



TECHNICAL Practice

TELECOM SOLUTIONS FOR THE 21ST CENTURY

K-1900-4

Hot-Line Pulse Dialer

August 10, 2000

Replace Dedicated Phone Lines with a Pulse Hot-Line Dialer

Why pay the premium of leased or dedicated phone lines?

The **K-1900-4** will automatically dial a preprogrammed number, of up to 16 digits, whenever an associated telephone is taken off hook. Using non-volatile E² memory, the **K-1900-4** is telephone line powered and will operate on any loop start central office line or analog PABX/KSU extension.

The **K-1900-4** is easily programmed remotely or locally using a standard Touch Tone phone.

! *This product does not eliminate the possibility of toll fraud! To further protect against fraudulent calls, order a "pulse only" phone line from your local phone company.*

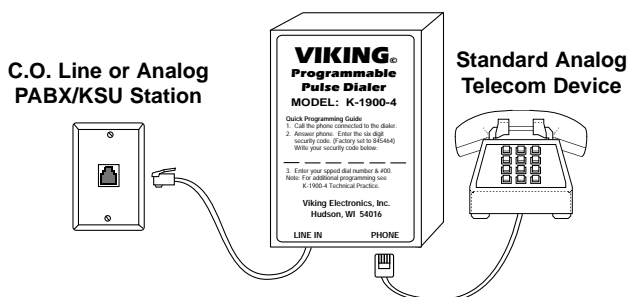


Features

- Touch Tone programmable
- Telephone line powered
- Non-volatile E² memory (no batteries required)
- Ring detection (won't dial on inbound calls)
- User programmable security code
- Programmable pauses in four second increments
- Touch Tone dialing restriction feature
- Programmable dialing speed (10 pps - 20 pps)
- Can be configured to operate from a contact closure and dial multiple phone numbers (**Fax Back Document 818**)

Installation

Install the **K-1900-4** in series between a telephone and a C.O. line or analog PABX/KSU station.



Applications

- Security and emergency phones
- Interactive point of sale displays
- Apartment security
- Catalog sales
- Automated Teller Machines (ATM's)
- Replaces leased ring down circuits
- Hot-Line reservation phones for hotels, air lines, car rentals, etc.

Product Information...715.386.8861

Technical Support...715.386.8666

<http://www.vikingelectronics.com>

Specifications

- Power:** Telephone line powered (24V DC 20 mA minimum)*
- Dimensions:** 74mm x 53mm x 25mm (2.9" x 2.1" x 1.0")
- Shipping Weight:** .45 kg (1 lb)
- Environment:** 0°C to 32°C (32°F to 90°F) with 5% to 95% non-condensing humidity
- Connections:** (1) RJ11 plug, (1) RJ11 jack
- Dialing Speed:** Normal - 10 pps, Fast - 20 pps

***Note:** When installing multiple line powered products (**K-1900-4** and **E-10/E-15/E-20A/K-1500-EHF**) on the same line, additional talk battery voltage and loop current may be required.

Installation

A. Accessing the Programming Mode

1. Connect the **K-1900-4** to a C.O. line or analog PABX/KSU station.
2. From a Touch Tone phone, call another phone connected to the **K-1900-4**.
3. Take the phone connected to the dialer off hook (answer the phone).
4. Enter the six digit security code (see section **D** below). A double beep indicates that you have accessed the programming mode.
5. You can now program your speed dial number and the following features listed in section **B** below.

Note: Programming from a cell-phone may not be suitable in areas with weak coverage.

