Voice Alarm Dialing from Two Inputs

Viking’s K-202-DVA is a fully programmable two-input, multi-number auto dialer, designed for emergency and non-emergency message notification. The K-202-DVA has two dry contact inputs, each of which can dial up to seven 32-digit phone numbers and play a message up to 1 minute in length specific to that input.

Messages can be recorded locally or remotely with a total message time for both inputs of two minutes. The K-202-DVA has call progress detection capability with normal and fast busy, call pickup, CPC and ring-no-answer detection. Programming is easily done with a Touch Tone phone.

**Features**

- Non-volatile memory (no batteries required)
- Stores up to seven 32-digit phone numbers per input (fifteen 32-digit numbers total)
- 2 minutes of record time (1 minute per input)
- Programmable message repeat counter
- Programmable lap counter
- Two inputs programmable for normally open or normally closed and enabled or disabled
- Programmable ring delay for remote programming and alarm polling
- Programmable qualifier timer for each input (time for an event to be qualified as an alarm)
- Programmable resume timer for each input (time following reset for input to become active again)
- Call progress detection
- Programmable ringback limit for call progress
- Remote security and access codes
- Local or remote programming and recording
- Compatible with the RC-2A and RC-3 remote DTMF controllers
- Phone numbers may be programmed as pager numbers (no voice message played)
- Programmable hookswitch flash before dialing
- Local reset input
- Local alarm state indication LED

**Applications**

- Security/burglar/fire alarm notification
- System alarm or equipment malfunction notification
- Environmental warning notification
- Contacting personnel via numeric pagers

**Specifications**

- **Power:** 120V AC/12V DC 500 mA, UL listed adapter provided
- **Dimensions:** 5.25” x 3.6” x 1.75” (133mm x 91mm x 44mm )
- **Shipping Weight:** 1.5 lbs (0.68 Kg)
- **Environmental:** 32°F to 90°F (0°C to 32°C) with 5% to 95% non-condensing humidity
- **Talk Battery:** 12V DC
- **Touch Tone Dialing:** 100 ms on/off, 50 ms on/off
- **CPC Detection Time:** 320 ms minimum
- **Message Record Time:** 2 minutes
- **Sampling Rate:** 64 K (equivalent)
- **Input Detection Time:** 90 ms with Qualifier Timer set to 0
- **Resolution Qualifier Timer:** 1 second to 18 hours
- **Resolution Resume Timer:** 1 second to 18 hours
- **Connections:** (1) RJ11 jack for telco connection, (1) 6 position screw terminal block for inputs

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

Alarm Dialer: The K-202-DVA calls the list of up to 7 phone numbers associated with an alarm input when the input has reached the alarm state.

Alarm Input: One of two inputs for alarm sensors which may be connected to the K-202-DVA. Each input may be configured as normally open, normally closed, or disabled. In addition, each input may be configured to require a momentary or continuous closure.

Alarm Message: One of two user-recorded announcements associated with a corresponding alarm input. Each message may be up to one minute in length.

Alarm State: An alarm input reaches this state when there has been a closure across the input (if normally open) or an open (if normally closed) for a minimum amount of time. If the Qualifier Timer is set to zero, this minimum time is about 90ms. Otherwise the time to reach the alarm state is the value the Qualifier Timer has been set to (ranging from 1 second to 18 hours).

Call Progress Detection: This feature enables the K-202-DVA to determine when the number it is calling has answered so that it can start playing the alarm message.

Forced Play Timer: The forced play timer is operational when the Call Progress Detection has been disabled. Instead of starting the alarm message when the call is picked up, the K-202-DVA waits a set period of time (from 1 - 99 seconds) after the number is dialed before it starts playing the message. This feature would ordinarily only be used when for some reason reliable call progress detection is not possible; for example: if one or more of the lines being called is very noisy.

Hookswitch Flash Before Dialing: In some alarm dialing applications, it is necessary for the K-202-DVA to provide a 500ms hookswitch flash before dialing any programmed phone number. This feature can be enabled or disabled on a global basis (applies to both inputs and all dial numbers).

