

**VIKING**

# TECHNICAL Practice

**TELECOM SOLUTIONS FOR THE 21ST CENTURY**

**DLE-300**

**Advanced  
Line Simulator**

December 1, 2003

## **Advanced Line Simulator for Communication, High Speed Data, Caller ID and Classroom Training**



The **DLE-300** advanced Line Simulator provides sales people, technicians, engineers, etc. with a cost effective, easy to use method of conducting on-site demonstrations or diagnostics, eliminating the need to locate phone lines and disrupt the customer's phone service.

The Line Simulator provides two way communication between standard analog telecom products such as modems, fax machines, Key Systems, PABX's as well as standard telephones.

The **DLE-300** Line Simulator produces standard or distinctive AC ringing, DC talk battery, caller ID data, precise dial tone, ring back, busy, SIT, reorder tone, and provides CPC on disconnect.

### **Features**

- Supports all high speed data
- Produces name and number caller ID data
- Audio input/output for recording voice prompts
- 40V DC talk battery
- Precise call progress tones (dial tone, ring-back, busy and reorder)
- Produces special interrupt tones
- Standard and distinctive 20 Hz AC ringing
- Provides CPC breaks after disconnect
- Touch Tone detection
- Ringdown mode (no Touch Tones required)
- 911 trainer mode for classroom training

[info@vikingelectronics.com](mailto:info@vikingelectronics.com)

<http://www.vikingelectronics.com>

### **Applications**

- Point-to-point communications between phones, fax machines, and high speed modems without dedicated telephone lines
- Programming and recording voice products such as voice mail systems, etc.
- Intersystem TIE lines
- Courtesy and/or emergency phones
- Demonstrating telecom equipment at trade shows, meetings, etc.
- Diagnosing phone line dependent equipment with precise characteristics
- 911 trainer for schools and businesses

**Phone...715.386.8861**

### **Specifications**

**Power:** 120V AC/13.8V AC 1.25A, UL listed adapter provided  
**Dimensions:** 127mm x 127mm x 25mm (5" x 5" x 1.5")  
**Shipping Weight:** .9 kg (2 lbs)  
**Environmental:** 0° C to 32° C (32° F to 90° F) with 5% to 95% non-condensing humidity  
**Ringer Output:** 6.0 REN load  
**Talk Battery:** 40V DC  
**Loop Length:** 4.2 km (2.6 mi) maximum - 24 AWG twisted pair  
**Maximum Data Speed:** Unlimited  
**CPC Generation Time:** 2 seconds  
**Connections:** (2) RJ11 jacks

## 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-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. It is 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. 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 individually 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 PO Box.
4. RA number on carton: In large printing, write the R.A. number on the outside of each carton being returned.

### 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 Product 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.**

### 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 ever is greater. 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.

Viking's sole responsibility shall be to repair or replace (at Viking's option) the material within the terms stated above. VIKING SHALL NOT BE LIABLE FOR ANY LOSS OR DAMAGE OF ANY KIND INCLUDING INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING DIRECTLY OR INDIRECTLY FROM ANY BREACH OF ANY WARRANTY EXPRESSED OR IMPLIED, OR FOR ANY OTHER FAILURE OF THIS PRODUCT. Some states do not allow the exclusion or limitation of incidental or consequential damages, so this limitation may not apply to you.

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WHICH ARE HEREBY EXCLUDED BEYOND THE ONE YEAR DURATION OF THIS WARRANTY. Some states do not allow limitation on how long an implied warranty lasts, so the above limitation may not apply to you.

### PART 15 LIMITATIONS

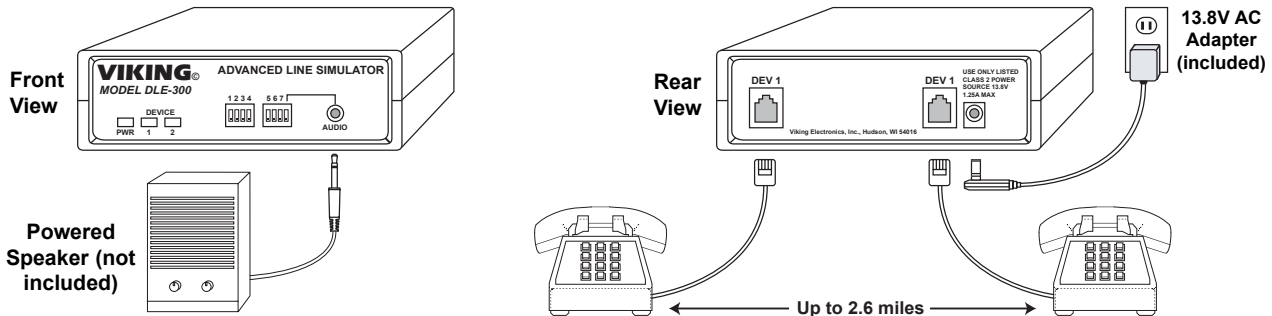
This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, 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 and Applications

**⚠ 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. Contact Panamax at (800) 472-5555 or Electronic Specialists Inc. at (800) 225-4876.

