Designed, Manufactured and Supported in the USA

VIKING
SECURITY & COMMUNICATION

PRODUCT MANUAL

DVA-500A
Digital Voice Announcer
September 1, 2022

Non-Volatile Digital Voice Announcer with Remote Recording and Transfer Capabilities

The **DVA-500A** is a professional and cost-effective digital voice announcer specifically designed for ACD/UCD, auto-attendant, intercept, night message, information provider applications and other PABX and Centrex announcement functions.

The **DVA-500A** will increase call handling capacity by answering on demand or during the first ring and automatically adjusting the announce cycle to the message length. The **DVA-500A** disconnects on CPC and provides instant "rewind" for the next caller.

The **DVA-500A** is factory installed with 16 seconds of non-volatile record time and may be expanded to 1 minute using a Viking **ERAM-60** memory expansion kit.

Features

- 1 minute of record time

- Remotely recordable

- Locally recordable using a standard carbon handset or tapeplayer

- Selectable ring delay

- Detects CPC signal and disconnects

- Callers may be transferred after the announcement

- Messages stored in non-volatile memory, no batteries required

- Recording volume LED indicator for consistently high-quality recordings

- Recognizes handshake signals from virtually any PABX, Centrex or C.O. line

- Programmable to repeat announcement

Information: 715-386-8861
www.VikingElectronics.com

Applications

- ACD/UCD announcements
- Intercept announcement
- Announce-only applications
- School closings
- Ski reports
- Night answer
- Wake-up calls
- Bank rates/commodity prices
- Any application where information must be repeated continuously and may require frequent updating
- Replace existing tape and drum recorders
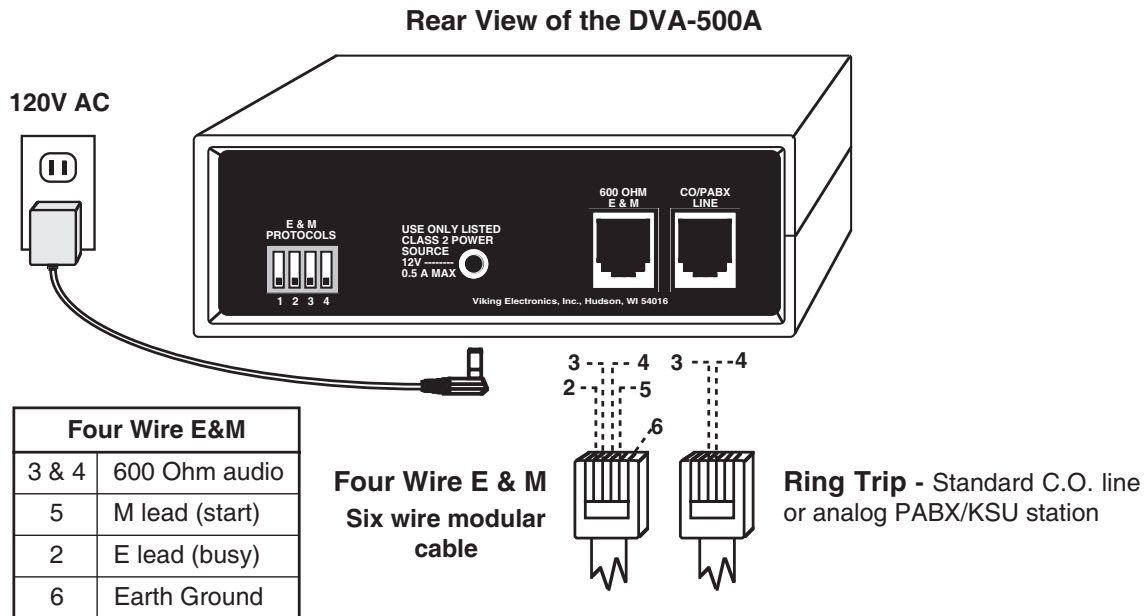
Specifications