Lap Counter: The Lap Counter is a programmable counter that sets how many times the K-202-DVA will cycle through its list of up to 7 numbers for a given input before it gives up and stops the alarm dialing procedure. The Lap Counter is set individually for each input and can be from 1 - 99.

Message Repeat Count: This is the number of times the alarm message is repeated per call. The Message Repeat Count is set individually for each input and can be from 1-99.

Pager Number: A phone number of up to 32 digits which can be used to dial pagers (no alarm message is played).

Priority: Input 1 has higher priority than Input 2.

PA (Public Address) Mode: In this mode, the K-202-DVA dials an access code to play the messages over a PA (public address) system, versus dialing telephone numbers that will be answered by live people.

Qualifier Timer: This is a user-programmable timer that can be set from 1 second to 18 hours and specifies the amount of time that a closure must stay in effect before the K-202-DVA enters the alarm state. The default value of the Qualifier Timer is 0, which is OFF.

Remote Access Code: A six-digit code required for remotely accessing the K-202-DVA in order to poll the alarm inputs to see if they have entered the alarm state and have not been reset.

Reset State: An alarm is reset if the called party or the remotely accessing user dials a touch-tone “9” during the alarm message. The alarm input resumes normal operation after the Resume Timer expires.

Ring Delay: This is the number of rings the K-202-DVA waits before answering an inbound call. The Ring Delay must be set from 0-9, with 0 specifying that incoming calls are not to be answered.

Ringback Limit: This is the number of times the K-202-DVA will allow the phone to ring when trying to reach a number on its phone number list before giving up and going on to the next number.

Resume Timer: This is a user-programmable timer that can be set from 1 second to 18 hours and specifies the amount of time after an alarm input is reset before it resumes normal operation and begins looking for alarms again. See Operation for a discussion of how the Resume timer determines when an alarm input leaves the reset state. The default value of the Resume Timer is zero, which is OFF.

**Installation**

**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.

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**A. Entering the Programming Mode**

1. **Local**
   
   **Step 1.** Move the PROG/NORM switch to PROG and plug an analog phone into the TELCO jack.
   
   **Step 2.** After taking the phone off hook, wait for two beeps.
   
   **Step 3.** Program as shown in sections B-U.
   
   **Step 4.** To exit programming, hang-up. Set the PROG/NORM switch to NORM.

2. **Remote**
   
   **Step 1.** Make sure the PROG/NORM switch is set to the NORM position and that there is a CO line or analog PABX/KSU extension in the TELCO jack.
   
   **Step 2.** Call into the K-202-DVA on that line or extension. The unit will answer after the set ring delay (see Programming section L) and a single beep should be heard.
   
   **Step 3.** Enter a * and the six-digit security code (factory default is 845464). If the correct code is entered, two beeps should be heard. **Note:** The security code must be entered within 20 seconds otherwise the K-202-DVA will time out and hang up. When in programming, if 20 seconds elapse without Touch Tones being entered or a message being recorded, the K-202-DVA will automatically exit programming and hang up.
   
   **Step 4.** Program as shown in sections B-U.
   
   **Step 5.** To exit programming, hang-up. After the 20 second timeout has elapsed, the K-202-DVA will be ready for normal operation. Alternatively, dial ##7 and the K-202-DVA will immediately be ready for normal operation.

**Note:** Correct programming entries are implemented and then acknowledged by two beeps. Incorrect programming entries are discarded and receive three beeps to indicate an error.
B. Quick Programming Features (see sections D - U for detailed descriptions)

