Telecommunication Peripheral Products

Technical Practice

DVA-1003B
**Three Channel
Digital Voice Announcer**

October 14, 2004

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

The **DVA-1003B** is a fully professional, cost-effective three port digital voice announcer, specifically designed for ACD/UCD, auto attendant, call intercept, night messaging information provider and other PABX and Centrex announcement applications.

The **DVA-1003B** will increase call handling capacity by answering incoming calls on demand, or on the first ring, and automatically adjusts the announce time to the length of the outgoing message. The **DVA-1003B** will disconnect on CPC and provide instant "rewind" for the next caller.

The **DVA-1003B** is factory equipped with 1 full minute of non-volatile recording memory for each channel.

http://www.VikingElectronics.com

Features

- **1 minute of record time per channel**

- **Remotely recordable**

- Locally recordable using a standard carbon handset or tape player

- **Selectable ring delay per channel**

- **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**

Sales...(715) 386 - 8861

Made in the U.S.A.

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 or -24 to -58V DC @ 100mA maximum
Dimensions: 44mm x 483mm x 127mm (1.75" x 19" x 5")
Shipping Weight: 3 Kg (7 lbs)
Environmental: 0°C to 32°C (32°F to 90°F) with 5% to 95% non-condensing humidity
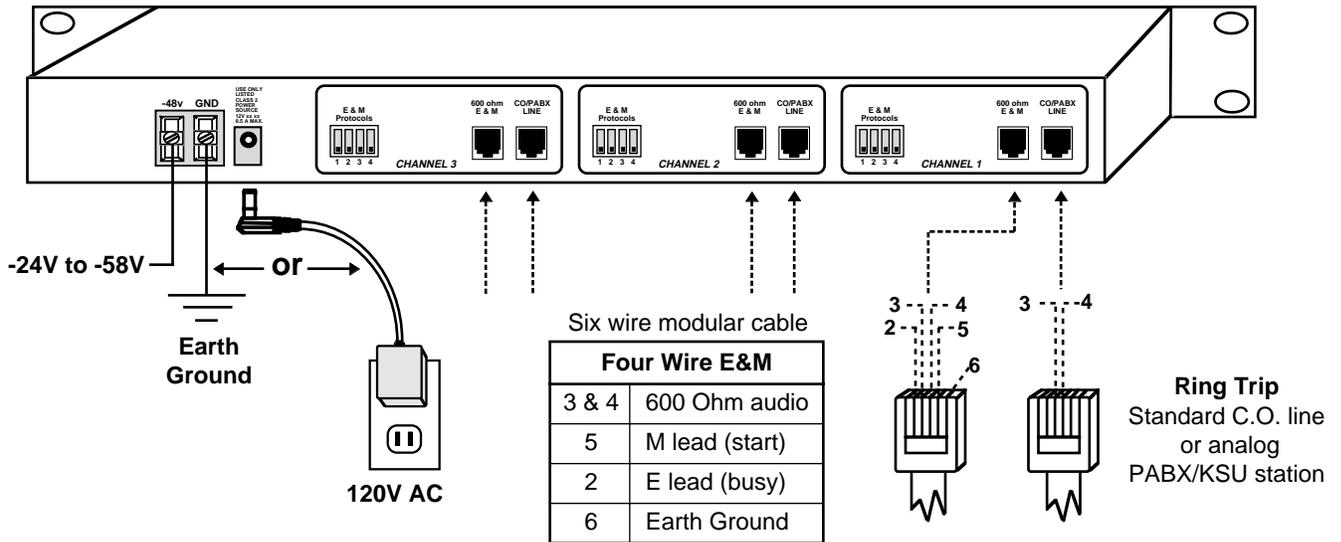**Message Length:** 1 minute per channel
Connections: (3) RJ11 jacks, (3) 4-wire E&M jacks, (3) 1/8 audio jacks (3) handset jacks, (2) screw terminals
Sampling Rate: 64 K (equivalent)
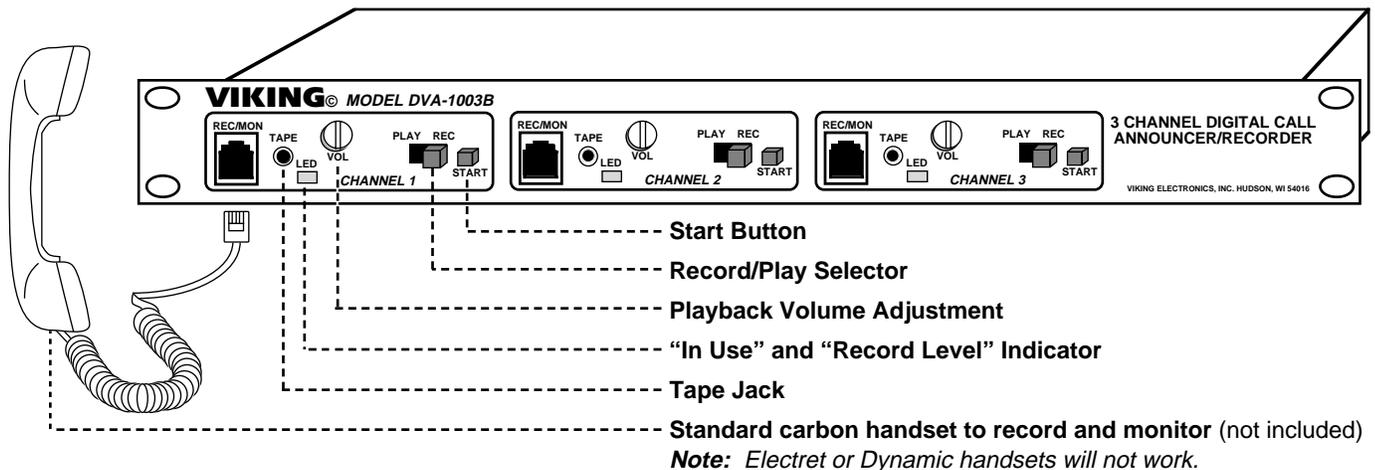
Installation