B. Programming Features

	Digits	+	Memory Location
Speed dial number (1-16 digits*)	Number		+ #00
Set dialing speed to normal (10 pps, factory setting)	*1		
Set dialing speed to fast (20 pps)	*2		
Restrict user Touch Tone dialing (factory setting)	*3		
Enable user Touch Tone dialing	*4		
To add a four second pause at any point in the dialing string	*7		
Clear all speed dial numbers	#33		
Change security code (factory set to 845464)	6 digits (0 - 9)	+	#32

***Note:** Each pause uses a single speed dial digit.

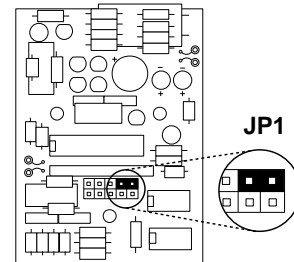
C. Programming Examples

Programming the K-1900-4...	Enter Digits	Enter Memory Location
... to dial 386-8861	3868861	#00
... to dial 9 (for outside line), pause four seconds, and dial 1-612-555-1212	9*716125551212	#00
... to enable unlimited user dialing after the K-1900-4 has speed dialed	*4	none

Note: *7 places a four second pause after digit 9.

D. Security Code

A six digit security code can be used to access the programming mode. The security code has been factory set to **845464** (V-I-K-I-N-G). It is recommended that you change the security code to a personal 6 digit number. If you have forgotten your security code, remove the cover, place **JP1** across the two pins shown in the diagram to the right. Follow steps 1-3 in section **A**, then enter any 6 digits. Two beeps will indicate you have entered the programming mode. Enter your new security code (**6 digits + #32**) and any other programming needed, then hang up and place **JP1** back to the original position. **Note:** The security code must be six digits in length and can NOT contain a * or #.



E. Restrict User Touch Tone Dialing This is not complete toll fraud protection!

The **K-1900-4** can be programmed to restrict/hang up if it detects any Touch Tones after dialing the programmed number. This feature helps prevent fraudulent calls by hand held dialers. The **K-1900-4** will send out 4 beeps just before restricting/hanging up (see section **B** above).

F. Dialing Up To Five Numbers From Multiple Contact Closures

For more information on this application, please call Viking's Fax Back Line at 715-386-4345 and retrieve **Fax Back Document 818**.

FCC Requirements

Type of Service

The **K-1900-4** is designed to be used on standard device telephone lines. The **K-1900-4** is connected to the telephone line by means of a standard RJ-11 plug. Connection to telephone company-provided coin service (central office implemented systems) is prohibited. Connection to party line service is subject to State tariffs.

Telephone Company Procedures

The goal of the telephone company is to provide you with the best service it can. In order to do this it may occasionally be necessary for them to make changes in their equipment, operations, or procedures. If these changes affect your service of the operation equipment, the telephone company will give you notice in writing, allowing you to make any changes necessary to maintain uninterrupted service. If you have any questions about your telephone line, such as, how many pieces of equipment you can connect to it, the telephone company will provide you information upon request. In certain circumstances, it may be necessary for the telephone company to request information from you, concerning the equipment which is connected to your telephone line. Upon request request of the telephone company, provide the FCC registration number and the ringer equivalence number (REN) of the equipment which is connected to your line; both of these items are listed on the equipment label. The sum of all the REN's on your telephone lines should be less than five in order to assure proper service from your telephone company. In some cases, a sum of five may not be usable on a given line.

If Problems Arise

If any of your telephone equipment is not operating properly, you should immediately remove it from your telephone line as it may cause harm to the telephone network. If the telephone company notes a problem, they may temporarily discontinue service. When practical, they will notify you in advance of this disconnection. If notified, you will be given the opportunity to correct the problem and informed of your right to file a complaint with the FCC.

In the event repairs are ever needed on your Viking product, they should be performed by Viking Electronics, Inc. and/or an authorized representative of Viking Electronic, Inc.. For more information contact Viking Product Support at (715)386-8666

FCC 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 have to correct the interference at his own expense.

IC Requirements

Notice: The Industry Canada label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational and safety requirements as prescribed in the appropriate Terminal Equipment Technical Requirements documents. The department does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be coordinated by a representative designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines and internal metallic water pipe systems, if present, are connected together. This precaution may be particularly important in rural areas.

Caution: Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

The Ringer Equivalence Number (REN) of this device is listed on the equipment label.