<table>
<thead>
<tr>
<th>Description</th>
<th>Enter Digits</th>
<th>+ Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>To enter phone numbers for each input</td>
<td>1-32 digits</td>
<td>+ #XY*</td>
</tr>
<tr>
<td>To clear a phone number</td>
<td>(no digits)</td>
<td>+ #XY*</td>
</tr>
<tr>
<td>To enter pager numbers</td>
<td>1-32 digits</td>
<td>+ #XY*</td>
</tr>
<tr>
<td>Contacts: First digit - 0 = NO , 1 = NC , 2 = enabled , 3 = disabled</td>
<td>2 digits</td>
<td>+ #X9*</td>
</tr>
<tr>
<td>Second Digit - 0 = momentary closure , 1 = continuous closure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Repeat/Lap Counter: First two digits - message repeat counter (01-99)</td>
<td>4 digits</td>
<td>+ #X0*</td>
</tr>
<tr>
<td>Last two digits - lap counter (01-99)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To program the Qualifier Timer (HHMMSS, 18 hour maximum)</td>
<td>6 digits</td>
<td>+ #X*</td>
</tr>
<tr>
<td>To program the Resume Operation Timer (HHMMSS, 18 hour maximum)</td>
<td>6 digits</td>
<td>+ #X#</td>
</tr>
<tr>
<td>To program the Security Code</td>
<td>6 digits</td>
<td>+ #90</td>
</tr>
<tr>
<td>To program the Access Code</td>
<td>6 digits</td>
<td>+ #91</td>
</tr>
<tr>
<td>To program the Ring Delay (0-9)</td>
<td>1 digit</td>
<td>+ #92</td>
</tr>
<tr>
<td>To program the Ringback Limit (01-99)</td>
<td>2 digits</td>
<td>+ #93</td>
</tr>
<tr>
<td>To program the Forced Play Timer (01-99 seconds) (00 = clear)</td>
<td>2 digits</td>
<td>+ #94</td>
</tr>
<tr>
<td>To record messages for each input (1-2)</td>
<td>*1 - *2</td>
<td></td>
</tr>
<tr>
<td>To clear one message</td>
<td>*1 - *2</td>
<td></td>
</tr>
<tr>
<td>To play message for either input</td>
<td><em>0X</em></td>
<td></td>
</tr>
<tr>
<td>To add a 4 second pause anywhere in the dialing string</td>
<td>*9</td>
<td></td>
</tr>
<tr>
<td>To add a * anywhere in the dialing string</td>
<td>**</td>
<td></td>
</tr>
<tr>
<td>To add a # anywhere in the dialing string</td>
<td>#</td>
<td>#</td>
</tr>
<tr>
<td>To set to normal dialing speed</td>
<td>#1</td>
<td>#2</td>
</tr>
<tr>
<td>To set to fast dialing speed</td>
<td>#2</td>
<td>#3</td>
</tr>
<tr>
<td>To program no hookswitch flash before dialing</td>
<td>#3</td>
<td>#4</td>
</tr>
<tr>
<td>To program a 500ms hookswitch flash before dialing</td>
<td>#4</td>
<td>#5</td>
</tr>
<tr>
<td>To disable the PA (public address) mode</td>
<td>#5</td>
<td>#6</td>
</tr>
<tr>
<td>To enable the PA (public address) mode</td>
<td>#6</td>
<td>#7</td>
</tr>
<tr>
<td>To hang up</td>
<td>#7</td>
<td>#8</td>
</tr>
<tr>
<td>To disable the Auto Resume mode</td>
<td>#8</td>
<td>#9</td>
</tr>
<tr>
<td>To enable the Auto Resume mode</td>
<td>#9</td>
<td>###</td>
</tr>
<tr>
<td>To return programming to defaults</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* X is an input number (1 or 2) and Y is the dialing order (1-7) of the seven memory locations for this input.

C. Factory Default Settings

<table>
<thead>
<tr>
<th>Phone Numbers</th>
<th>Not programmed (section D)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pager Number</td>
<td>Not programmed (section E)</td>
</tr>
<tr>
<td>Alarm Input Configuration</td>
<td>N/O (Enabled) Momentary</td>
</tr>
<tr>
<td>(section F)</td>
<td></td>
</tr>
<tr>
<td>Lap Counter</td>
<td>1 (section G)</td>
</tr>
<tr>
<td>Message Repeat Counter</td>
<td>2 (section G)</td>
</tr>
<tr>
<td>Qualifier Timer</td>
<td>0 - disabled (section H)</td>
</tr>
<tr>
<td>Resume Timer</td>
<td>0 - disabled (section I)</td>
</tr>
</tbody>
</table>