A. Installing the DVA-1003B

Rear View of the DVA-1003B

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

-24V to -58V

Earth Ground

120V AC

Six wire modular cable

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

Wire each channel of the **DVA-1003B** with either or both the 4 wire E&M jack and/or the 2 wire ring trip jack as shown above. 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-1003B** requires a 24 hour unswitched 115V AC outlet. To protect the internal electronics, the installation of a surge protector is recommended.*

Programming

- - - - - - - - - **Start Button**
- - - - - - - - - **Record/Play Selector**
- - - - - - - - - **Playback Volume Adjustment**
- - - - - - - - - **"In Use" and "Record Level" Indicator**
- - - - - - - - - **Tape Jack**
- - - - - - - - - **Standard carbon handset to record and monitor** (not included)
Note: *Electret or Dynamic handsets will not work.*

A. Continuous Play

Set dip switches to protocol "**A**" (Sw 1 and Sw 2 - **OFF**). Connect pin 5 (start) to pin 2 (busy) on the **600 OHM E & M** jack. 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. Each channel is set up separately.
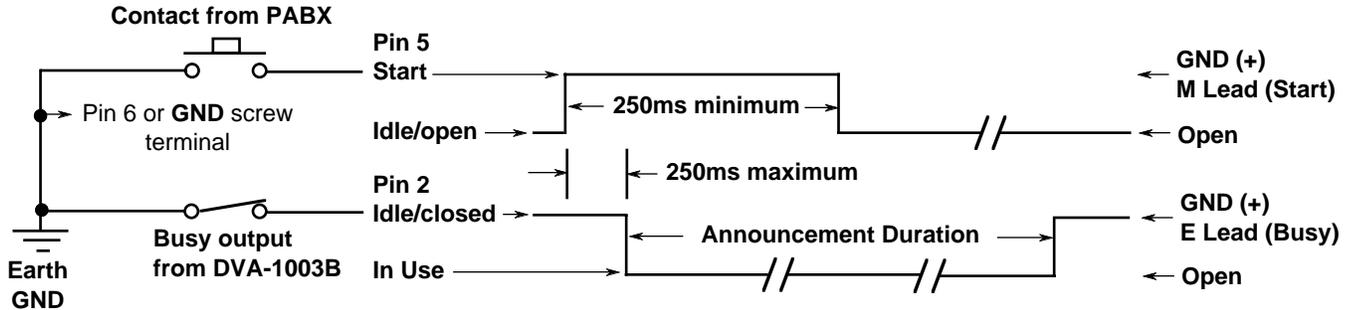
Protocol	Sw 1	Sw 2
A	OFF	OFF
B	OFF	ON
C	ON	OFF

