

## Add Touch Tone Capability to PABX Consoles



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.

<http://www.VikingElectronics.com>

[E-mail...Sales@VikingElectronics.com](mailto:Sales@VikingElectronics.com)

### Features

- Easily connects in series with handset and headsets or interfaces directly to Tip & Ring with the furnished 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 O.K." LED indicator
- Adjustable Touch Tone volume control
- Switch selectable transmit (per handset wiring protocol)
- Optional Talk Battery adapter (**PS-1A**)

**Made in the U.S.A.**

### 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)

**Sales...(715) 386 - 8861**

### 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:** 152mm x 83mm x 44mm (6" x 3.25" x 1.75")

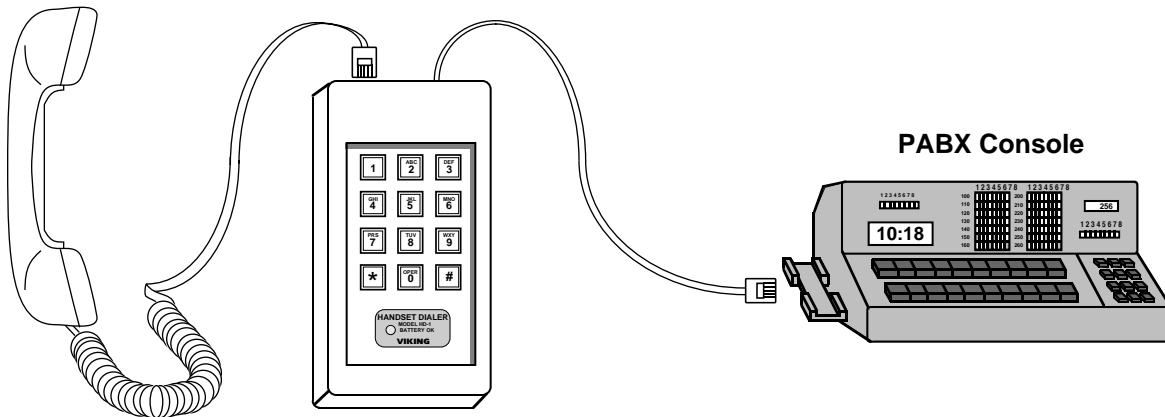
**Shipping Weight:** .90 Kg (2 lbs)

**Environmental:** 0°C to 32°C (32°F to 90°F) with 5% to 95% non-condensing humidity

**Connections:** (1) handset plug, (1) handset jack, optional connections: (1) RJ11 plug, RJ11 jack

# Installation/Programming

## A. Handset Interface



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

**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.

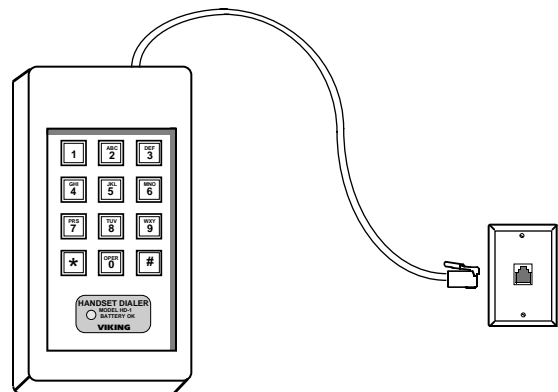
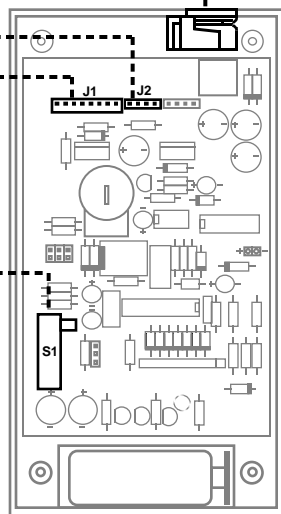
Modular Handset Jack or  
Modular Tip/Ring Jack

J2 Tip/Ring Interface connector

J1 Handset Interface connector

Wiring Protocol switch

A  
B  
C



1. Locate the Tip/Ring interface cord included in the **HD-1** package (6 ft cord with 4 pin connector, RJ11C plug and jack).
2. Remove the four screws on the back of the **HD-1** and remove the cover.
3. Locate **J1** (8 pin header on the top of the circuit board) and remove the cord and modular handset jack connected to **J1**.
4. Connect the Tip/Ring interface cord to **J2**.

**Note:** Connector position 1 to pin 1. Slide the Modular Tip/Ring jack into place.

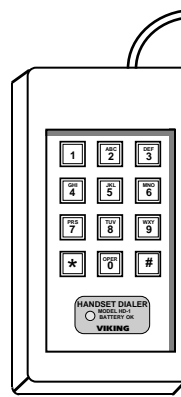
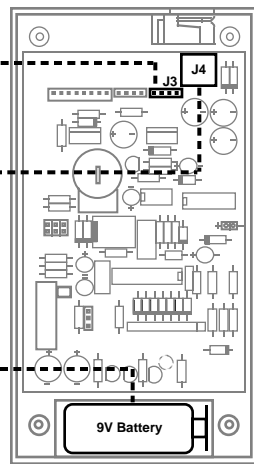
5. Slide Wiring Protocol switch to position "C."
6. Replace the back cover and connect the modular cord from the phone to the modular jack on the **HD-1**.
7. Plug the **HD-1** cord into the modular jack the phone was connected to.