Access Code | 123456 (section K) |
Ring Delay   | 1 (section L)      |
Ringback Limit| 6 (section M)    |
Call Progress Detection | Enabled (section N) |
Messages | Not recorded (section O,P) |
Dialing Speed | Normal (section Q) |
Hookswitch Flash Before Dialing | Disabled (section R) |
PA Mode | Disabled (section S) |
Auto Resume Mode | Disabled (section T) |

D. Programming the Phone Numbers

To program one of the seven phone numbers for each alarm input enter: the desired 1-32 digit phone number + # + XY (where X is the input number (1 - 2) and Y is the dialing order (1-7) of the seven memory locations for this input). To add a 4-second pause to the dial string (this counts as one of the 32 digits) enter #9. To add a * to the dial string enter **. To add a # to the dial string enter ##. To clear a number enter # + XY (where X is the input number (1 - 2) and Y is the dialing order (1-7) of the seven memory locations for this input) without any preceding digits.

E. Programming Pager Phone Numbers

To program one of the seven phone numbers for each alarm input as a pager number enter: the desired 1-32 digit pager phone number + ## + XY (where X is the input number (1-2) and Y is the dialing order (1-7) of the seven memory locations for this input). As with normal phone numbers, 4-second pause, *, # can be programmed by entering #9, ** or ## respectively. To clear a pager number enter # + XY without any preceding digits. When dialing pagers, the K-202-DVA is normally configured to send a certain character string when activated, that is easily recognized by the user on the pager display. To accomplish this, the K-202-DVA is programmed with the phone number for the pager, a series of pauses (usually 8 or 12 seconds), the character string that you want to appear on the pager display ("3333333333" for example), a # character (programmed as ##) to "end" the call with the paging equipment, followed by ## plus XY (where X is the input number (1-2) and Y is the dialing order (1-7) of the seven memory locations for this input).
F. **Contact Closures**

Enter 2 digits + #X9, where X is the input number (1-2).

- First Digit: 0 = normally open  
  
- Second Digit: 0 = momentary closure  
  1 = continuous closure  

**Note:** These parameters should be set for each input being used. If contacts are disabled through programming 30/31#X9, they must be enabled with 20/21 #X9 before they will function. This allows wiring and contact style changes without causing false alarms.

G. **Message Repeat Counter and Lap Counter**

Enter 4 digits + #X0, where X is the input number (1-2)

- First two digits: 01 - 99 are the Message Repeat Counter  
- Last two digits: 01 - 99 are the Lap Counter

**Note:** Each input can have its own Message Repeat Counter and Lap Counter.

H. **Qualifier Timer**

Enter 6 digits + #X#, where X is the input number (1-2). The format is 2 digits for hours, 2 digits for minutes, and 2 digits for seconds: HHMMSS. The qualifier timer can be set anywhere from zero to 18 hours, and has a 1 second resolution. **Note:** Each input has its own Qualifier Timer.

I. **Resume Timer**

Enter 6 digits + #X#, where X is the input number (1-2). The format is 2 digits for hours, 2 digits for minutes, and 2 digits for seconds: HHMMSS. The resume timer can be set anywhere from zero to 18 hours, and has a 1 second resolution. **Note:** Each input has its own Resume Timer.

J. **Security Code (memory location #90)**

The security code allows the user/installer to program the K-202-DVA either locally or remotely. The factory set security code is 845464 (V-I-K-I-N-G). It is recommended that the security code be changed. **Example:** To store 654321 as the security code:

1. Access programming as shown in Programming section A.
2. Enter 654321 #90.
3. Exit Programming as shown in section A.

**Note:** The security code must be 6 digits, cannot include a * or a #, and cannot be set the same as the remote access code.

K. **Remote Access Code**

Enter a six-digit access code followed by #91. **Note:** The remote access code must use only the digits 0-9, cannot contain * or #, and cannot be set the same as the security code.