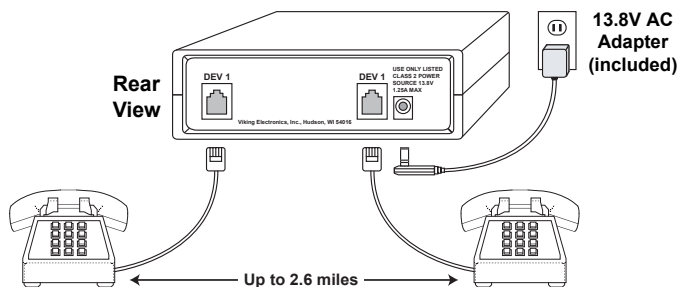
## A. Demonstrations and Classroom Training

The DLE-300 is ideal for on-site product trainings at trade shows and perspective customer sites. It can also be configured as a 911 trainer for classrooms, etc.



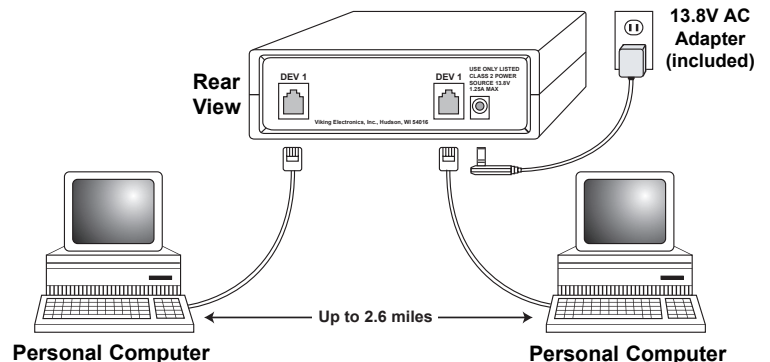
## B. Point to Point Communication

The DLE-300 can be configured as a ringdown circuit for instantaneous point to point telephone communications.



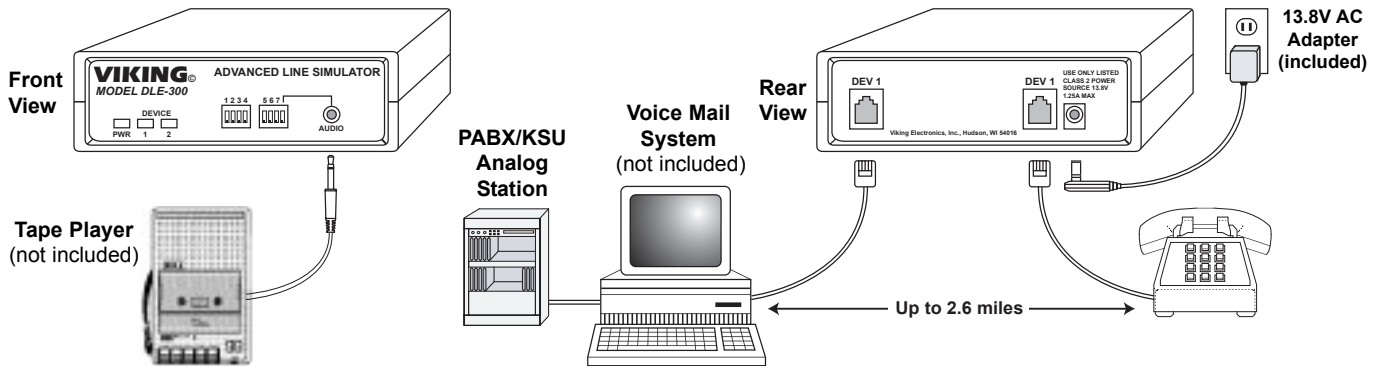
## C. High Speed Data Communication

The DLE-300 will support the data speeds of your supporting peripherals.



## D. Programming and Recording Voice Mail Systems and Other Voice Products

The DLE-300 can be configured as a ringdown circuit for instantaneous point to point telephone communications.



# Programming

## A. DIP Switch Programming

### 1. Ring Candence

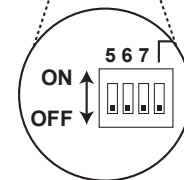
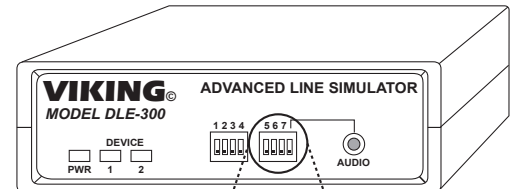
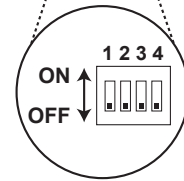
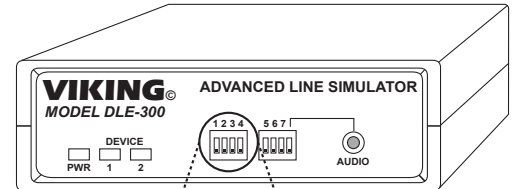
Switch 1	Switch 2	Description
OFF	OFF	Normal (2 seconds on, 4 seconds off)
ON	OFF	Short - long - short
OFF	ON	Short - short - long
ON	ON	Long - long

