

# VIKING PRODUCT MANUAL

COMMUNICATION &amp; SECURITY SOLUTIONS

## AR-1

Automated  
Receptionist  
January 29, 2018

## Digital Call Screening and Messaging System with 12 Minutes of Flash Memory

The **AR-1** Automated Receptionist is a digital call screening and messaging system designed to answer calls with an informative greeting, then let callers ring through to talk to someone live, select from other prerecorded messages or hang up.

Programming functions and message recording are accessed locally or remotely using a standard Touch Tone phone. Recordings from tape, CD, PC, etc. can also be locally loaded via the **AR-1's** 3.5mm analog audio input. Twelve (12) minutes of total record time and up to 8 different messages can be recorded into the unit. The messages consist of one Day greeting, one Night greeting, one Transfer message, four Menu messages and one Goodbye message. To speed up programming and message recording in multi-line applications, up to 64 **AR-1's** can be connected together via the CAN communications port. This will allow you to program just the "master" unit and have it automatically program and update the messages on up to 63 "slave" units.

The **AR-1** has a call screening option which allows callers with the correct code to bypass the greeting message and ring through. The unit has a programmable Touch Tone Distinctive ring through option allowing callers to enter 0,7,8, or 9 to ring the phone port in 4 different Distinctive/



Custom ring patterns. The unit has an optional automatic ring through mode allowing calls to automatically ring through after the caller has listened to the entire greeting message. The **AR-1** also has a programmable store and forward Caller ID feature where Caller ID is stored and retransmitted to the phones or phone system when a caller rings through.

### Features

- 12 Minutes of Flash message memory
- Up to 8 different messages (Day, Night, Transfer, 4 Menu messages and Goodbye)
- Local and Remote programming/message recording using a standard Touch Tone phone
- For multi-line applications, up to 63 "slave" units can be automatically programmed and have messages updated from a single "master" unit
- Optional audio input jack for recording from an external source (Tape, CD, PC, etc.)
- Programmable 4 digit code to bypass greeting and Ring through
- Programmable Store and Forward Caller ID
- Touch tone distinctive ring through with 4 ring patterns
- Programmable Automatic ring through after greeting
- Call progress detection for automatic hang-up on CPC, busy signal, or time out
- Music On Hold input
- 90V Message Playing signal for visual indication
- Message and MOH volume controls
- Programmable Ring Delay, Maximum Ring Count, Maximum On-Hold Time and Maximum Message playback time
- Surge protection for power and phone line

[www.VikingElectronics.com](http://www.VikingElectronics.com)

Information: 715-386-8861

### Applications

- Movie Theaters, Retailers, Restaurants, Banks, Realtors, or any Business that can benefit from reduced call handling by automatically answering calls and providing frequently asked information (location, hours, show times, Interest rates, etc.)
- "This call may be monitored or recorded for quality assurance purposes"
- Ticket or Show Information
- Location and Directions
- Automated Help lines
- Travel Information
- Ski conditions, Weather lines