Notice: The Ringer Equivalence Number (REN) assigned to each terminal device provides an indication of the maximum number of terminals allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the Ringer Equivalence Numbers of all devices does not exceed 5.

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.

If you have a problem with a Viking product, please contact Technical Support at (715) 386-8666

Our Technical Support Department is available for assistance weekdays between 8 a.m. and 5 p.m. 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 Product Manual 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, Inc., 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.

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 Department 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.**

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-EWP products that have been exposed to wet or corrosive environments. This warranty does not cover stainless steel surfaces that have not been properly maintained.

NO OTHER WARRANTIES, 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.

EXCLUSION OF CONSEQUENTIAL DAMAGES, VIKING SHALL NOT, UNDER ANY CIRCUMSTANCES, BE LIABLE TO PURCHASER OR ANY OTHER PARTY, FOR CONSEQUENTIAL, INCIDENTAL, SPECIAL OR EXEMPLARY DAMAGES ARISING OUT OF OR RELATED TO THE SALE OR USE OF THE PRODUCT SOLD HEREUNDER.

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.

IT IS EXPRESSLY UNDERSTOOD AND AGREED THAT EACH AND EVERY PROVISION OF THIS AGREEMENT WHICH PROVIDES FOR DISCLAIMER OF WARRANTIES, EXCLUSION OF CONSEQUENTIAL DAMAGES, AND EXCLUSIVE REMEDY AND LIMITATION OF LIABILITY, ARE SEVERABLE FROM ANY OTHER PROVISION AND EACH PROVISION IS A SEPARABLE AND INDEPENDENT ELEMENT OF RISK ALLOCATION AND IS INTENDED TO BE ENFORCED AS SUCH.



IMPORTANT SAFETY INSTRUCTIONS

When using your telephone equipment, basic safety precautions should always be followed to reduce the risk of fire, electric shock and injury to persons, including the following:

1. Read and understand all instructions. The Technical Practice delivered with your product contains Installation Instructions and other important information.
2. Follow all warnings and instructions marked on the product and contained in the Technical Practice.
3. Unplug this product from the outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
4. Do not use this product near water, for example, near bath tub, wash bowl, kitchen sink or laundry tub, in a wet basement or near a swimming pool.
5. Do not place this product on an unstable cart, stand or table. The product may fall causing serious damage to the product.
6. This product should be operated only from the type of power source indicated on the markings label. If you are not sure of the type of power supply to your home, consult your dealer or local power company.
7. Do not allow anything to rest on the power cord. Do not locate this product where the cord will be abused by persons walking on it.
8. Do not overload wall outlets and extension cords as this can cause risk of fire or electric shock.
9. Never push objects of any kind into this product through cabinet slots as they may touch dangerous voltage points or short out parts that could result in the risk of fire or electric shock. Never spill liquid of any kind on the product.
10. To reduce the risk of electric shock, do not disassemble this product, but take it to a qualified serviceman when some service or repair work is required. Opening or removing covers may expose you to dangerous voltages or other risks. Incorrect reassembly can cause electric shock when the appliance is subsequently used.
11. Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
 - A. When the power supply cord or plug is damaged or frayed.
 - B. If liquid has been spilled into the product.
 - C. If the product has been exposed to rain or water.
 - D. If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions because improper adjustment of other controls may result in damage and will often require other work by a qualified technician to restore the product to normal operation.
 - E. If the product has been dropped or the cabinet has been damaged.
 - F. If the product exhibits a distinct change in performance.
12. Avoid using a telephone (other than the cordless type) during an electrical storm. There may be a remote risk of electric shock from lightning.
13. Do not use the telephone to report a gas leak in the vicinity of the leak.
14. Repairs to this telephone equipment can only be made by the manufacturer or its authorized agents.
15. Use the product only in the fashion, and in conjunction with the equipment, described in the Technical Practice.