L. **Ring Delay**

Enter one digit from 0-9 followed by #92. If the ring delay is set to 0, ring detection is disabled, so that the K-202-DVA will not answer incoming calls. It is important to note that this prevents Remote Access and Remote Programming.

M. **Ringback Limit**

Enter two digits from 01-99 followed by #93.

N. **Forced Play Timer and Call Progress Detection**

Call Progress Detection is enabled by setting the Forced Play Timer to 0, which is done by entering the two digits 00 followed by #94. Call Progress Detection is disabled by setting the Forced Play Timer to a non-zero value from 1 to 99 seconds. Enter a two digit number from 01 - 99 followed by #94.

O. **Recording Messages**

Recording of the voice messages may be done either locally or remotely. Once programming has been entered, touch tones are used to start and stop the recording process. To start a recording: enter * followed by the number of the input. The K-202-DVA gives a single beep to indicate that it is recording and then starts the recording process. Speak into the handset of the telephone to record the message. The K-202-DVA has a maximum message time for each input of one minute. When finished recording the message, enter any touch tone to stop the recording process. At this point the K-202-DVA automatically plays back the message just recorded. If the recording process goes over one minute the K-202-DVA stops the recording and starts playing back the message. To clear a single message: enter * followed by the number of the input and then immediately press any Touch Tone to stop the recording process.

P. **Playing Back Messages**

When in programming, enter #0 followed by the number of the input to play back the message recorded for that input. If no message has been recorded, nothing will be heard.
Q. Selecting Dialing Speed
To select normal dialing speed (100 ms) enter ##1. To select fast dialing speed (50 ms) enter ##2.

R. Hookswitch Flash Before Dialing
In the majority of alarm dialing applications, the **K-202-DVA** simply goes off hook on the phone line or PBX extension, pauses one second, then begins dialing the programmed phone (or pager) number. In a few alarm dialing applications, the **K-202-DVA** must go off hook on the phone line or PBX extension and provide a 500 millisecond hookswitch flash before dialing the programmed phone number. This feature can be enabled or disabled on a global basis (applies to both inputs and all dial numbers). To enable the hookswitch flash before dialing enter ###4. To disable the hookswitch flash before dialing enter ###3 (default). When hookswitch flash before dialing is enabled, the **K-202-DVA** goes off hook, waits 2 seconds, provides the 500 millisecond hookswitch flash, waits one second then dials the programmed phone number.

S. PA (Public Address) Mode
The PA mode allows the **K-202-DVA** to play recorded messages over a paging system. For a description of how the mode functions, see **Operation** section **B**. This feature is enabled or disabled on a global basis (applies to both inputs and all dial numbers). When in programming, enter ###6 to enable the PA mode. When the PA mode is enabled, the forced play timer should be set to 10 seconds (see **Programming** section **N**) and the lap counter should be set to a value higher than 1 (see **Programming** section **G**). To disable the PA mode enter ###5 (default). All options for the inputs are still programmable (normally open or normally closed, momentary or continuous, qualifier timer, etc). Note that the PA mode should not be enabled if the Auto-Resume mode has been enabled because the **K-202-DVA** will not function properly with both modes enabled.

T. Auto Resume Mode
See **Operation** section **D** for a functional description of this mode. The Auto-Resume mode is disabled by default but can be enabled by entering ###9 in programming. In addition, a value for the resume timer should be set so the unit knows how long to wait before repeating the alarm dialing procedure (see **Programming** section **I**). To disable the mode, enter ###8. The Auto-Resume mode should not be enabled if the PA mode has been enabled because the **K-202-DVA** will not function properly with both modes enabled.

U. Return to Default
**IMPORTANT:** Executing the following programming erases all phone numbers and messages and returns the **K-202-DVA** to default settings.
To erase all messages and phone numbers and to return the **K-202-DVA** to its original default settings enter #### while in programming.