Power: 120V AC/12V DC 500 mA, UL listed adapter provided
Dimensions: 5" x 5" x 1.5" (127mm x 127mm x 38mm)
Shipping Weight: 2.5 lbs. (1.13 kg)
Environmental: 20°F to 90°F (0°C to 32°C) with 5% to 95% noncondensing humidity
Message Length: 1 minute
Connections: (1) RJ11, (1) 4-wire E&M, (1) 1/8 audio jack, (1) handset jack
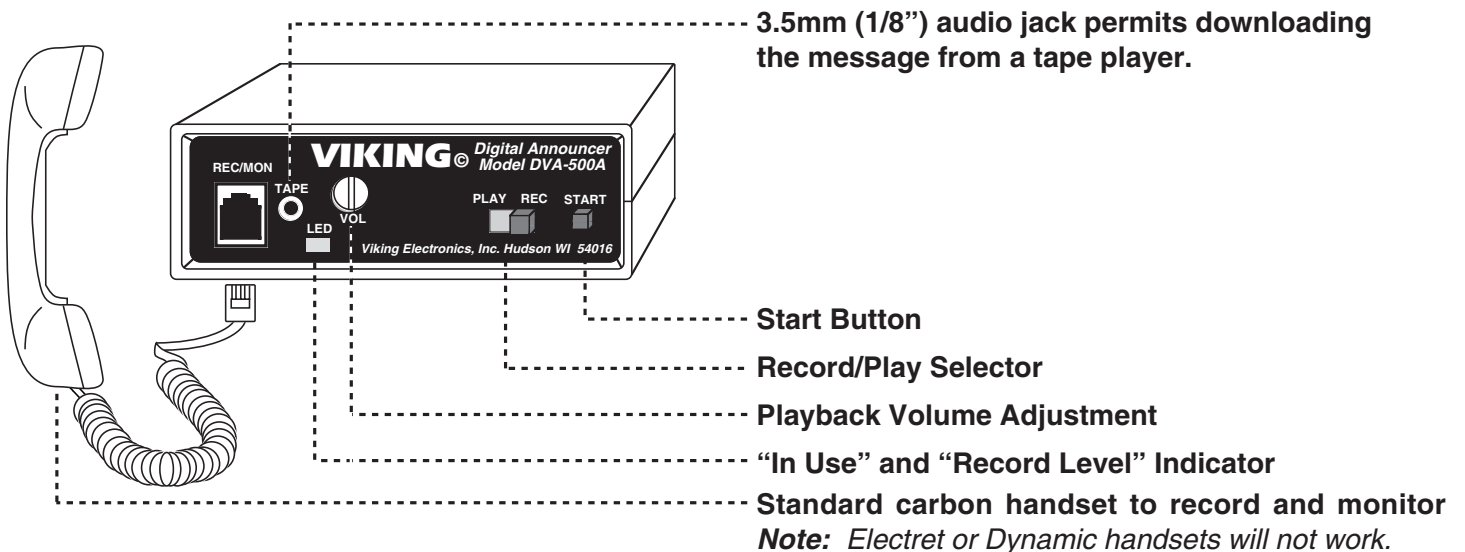**Sampling Rate:** 64 K (equivalent)

Installation

⚠️ **IMPORTANT:** *Electronic devices are susceptible to lightning from the telephone line. It is recommended that a surge protector be installed to protect against such surges.*

Wire the **DVA-500A** with either or both the 4 wire E&M jack and/or the 2 wire ring trip jack as shown below. When using the 4 wire E&M, the ring trip interface may be used for remote programming. The E&M functions will resume when programming is finished.

Note: The DVA-500A requires a 24 hour unswitched 115V AC outlet. To protect the internal electronics, the installation of a surge protector is recommended.

Rear View of the DVA-500A

120V AC

E & M PROTOCOLS	USE ONLY LISTED CLASS 2 POWER SOURCE 12V ------- 0.5 A MAX	600 OHM E & M	CO/PABX LINE
1 2 3 4	Viking Electronics, Inc., Hudson, WI 54016		

Four Wire E&M	
3 & 4	600 Ohm audio
5	M lead (start)
2	E lead (busy)
6	Earth Ground

Four Wire E & M
Six wire modular cable

3 ---- 4   3 ---- 4
2 ---- 5
6

Ring Trip - Standard C.O. line or analog PABX/KSU station

Programming

3.5mm (1/8") audio jack permits downloading the message from a tape player.