**** SAVE THESE INSTRUCTIONS! ****

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 USAAEEQ##TXXXX. If requested, this number must be provided to the telephone company.
- This equipment uses the USOC jack as described in the attached chart.
- A plug and jack 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. A compliant telephone cord and modular plug is provided with this product. It is designed to be connected to a compatible modular jack that is also compliant. See installation instructions for details.
- The REN is used to determine the number of devices that may be connected to a telephone line. Excessive RENs 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 RENs 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 RENs, contact the local telephone company. The REN for this product is part of the product identifier that has the format USAAEEQ##TXXXX. The digits represented by ## are the REN without a decimal point (e.g., .03 is a REN of 0.3).
- If this equipment causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. But if advance notice isn't practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.
- The telephone company may make changes in its facilities, equipment, operations or procedures that could affect the operation of the equipment. If this happens, the telephone company will provide advance notice in order for you to make necessary modifications to maintain uninterrupted service.
- If trouble is experienced with this equipment, for repair or warranty information, please contact **Viking Electronics, Inc., 1531 Industrial Street, Hudson, WI 54016 (715) 386-8666 (www.VikingElectronics.com)**. If the equipment is causing harm to the telephone network, the telephone company may request that you disconnect the equipment until the problem is resolved.
- No user serviceable parts. Contact repair center for service.
- Connection to party line service is subject to state tariffs.
- If your home has specially wired alarm equipment connected to the telephone line, ensure the installation of this equipment does not disable your alarm equipment. If you have questions about what will disable alarm equipment, consult your telephone company or qualified installer.

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.

IC REQUIREMENTS

NOTICE: The Industry Canada label identifies certified equipment. This certification means that the equipment meets certain telecommunications network, protective, operational and safety requirements as prescribed in the appropriate Terminal Equipment Technical Requirements document(s). The Department does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be coordinated by a representative designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

CAUTION: Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

The Ringer Equivalence Number (REN) of this device is listed on the equipment label.

NOTICE: The Ringer Equivalence Number (REN) assigned to each terminal device provides an indication of the maximum number of terminals allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the Ringer Equivalence Numbers of all the devices does not exceed 5.

MODULAR JACK CROSS REFERENCE CHART

Viking Model Number	RJ11C	RJ11W	RJ14C	RJ21X	RJ25C	RJ45S
*ACA-1A	X					
ACD-10			X			
AES-2000	X					
C-1000A	X					
C-2000	X					
C-3000	X			X		
DVA-500A	X					
DVA-1002			X			
DVA-1003B	X					
DVA-3003	X					
DVA-CS	X					
DVA-LP	X					
DVA-TNT	X					
E-10, E-15	X					
E-20A, E-30	X					
E-30-PT	X					
*E-1600-XXX	X					
EV-1	X					
FAXJ-300	X					
K-1500-E	X					
K-1500-EHF	X					
*K-1600-EHF	X					
K-1700-3	X					
*K-1900-1	X					
*K-1900D-2	X					
*K-1900W-2		X				
*K-1900-3	X					
*K-1900-7		X				

Viking Model Number	RJ11C	RJ11W	RJ14C	RJ21X	RJ25C	RJ45S
*K-1900-8	X					
*K-1900-9	X					
*K-2000-DVA	X					
LC-8				X		
LDB-2	X					
LM-24M				X		
LS-4x4	X		X			
LSR-1	X					
MLC-24				X		
MOH-2L	X					
PA-2A	X		X		X	
PB-100	X					
PDF-2	X					
PF-6A				X		
PTC-6				X		
*RAD-AMP	X					
RAD-1	X					
RC-2A	X					
RC-3	X				X	
RG-10A	X					
SO-24				X		
SQRG-12				X		
TMS-2	X		X			
TMS-6X	X		X		X	
TMS-12A				X		
TS-1	X					
VR-1A	X					
W-200	X					

* When programming emergency numbers and (or) making test calls to emergency numbers:

- Remain on the line and briefly explain to the dispatcher the reason for the call.

- Perform such activities in the off-peak hours: such as early morning or late evenings.