## Operation

### A. Alarm Dialer Mode
The **K-202-DVA** constantly monitors both alarm inputs to see if either of them leaves their normal state (N/O becomes closed or N/C becomes open) for more than 90 ms. In the event of two simultaneous closures, Input 1 has higher priority. What happens after a closure is detected depends on the Qualifier Timer setting for the input. If the Qualifier Timer is set to zero, the event qualifies as an alarm immediately and the input enters the alarm state. Otherwise the **K-202-DVA** simply waits until the forced play timer has expired and then starts playing the alarm message associated with that input. If call progress detection is not enabled, the **K-202-DVA** simply waits until the forced play timer has expired and then starts playing the alarm message regardless of whether the called party has answered or not. **Note:** If the phone number is a pager number, the **K-202-DVA** does not play the alarm message, but instead pauses two seconds and hangs up. When the called party answers there are 4 options available, as shown in Figure 1 below.

When an input has entered the alarm state, the **K-202-DVA** dials the first phone number associated with that input. When dialing is completed, the **K-202-DVA** looks to see if call progress detection is enabled. If it is, the **K-202-DVA** counts ringbacks while looking for the called number to answer. If the call is not answered before the programmed ringback limit is reached, the **K-202-DVA** will hang up and dial the next number in the list. If the called party answers, the **K-202-DVA** starts playing the alarm message associated with that input. If call progress detection is not enabled, the **K-202-DVA** simply waits until the forced play timer has expired and then starts playing the alarm message regardless of whether the called party has answered or not. **Note:** If the phone number is a pager number, the **K-202-DVA** does not play the alarm message, but instead pauses two seconds and hangs up. When the called party answers there are 4 options available, as shown in Figure 1 below.

#### Figure 1

<table>
<thead>
<tr>
<th>Touch Tone</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Stops the current message if playing and plays message 1 if Input 1 has an alarm that has not been reset, followed by Message 2 if Input 2 has an alarm that has not been reset. If neither input has an alarm that has not been reset, the <strong>K-202-DVA</strong> gives three beeps.</td>
</tr>
<tr>
<td>2</td>
<td>Stops the current message if playing and plays the other message if the other input has an alarm that has not been reset. If the other input does not have an alarm that has not been reset the <strong>K-202-DVA</strong> gives three beeps.</td>
</tr>
<tr>
<td>3</td>
<td>Stops the current message if playing, hangs up and continues dialing if applicable.</td>
</tr>
<tr>
<td>6</td>
<td>Stops the current message if playing and resets the alarmed input.</td>
</tr>
</tbody>
</table>

1. K-202-DVA
2. K-202-DVA
4. K-202-DVA
Once the message repeat count has been met without a response, the K-202-DVA will give a single beep to indicate that it has delivered its messages and is about to hang up. The K-202-DVA will then pause for five seconds to allow the called party a final opportunity to exercise one of the above options.

If the K-202-DVA delivers its message and the called party does not reset the alarmed input the K-202-DVA hangs up and dials the next number on the list for that input. If all numbers have been dialed and the alarm is still not reset the K-202-DVA increments the lap counter for that input and starts the dialing process over again. This will continue until the lap counter has been met. At this point the K-202-DVA marks the input as an alarmed input and returns the input to its rest state.

If an alarm input is reset, the manner in which the input resumes normal operation is determined by the Resume Timer. If the Resume Timer is set to zero, the K-202-DVA starts looking at the input again right away. If the closure is no longer in effect, the K-202-DVA waits for it to go away. If the closure is no longer in effect but a short time later it returns, the K-202-DVA will start the alarm dialing procedure all over again for that input. However, if the Resume Timer is set to a non-zero value, the K-202-DVA counts down from that value to zero and then examines the input to see if the closure is still in effect. If it is, the alarm dialing procedure starts again. If not, the input goes back to the rest state.

Note that if a * is entered while connected to the call the K-202-DVA will exit its current mode and if no touch tones are entered within 20 seconds, it will hang up and proceed. This 20 second wait is important, so that an RC-2A or RC-3 can be used in conjunction with the K-202-DVA. For more information, see DOD# 878.