VIKING© *Digital Announcer Model DVA-500A*

REC/MON   TAPE   LED   VOL   PLAY   REC   START
Viking Electronics, Inc. Hudson WI 54016

Start Button

Record/Play Selector

Playback Volume Adjustment

"In Use" and "Record Level" Indicator

Standard carbon handset to record and monitor
*Note: Electret or Dynamic handsets will not work.*

A. Continuous Play

Set dip switches to protocol A. Connect pin 5 (start) to pin 2 (busy). The announcement will be repeated continuously on pins 3 and 4 (600 Ohm output).

B. E & M Protocol Settings and Timing Specifications

Three different protocol settings are switch selectable for changing E&M timing plus the ability to invert the start and/or busy signals. Place the DIP switches in the desired settings, then momentary power down the DVA-500A.
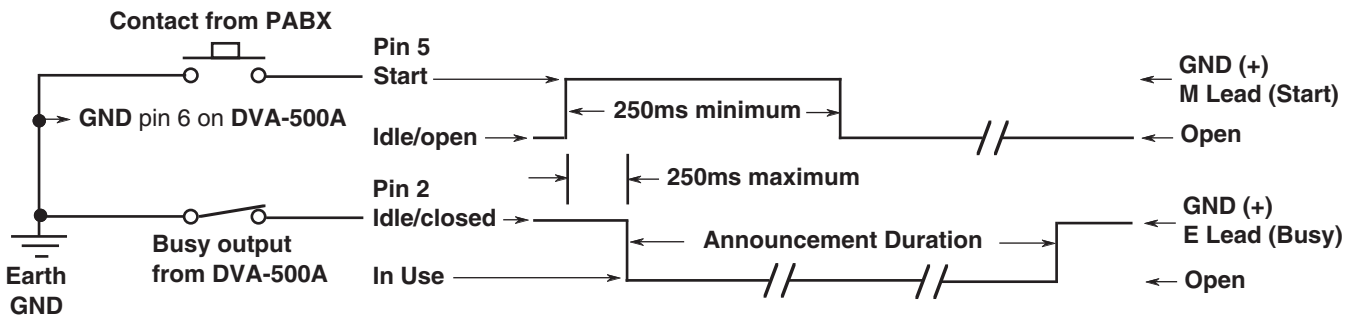
Protocol	Sw 1	Sw 2
A	OFF	OFF
B	OFF	ON
C	ON	OFF

Switch	Position	Description
3	ON	Inverted Start
	OFF	Normal
4	ON	Inverted Busy
	OFF	Normal
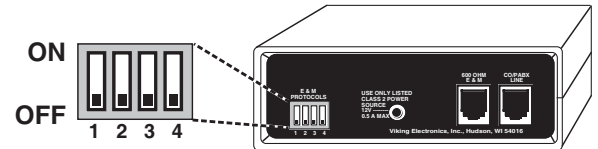
1. "On Demand"

Set dip switches to protocol "A" (Sw 1 and Sw 2 - OFF).
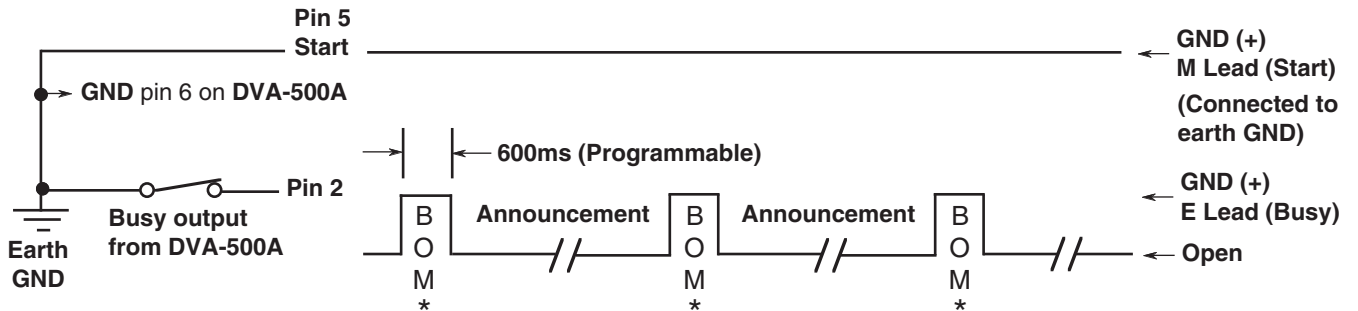