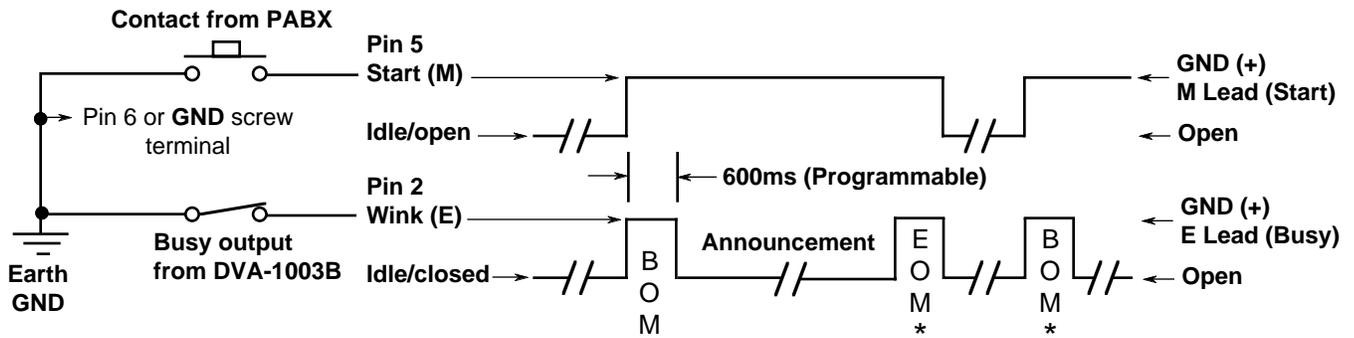| Switch	Position	Description
3	ON	Inverted Start
3	OFF	Normal
4	ON	Inverted Busy
4	OFF	Normal
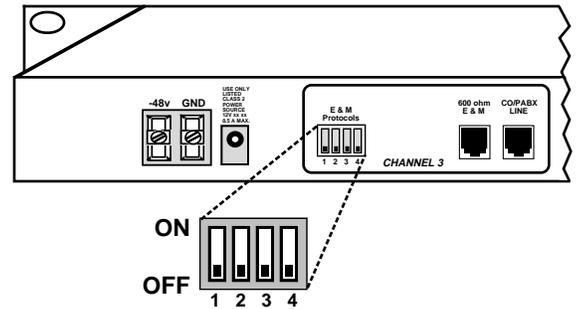
Note: Set switches with the unit powered down.

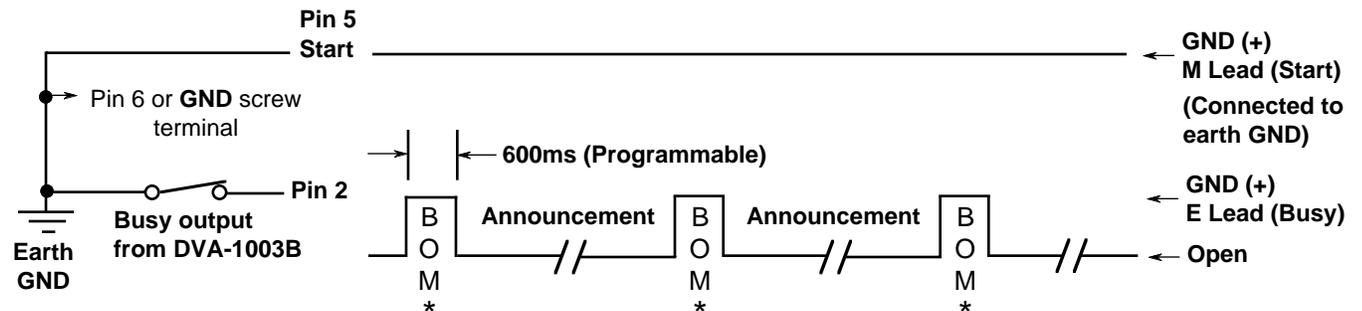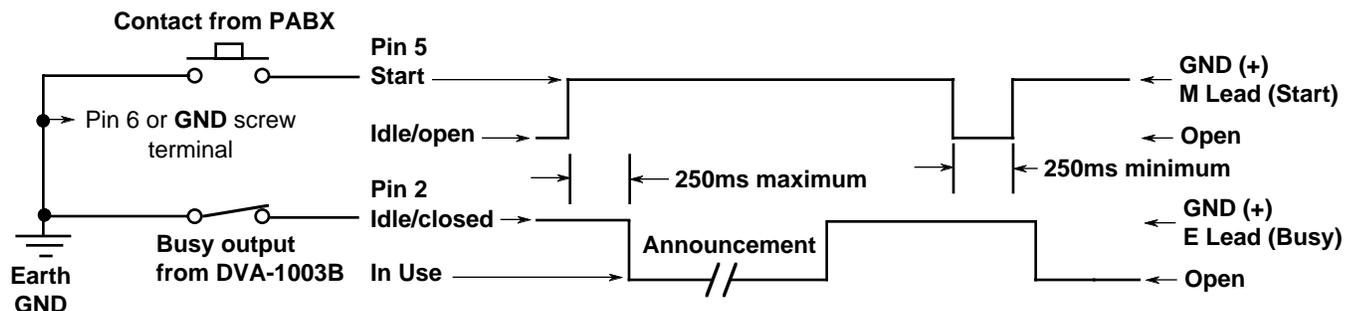### 1. "On Demand". Set dip switches to protocol "A" (Sw 1 and Sw 2 - OFF).