## C. Talk Battery Interface

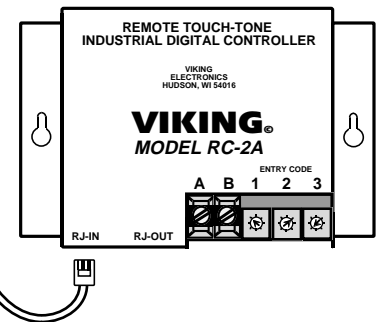
J3 Talk Battery Interface connector

J4 13.8V AC connection

Replaceable 9V Alkaline battery



RC-2A or RC-3 Relay Controller



For more information on the RC-2A, retrieve **Fax Back Document 160**. For more information on the RC-3, retrieve **Fax Back Document 165**.

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 Tip/Ring interface cord and installation of the optional **PS-1A**.

1. Follow steps 1-3 in section **B Tip & Ring Interface**.
2. Connect the Tip/Ring interface cord to **J3**.
3. Connect the **PS-1A** (13.8V AC adapter) to **J4**.
4. Remove the 9V battery and discard.
5. Re-assemble the **HD-1**.

**Note:** The Wiring Protocol switch "**S1**" 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 and 2. Refer to **Operation, Section A**, for operating instructions.

J3 Talk Battery Interface connector

J2 Tip/Ring Interface connector

J1 Handset Interface connector

Modular handset jack

J4 13.8V AC connection (connect optional PS-1A here)

Touch Tone Volume Control

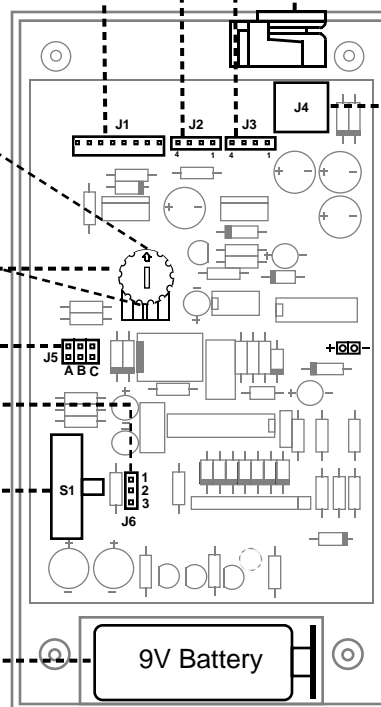
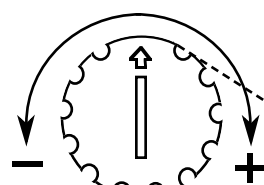
J5 Touch Tone attenuation jumper

J6 Dummy phone load jumper for consoles auxiliary handset jack operation.

S1 Handset interface wiring protocol switch

A B C

Replaceable 9V Alkaline battery



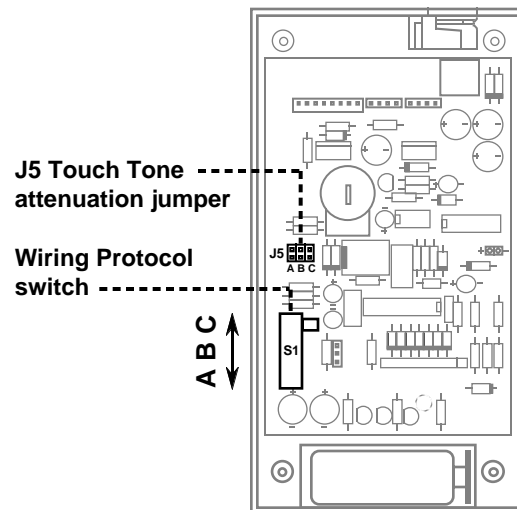
Internal View of the HD-1

# Operation

## A. Handset Interface

The **HD-1** may require some volume and wiring protocol adjustments to function properly on your telephone.

1. Make a test call to an in-house PABX extension.
2. Enter several Touch Tones with the **HD-1**. The person on the extension you called should hear loud, clear Touch Tones.
3. If Touch Tones are not heard, unscrew back cover from unit and slide wiring protocol switch (**S1**) to the "**B**" position and try again.
4. If tones are still not heard, slide **S1** to "**C**" position and repeat.
5. If Touch Tones are severely distorted beyond what the volume POT can attenuate, move "**J5**" to the "**B**" position and retry.
6. If tones are still too distorted, move "**J5**" to the "**C**" maximum position then fine tune with volume POT.



**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 paragraph "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**.

## 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 the keypad is depressed. If the LED does not light, replace the 9V battery by removing the back cover. The average battery life is approximately 1 year.

**Product Support Line...(715) 386-8666**

**Fax Back Line...(715) 386-4345**

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