2. Type 5 E&M, wink start

Set dip switches to protocol "B" (Sw 1 - OFF, Sw 2 - ON).
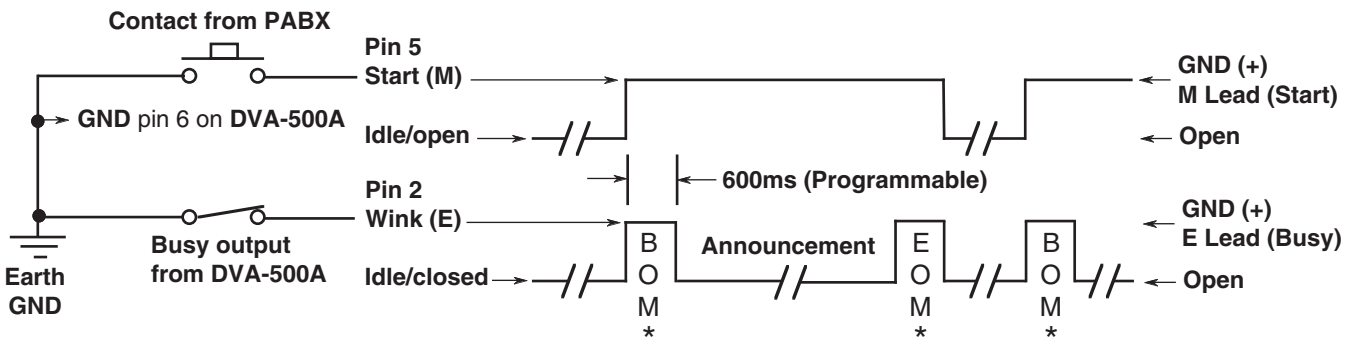
NOTE: BOM = "Beginning Of Message" pulse. EOM = "End Of Message" pulse.
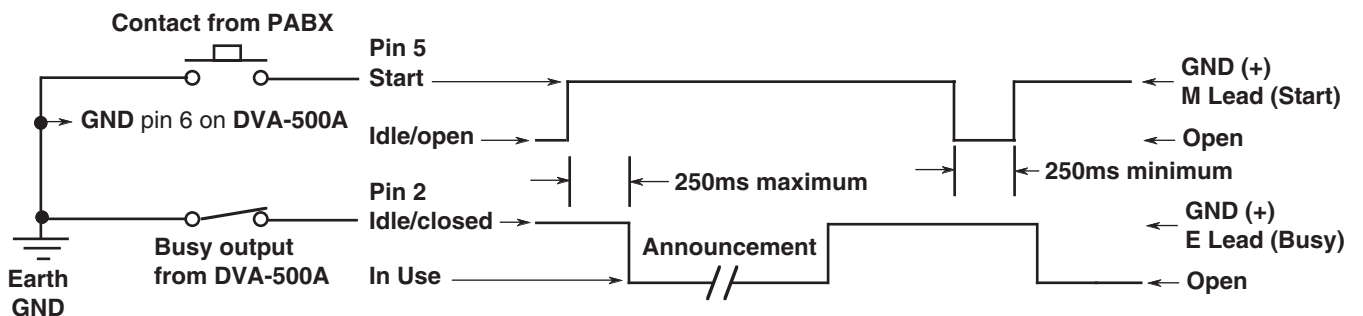
3. Drum Recorder Replacement

Set dip switches to protocol "A" (Sw 1 and Sw 2 OFF).