B. Remote Access Polling

The K-202-DVA can be called from a remote location to check on possible alarm activity. When the phone line it is connected to is called, it answers and gives a single beep as a prompt. Enter * followed by the 6 digit access code, the K-202-DVA gives 2 beeps, and the for options in Figure 1 on page 6 become available. When finished, dial 3 to disconnect (3 beeps are heard) or just hang up. Note that the K-202-DVA will give 3 beeps and hang up if 20 seconds go by without a touch tone entry.

C. PA (Public Address) Mode

The PA mode is useful in applications where the K-202-DVA is providing emergency or informational messages over a paging system, activated from an alarm system, panic buttons or doorbell buttons. When an input is activated, the K-202-DVA dials the access code or extension number for the PA system and listens for a busy signal. If it does not hear a busy signal the forced play timer expires and the recorded message or the lap counter expires it returns to idle and waits for another input trigger. The lap counter in this mode is actually a counter for the maximum number of times the K-202-DVA will attempt to call a busy paging port before it gives up. When playing emergency messages over the paging system, the lap counter should be set fairly high to ensure the emergency message eventually plays, especially on systems with heavy paging traffic.

D. Auto Resume Mode

At the end of the standard alarm dialing procedure when the lap counter has been met the K-202-DVA resets the input and marks it to keep track of the fact that there was an alarm that was not reset by the user. From this point on, while it is possible to call in to the K-202-DVA and poll it to discover that there was an alarm, the K-202-DVA does not initiate any more dialing.

This alarm situation is handled differently when the auto-resume feature is enabled. The K-202-DVA resets and marks the input, but it also starts the resume timer, the value of which is set in programming (see Programming section I). While the resume time is running, the unit will not call its programmed numbers, but it will play the alarm message of the marked input if it is polled, and the user can dial a touch tone 9 to return the input to its rest state. If the resume timer elapses without a call from the user and the closure is still in effect (to the input), the K-202-DVA clears the lap counter and starts the alarm dialing sequence again from the beginning. If the lap counter is reached again, the unit ceases dialing and the resume timer is started again. This will continue until one of the called numbers answers and resets the input by dialing a touch tone 9 or until a user calls in, polls the unit by dialing a touch tone 1, and resets the alarmed input by dialing a touch tone 9. See Operation section B for a description of the polling procedure.

E. Local Reset

A momentary switch can be connected between the Reset Terminal and chassis ground (not earth ground) to provide a local reset to both inputs. See the Installation diagram on page 3 to see how to hook this up. A closure resets either or both of the inputs if they are in alarm state, and will also clear either or both of the inputs if they are marked. Note that the inputs may alarm again if the resume timer is set to zero and the condition that caused the alarm has not been corrected.

F Status LED Alarm Indication

The Status LED gives an indication of the alarm status of the K-202-DVA. If neither of the inputs are in the alarm state or marked as the result of previous dialing that did not result in a remote reset, the Status LED remains lit steady. If Input 1 enters the alarm state, the Status LED gives a quick flash every second until reset. If Input 2 enters the alarm state, the Status LED gives a quick double flash every second. If both inputs are in the alarm state, the Status LED alternates between a single flash and a double flash every second. The Status LED flashes in the same way when either or both of the inputs are marked. To reset the K-202-DVA, either provide a closure between the reset terminal and chassis ground (not earth ground) or call the unit, and when it answers, enter * plus the access code, then 1 and 9 while the message is playing (see B. Remote Access Polling on Page 7).
RETURNING PRODUCT FOR REPAIR

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.
3. This number is valid for fourteen (14) calendar days from the date of issue.
4. After obtaining the R.A. number, return the approved equipment to your distributor referencing the R.A. number. Your distributor will then replace the Viking product using the same R.A. number.

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, REFUNDS 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 separate and independent element of risk allocation and is intended to be enforced as such.

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.
3. This number is valid for fourteen (14) calendar days from the date of issue.
4. After obtaining the R.A. number, return the approved equipment to your distributor referencing the R.A. number. Your distributor will then replace the Viking product using the same R.A. number.

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, REFUNDS OF THE PURCHASE PRICE AS THE EXCLUSIVE REMEDY AND ANY LIABILITY OF VIKING SHALL BE SO LIMITED.

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