip/Ring interface cord, contact Viking Electronics Technical Support at: 715-386-8666. To obtain a PS-1A power adapter, go to www.vikingelectronics.com and click on “Spare Parts.”

Step 1. Follow steps 1-3 as shown in section B above.

Step 2. Connect the Tip/Ring interface cord to J3. **Note:** Connector position 1 to pin 1 of J3. Slide the modular Tip/Ring jack into place.

Step 3. Connect the PS-1A (13.8V AC adapter) to J4.

Step 4. Remove the 9V battery and discard.

Step 5. Re-assemble the HD-1.

**Note:** The Wiring Protocol Switch has no effect in the Talk Battery Interface mode.
D. Console Auxiliary Handset Jack

The HD-1 can be installed on your console's auxiliary handset jack. To eliminate the need for an additional handset to inject the DTMF signal, simply move the jumper on J6 (dummy phone load jumper) to positions 1 & 2 as shown below. Refer to Operation, section A for operating instructions.

**Operation**

**A. Handset Interface**

The HD-1 may require some volume and wiring protocol adjustments to function properly on your telephone. Start with the wiring protocol switch set to the "A" position.

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Make a test call to an in-house PABX extension.</td>
</tr>
<tr>
<td>2</td>
<td>Enter several Touch Tones with the HD-1. The person on the extension you called should hear loud clear Touch Tones.</td>
</tr>
<tr>
<td>3</td>
<td>If Touch Tones are not heard, remove the back cover and slide the wiring protocol switch to the &quot;B&quot; position and try again.</td>
</tr>
<tr>
<td>4</td>
<td>If tones are still not heard, slide the wiring protocol switch to the &quot;C&quot; position and repeat.</td>
</tr>
<tr>
<td>5</td>
<td>If Touch Tones are severely distorted beyond what the volume control can attenuate, move J5 to the &quot;B&quot; position and retry.</td>
</tr>
<tr>
<td>6</td>
<td>If tones are still too distorted, move J5 to the &quot;C&quot; (maximum) position and then fine tune with volume control.</td>
</tr>
</tbody>
</table>

*Note: All outgoing calls must be dialed with your console’s keypad. Once the call is connected, you may use the HD-1.*

**B. Tip/Ring Interface**

The Tip/Ring interface is an easy solution to the over attenuated Touch Tone output caused by certain consoles with built in AGC (Automatic Gain Control) in their handset transmit circuitry. Connect Tip/Ring interface cord as explained in Installation section B. The HD-1 can be used by simply going off-hook with your phone, and dialing on the HD-1.

**C. Talk Battery Interface**

The Talk Battery interface is used for any application where PABX or C.O. talk battery is not available or is too cumbersome to use. It is ideal for creating a stand alone door/gate security keypad control when used in conjunction with Viking model RC-2A or RC-3. For more information on Viking’s RC-2A, retrieve Fax Back Document 160. For more information on Viking’s RC-3, retrieve Fax Back Document 165.

**D. Battery O.K. LED**

The HD-1 is equipped with a battery test circuit and LED indicator. The battery O.K. LED should light when a key on the keypad is pressed. If the LED does not light, replace the 9V battery by removing the back cover. The average battery life is approximately 1 year.

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

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