Pin 5
Start — GND (+) M Lead (Start) (Connected to earth GND)

GND pin 6 on **DVA-500A**

600ms (Programmable)

Pin 2 — GND (+) E Lead (Busy)

Busy output from DVA-500A

Earth GND

B O M * | Announcement | B O M * | Announcement | B O M * | Open

4. Single Play On Demand

Set dip switches to protocol "C" (Sw1 - ON, Sw 2 - OFF).

Contact from PABX

Pin 5
Start — GND (+) M Lead (Start)

GND pin 6 on **DVA-500A**

Idle/open — Open

250ms maximum — 250ms minimum

Pin 2
Idle/closed — GND (+) E Lead (Busy)

Busy output from DVA-500A

Earth GND

In Use — Announcement — Open

NOTE: *BOM = "Beginning Of Message" pulse. EOM = "End Of Message" pulse.*

C. Recording Locally from a Carbon Handset

1. Place the PLAY/REC switch in the REC position.
2. Plug a standard carbon handset into the modular REC/MON jack.
3. Press and hold the START switch and begin speaking as if you were talking on the telephone.
4. When finished release the START switch.
5. Place the PLAY/REC switch in the PLAY position.

D. Recording Locally from a Tape Player

1. Place the PLAY/REC switch in the REC position.
2. Insert a 3.5mm (1/8") audio jack into the TAPE jack.
3. Connect the other end of the cable assembly to the speaker, monitor, earphone, etc. jack of a standard cassette recorder.
4. To adjust the audio level of the tape player.
   a. Play the recording but do not push START.
   b. Adjust the cassette player volume so that the LED flickers but is not mostly on or off.
5. Press and hold the START switch for the duration of the recording.
6. When finished release the START switch.
7. Place the PLAY/REC switch in the PLAY position.

E. Monitoring Locally from a Carbon Handset

1. Place the PLAY/REC switch in the PLAY position.

2. Plug a standard carbon handset into the modular REC/MON jack.

3. Press and hold the START switch for the duration of the message.

4. When finished release the START switch.

Note: While playing or recording, the "LED" will display a steady light.

F. Recording/Programming Remotely From a Touch Tone Phone

1. Accessing the Remote Recording/Programming Mode

a. Call the C.O. line or analog PABX/KSU extension connected to the 2 wire ring trip port.
b. When the DVA-500A answers, enter a ✱.
c. After the recording stops, enter your security code (factory set to 845464). Two beeps should be heard.
d. You are now in the remote recording/programming mode.

2. Remote Recording

a. After entering the programming mode, enter ✱1, wait for the start tone.
b. Begin recording your message. Enter # to stop the recording.
c. To review the announcements, enter ✱3, or hang-up and wait 20 seconds for the unit to disconnect, then call in.
d. Enter # to stop the message playback.

3. Programming the Ring Delay Remotely

a. After entering the programming mode, enter the desired ring delay (0 - 9).
b. Enter #45. You have now finished programming your ring delay.

4. E & M Timing

The Beginning Of Message (BOM) and End Of Message (EOM) pulse width is factory set to 600ms. This may be programmed from 100ms (Touch Tone 1) to 900ms (Touch Tone 9). Enter 1 - 9, #46.

5. Repeat Announcement

When in programming enter 01-99, #44 to have the announcement play from 1 to 99 times.

6. Changing the Security Code

It is recommended that you change the security code from the 845464 factory setting to your own personal 6 digit number. To change the security code, enter 6 digits #47. *Note: The security code cannot contain a ✱ or #.*

7. Transfer Option

When in programming enter the extension number, up to 16 digits, followed by #00 (see page 7, paragraph A, 3).

8. To Leave the Remote Programming Mode

Simply hang-up and the DVA-500A will time-out and disconnect.