### 2. Tones

Switch	Off/On	Description
3	OFF	Standard dial tone
3	ON	Stutter dial tone
4	OFF	Disables special call progress tones
4	ON	Enables special call progress tones

### 3. Modes of Operation

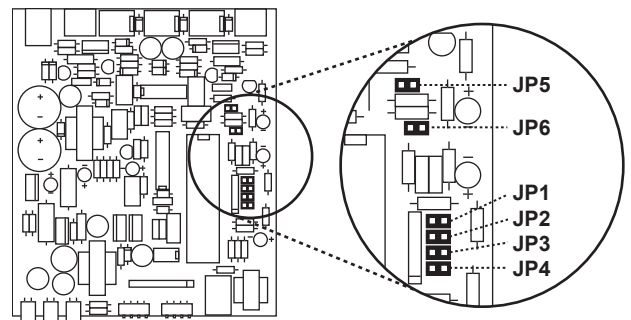
Switch	Off/On	Description
5	OFF	Disables 911 mode
5	ON	Enables 911 mode
6	OFF	Disables ring down mode
6	ON	Enables ring down mode
7	OFF	2 second dial tone before ring (ring down mode)
7	ON	No dial tone before ringing (ring down mode)
8	OFF	High speed data communication
8	ON	Enables the AUDIO jack



## B. Internal Jumpers

Removing internal jumpers may be used to disable specific features (see diagram below).

Jumper	Description
JP1	Remove to disable CPC signal
JP2	Remove to disable all "Caller ID" data
JP3	Remove to disable maximum ring count
JP4	Remove to change the 10 seconds of reorder tone (fast busy) that are given when the other phone hangs up, to 10 seconds of continuous dial tone.
JP5/JP6	The two device ports are directly connected together offering no signal loss between the devices. Move shunt from JP5 to JP6 to attenuate the audio volume between the devices by 9 db (typical of most CO lines).



# Operation

## A. Normal Operation (all DIP switches OFF)

An off hook device is given dial tone. Any Touch Tone will break dial tone and two and a half seconds after a phone number is dialed, the **DLE-300** will ring the opposite port up to 10 times. Caller ID information is sent after the first ring. When the other device answers, the call is connected. The unit provides a CPC break and 10 seconds of reorder tones when either device hangs up.

## B. Ring Down Mode (DIP switch 6 ON)

In this mode, the **DLE-300** does not require Touch Tones to be dialed to ring the other telephone device. An off hook condition on either port will trigger 2 seconds of dial tone and the opposite port will begin ringing. No caller ID data is sent. **Note:** To eliminate dial tone, set DIP switch 7 to **ON**.

## C. Special Call Progress Tones (DIP switch 4 ON)

In this mode, the **DLE-300** may be activated to provide busy, reorder, S.I.T. and special continuous test tone. The tones are keyed off of the last digit dialed (see the chart to the right).

Last Digit Dialed	Special Call Progress Tones
1	Busy
2	Reorder
3	S.I.T (Special Interrupt Tone)
4	1004 Hz@-20dBm Test Tone
5	Silence
6	Standard ringback
7	Standard ringback
8	Standard ringback
9	Standard ringback
0	Standard ringback

## D. Caller ID (DIP switch 4 ON)

Multi-message caller ID data is sent after the first ring. The information sent is keyed off of the second to last digit dialed (see the chart to the right).

Second to Last Digit Dialed	Caller ID Data Sent
1	715-386-8861, Viking Electron
2	Number withheld, Viking Electron
3	Number unavailable, Viking Electron
4	715-386-8861, name withheld
5	715-386-8861, name unavailable
6	Number and name withheld
7	Number and name unavailable
8	No data sent
9	No data sent
0	No data sent

## E. 911 Mode (DIP switch 5 ON, DIP switch 6 OFF)

The **DLE-300** features a 911 mode for classroom training, etc. In this mode, the **DLE-300** will only allow calls to ring that have dialed 911. Any other number dialed will receive a busy signal. While in 911 mode, "911 Emergency" will be sent as the caller ID data whenever 911 is dialed.

## F. Audio Jack (DIP switch 8 ON)

A 3.5mm audio jack is provided for an audio connection to the simulated lines. This is ideal for recording voice prompts on voice mail systems, recording, or amplifying the voice path. This connection is bi-directional so audio may be uploaded or downloaded. **Note:** Keep DIP switch 8 **OFF** when the **AUDIO** jack is not required for the best standard operation.

**Product Support Line...715.386.8666**

**Fax Back Line...715.386.4345**

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.