2. Type 5 E & M, wink start. Set dip switches to protocol "B" (Sw 1 - OFF, Sw 2 - ON).

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

4. Single Play On Demand. Set dip switches to protocol "C" (Sw1 - ON, Sw 2 - OFF).

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 plug 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**

   Note: Each channel is programmed separately.
   a. Call the C.O. line or analog PABX/KSU extension connected to the 2 wire ring trip port.
   b. When that channel of the **DVA-1003B** 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.
   e. A valid entry will be signaled with two beeps. An invalid entry will be signaled with three beeps.

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 announcement, enter ✶**3**, or hang-up and wait 20 seconds for the unit to disconnect, then call in.
   d. Enter # to stop message playback.

3. **Programming the Ring Delay Remotely**
   a. After entering the programming mode, enter the desired ring delay (**0 - 9**).
   b. Enter **#45**.

4. **E & M Timing**
   The Beginning Of Message and End Of Message 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 #.*
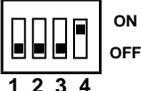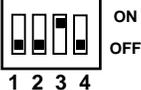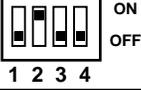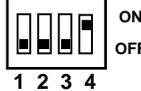
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7. Transfer Option

When in programming enter the extension number, up to 16 digits, followed by **#00**. Dial ✶✶ for a ✶, ✶**#** for a **#** and ✶**7** for a four second pause. ***Note:*** *See* **Operation** *for phone system requirements.*

8. To Leave the Remote Programming Mode

Simply hang-up and that channel of the **DVA-1003B** will time-out and disconnect.

G. Using the DVA-1003B with Major PABX's

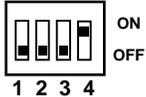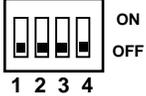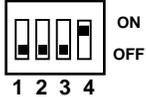| Manufacturer	Protocol Dip Switches	Notes * Earth ground is the positive of the PABX system talk battery
ATT (Dimension, Horizon, etc. 4 Wire E & M)	Protocol "A" with inverted busy signal ON/OFF 1 2 3 4	Use 4 Wire E & M Interface. Connections: T & R to pins 3 & 4, M to pin 5, E to pin 2 and Earth Ground* 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-1003B**) to pin 6 (of the **DVA-1003B**). 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-1003B** 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-1003B** 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.
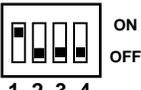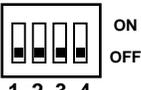
Manufacturer	Protocol Dip Switches	Notes * Earth ground is the positive of the PABX system talk battery
Siemens (40/80 Hybrid)	**Protocol "A"** with inverted busy signal ON / OFF 1 2 3 4	For more information, contact Viking Product Support at (715) 386-8666.
Startel	**Protocol "A"** ON / OFF 1 2 3 4	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-1003B** 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-1003B** 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.
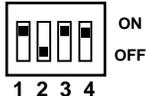
Operation

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. That channel of the **DVA-1003B** is then immediately ready to answer the next incoming call.

2. **Announcement Repeat Option -** An announcement may be programmed to be repeated up to 99 times. When in programming, enter the announcement repeat value (**01 - 99**) followed by **#44**. The announcement will then be repeated up to the programmed value, or until the caller hangs up and the **DVA-1003B** detects a CPC signal from the C.O. line. Callers that do not hang-up may then be transferred to another extension of the phone system (see **Transfer Feature** below).

3. **Transfer Feature -** A ringing C.O. line will be answered after the programmed delay, hear the announcement, and then be transferred to another extension of the phone system. This feature may only be used on analog PABX/KSU stations or Centrex lines with "blind" hookswitch-flash transfer capabilities. Specifically, this requires that a basic "2500" set can perform a hookswitch flash transfer and ring another extension, which is not required to answer before the first extension releases the call. When in programming, enter the number of the extension to be transferred to (up to 16 digits) followed by **#00**. To disable this feature, when in programming simply enter **#00** without any station prefix.

B. Four Wire E & M

The **600 OHM E & M** jacks provide a 600 ohm "Dry" output. Refer to E & M protocol settings and timing on pages 3 and 4, and the PABX table on pages 5 and 6 for proper operation.

Product Support Line...(715) 386-8666   Fax Back Line...(715) 386-4345

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.

⚠ 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

a) 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.

b) This equipment uses the USOC jack as described in the attached chart.

c) 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.

d) 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 US:AAAEQ##TXXXX. The digits represented by ## are the REN without a decimal point (e.g., 03 is a REN of 0.3).

e) 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.

f) 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.

g) 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.

h) No user serviceable parts. Contact repair center for service.

i) Connection to party line service is subject to state tariffs.

j) 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					
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.

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