G. Using the DVA-500A with Major PABXs

Manufacturer	Protocol Dip Switches	Notes * Earth ground is the positive of the PABX system talk battery
ATT (Dimension, Horizon, etc. 4 Wire E & M)	Protocol "A" with inverted busy signal ON / OFF 1 2 3 4	Use 4 Wire E & M Interface. Connections: T & R to pins 3 & 4, M to pin 5, E to pin 2 and Earth Ground* to pin 6.
ATT (System 75)	Protocol "A" with inverted busy signal ON / OFF 1 2 3 4	For more information, contact Viking Product Support at (715) 386-8666.
ATT (System 85) SN231 Circuit Pack	Protocol "A" with inverted busy signal ON / OFF 1 2 3 4	Use 4 Wire E & M Interface. Connections to SN231 Circuit Pack. T & R to pins 3 & 4, S to pin 5, and AL to pin 2. Set option switches 1 & 2 down and 3 up on the Circuit Pack.
Conveyant	Protocol "A" ON / OFF 1 2 3 4	Use 4 Wire E & M Interface. Connections: T & R to pins 3 & 4. Strap pin 5 (from the **DVA-500A**) to pin 6 (of the **DVA-500A**). Don't connect any Earth Ground. RC-T1 (control input) lead to pin 2. CONVEYANT logic ground to pin 1.
GTE	Protocol "A" with inverted start signal ON / OFF 1 2 3 4	Use 4 Wire E & M Interface. Connections: T & R to pins 3 & 4, M to pin 5, E to pin 2 and Frame Ground to pin 6.
Harris (20-20)	Protocol "B" ON / OFF 1 2 3 4	Use 4 Wire E & M Interface. Connections: T1 & R1 to pins 3 & 4. M to pin 5. E to pin 2. Earth ground* to pin 6.
Hitachi (HCX 5000)	Protocol "A" with inverted busy signal ON / OFF 1 2 3 4	For more information, contact Viking Product Support at (715) 386-8666.
N.E.C. (2400)	Protocol "C" ON / OFF 1 2 3 4	Use 4 Wire E & M Interface. Connections to 40DT card: T1 & R1 to pins 3 & 4. M to pin 5. Earth ground* to pin 6.
Northern (SL-1) QPC74 Ran Trunk	Protocol "A" ON / OFF 1 2 3 4	Use 4 Wire E & M Interface. Connections to QPC74 RAN TRUNK circuit pack: T & R to pins 3 & 4. CPO to pin 2. S/MBO to pin 5. Earth ground* to pin 6. Set C34 switch as follows: SW1.0 - closed, SW2.0 - closed, SW3.0 - open, SW4.0 - closed. Programming the SL-1: The **DVA-500A** emulates a Cook 201.
Northern (SL-1) Universal trunk card	Protocol "A" ON / OFF 1 2 3 4	Use 4 Wire E & M Interface. Connections to Universal TRUNK card: T & R to pins 3 & 4. Earth ground* to pin 6. Pin 5 to MB lead. Pin 2 to CP lead. The **DVA-500A** emulates a Audiochron RQ1-112.
Siemens (Saturn)	Protocol "A" ON / OFF 1 2 3 4	Use 4 Wire E & M Interface. Connections to the TMBA-4 card: T & R to pins 3 & 4. MA to pin 5. Strap MA & EB together. Don't connect EA lead. Program Saturn for "Recann" and "Demand" and set "System Message" to be a min. of 2 sec. longer than actual announcement. Strap TMBA-4 for type 2 signaling.

Manufacturer	Protocol Dip Switches	Notes * Earth ground is the positive of the PABX system talk battery
Siemens (40/80 Hybrid)	**Protocol "A"** with inverted busy signal ON / OFF 1 2 3 4	For more information, contact Viking Product Support at (715) 386-8666.
Startel	**Protocol "A"** ON / OFF 1 2 3 4	Use 4 Wire E & M Interface. Connections: T & R to pins 3 & 4, M to pin 5, E to pin 2. No connection to pin 6.
Stromberg-Carlson (CO switch)	**Protocol "A"** with inverted busy signal ON / OFF 1 2 3 4	Use 4 Wire E & M Interface. Connect T & R to pins 3 & 4, Earth Ground* to pin 6 and pin 5, and E to pin 2. Strap the E & M Trunk card the same as for an Audichron HQ1 112 Drum Announcer. Programming the CO switch: The **DVA-500A** emulates the Audichron Drum Announcer.
Stromberg-Carlson (DBX)	**Protocol "C"** with inverted start and busy signals ON / OFF 1 2 3 4	Use 4 Wire E & M Interface. Connections: T & R to pins 3 & 4, M to pin 5, E to pin 2. Earth Ground* to pin 6.
Tadaran (All models)		Use Ring Trip Interface. Connect T & R to pins 3 & 4 of the CO/PABX line jack. Program all **DVA-500A** channels for ring delay of 2.
Jistel (all models) **Mitel** (all models) **Rolm** (all models) **Toshiba** (perception)		Use Ring Trip Interface. Connect T & R to pins 3 & 4 of the CO/PABX line jack.

Operation

A. Ring Trip Interface

1. **Standard -** Any ringing C.O. line or analog PABX/KSU station will be answered after the programmed ring delay, given the announcement and released. The DVA-500A is then immediately ready to answer the next incoming call.

2. **Repeat Announcement Option -** The announcement may be programmed to play up to 99 times. The announcement will repeat, up to the programmed value, or until the caller hangs up and a CPC signal from the C.O. is detected. Callers that do not hang up may be transferred (see below). When in programming, enter the repeat announcement value 01 (plays once) to 99 followed by #44.

3. **Transfer Option -** A ringing C.O. line will be answered after the programmed ring delay, given the announcement and then transferred to another extension. This option may only be used with analog PABX/KSU, OPX station or Centrex C.O. lines with hook switch flash - blind transfer capabilities. This means a line that a "2500" set telephone can hookswitch flash and dial an extension, but does not require that extension to answer before releasing the call. When in programming, enter the extension number to be transferred to (up to 16 digits) followed by #00. To remove the transfer option simply enter #00 without any previous (extension) numbers.

B. Four Wire E & M

The **600 OHM E & M** jack provides a 600 ohm "Dry" output. Refer to E & M protocol settings and timing on pages 3 - 4, and the PABX table on pages 6 - 7 for proper operation.

IF YOU HAVE A PROBLEM WITH A VIKING PRODUCT, CONTACT VIKING TECHNICAL SUPPORT: 715-386-8666

Our Technical Support Department is available for assistance Monday through Friday 8:00am to 5:00pm central time. Before you call, please:

1. Know the model number, the serial number and what software version you have (see serial label).
2. Have the 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. The original product boxes are not designed for shipping - an overpack box is required to prevent damage 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 RA 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 (RA) number will be issued. This number is valid for fourteen (14) calendar days from the date of issue.

3. After obtaining the RA number, return the approved equipment to your distributor. Please reference the RA number on the paperwork being shipped back with the unit(s), and also the outside of the shipping box. The original product boxes are not designed for shipping - an overpack box is required to prevent damage in transit. Once your distributor receives the package, they will replace the product over the counter at no charge. The distributor will then return the product to Viking using the same RA number.

4. **The distributor will NOT exchange this product without first obtaining the RA 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.

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 without a decimal point (e.g., 03 is a REN of 0.3). For earlier products, the REN is separately shown on the label.

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 DVA-500A does not disable your alarm equipment. If you have questions about what will disable alarm equipment, consult your telephone company or a qualified installer.

If the DVA-500A 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 the necessary modifications to maintain uninterrupted service.

If trouble is experienced with the DVA-500A, for repair or warranty information, please contact:

Viking Electronics, Inc., 1531 Industrial Street, Hudson, WI 54016   Phone: (715) 386-8666

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.

Connection to Party Line Service is subject to State Tariffs. Contact the state public utility commission, public service commission or corporation commission for information.

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.

It is recommended that the customer install an AC surge arrester in the AC outlet to which this device is connected. This is to avoid damaging the equipment caused by 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 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.

Product Support: 715-386-8666