### Specifications

**Power:** 120V AC/13.8V AC 1.25A, UL listed adapter provided

**Dimensions:** 5.25" x 3.5" x 1.75" (133mm x 89mm x 44mm)

**Shipping Weight:** 2.0 lbs (1.36 kg)

**Environmental:** 32°F to 90°F (0°C to 32°C) with 5% to 95% noncondensing humidity

**Sampling Bit Rate:** 88 kbps

**Memory:** 12 minutes total, 64M Bit nonvolatile Flash

**Frequency Response:** 100Hz to 5KHz

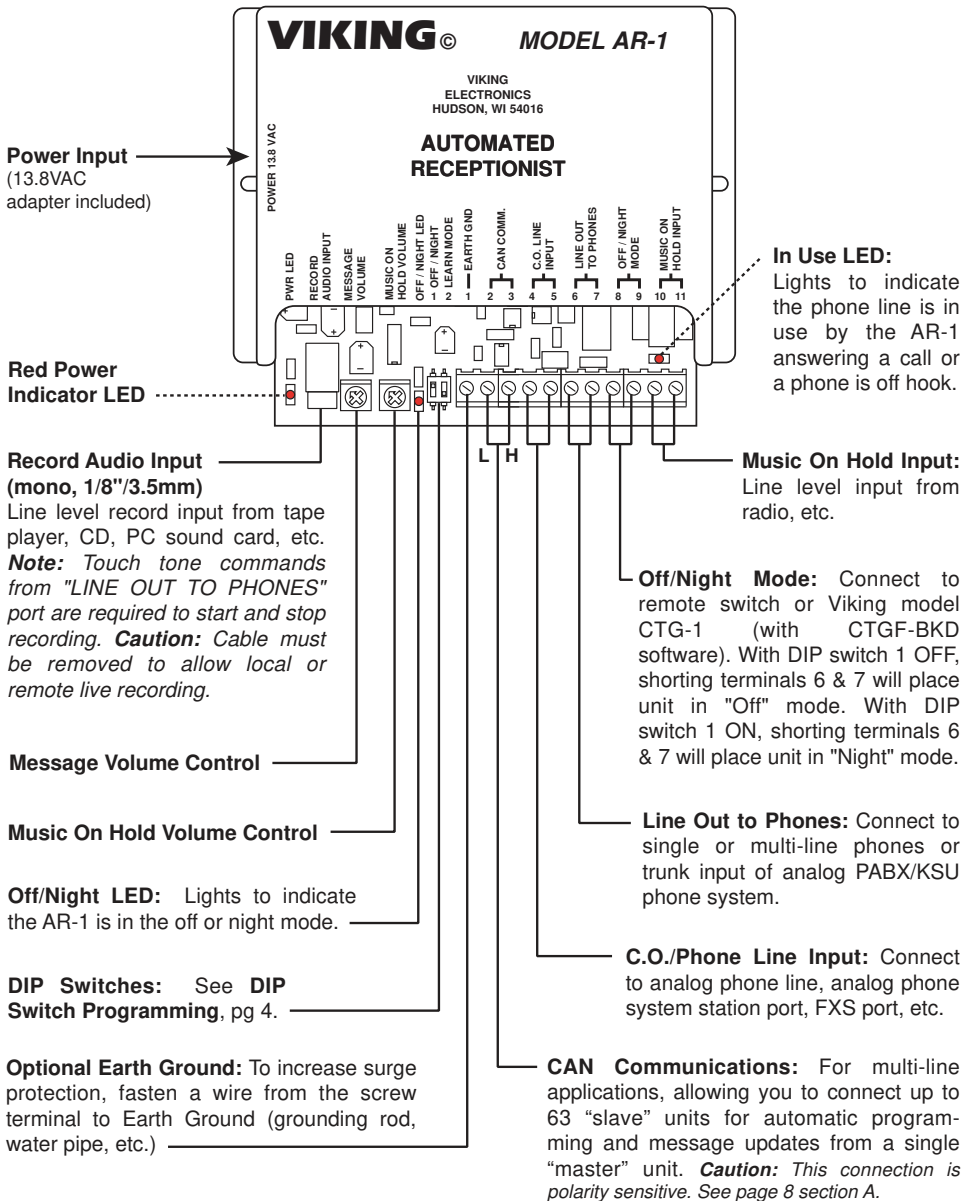
**Talk Battery Output:** 36V DC

**Ring Generation:** Sine wave 105 VAC @ 20 HZ (nominal), capable of ringing 5 REN load

**REN Load:** 0.3A

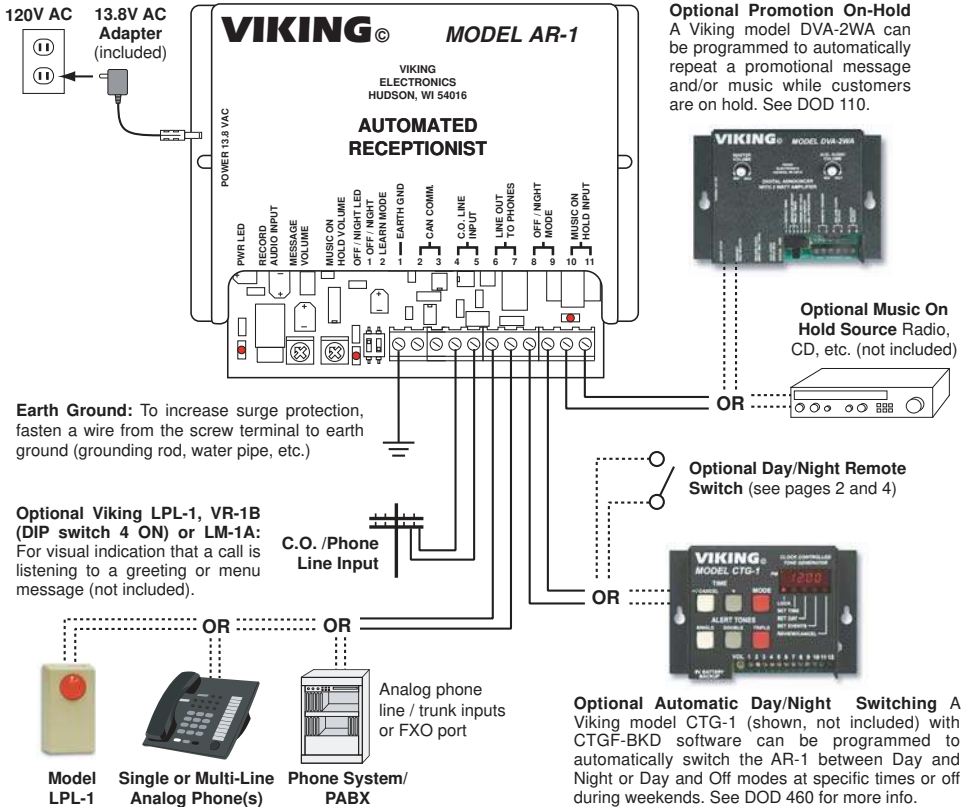
**Connections:** (1) 3.5mm jack, (1) 11 position screw terminal block

# Features Overview



## 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.



## Programming

The **AR-1** can be user programmed locally or remotely with a standard touch tone phone. Messages can be recorded locally or remotely from a touch tone phone or locally recorded from an external source via the 3.5mm Record Audio In jack.

### A. Accessing the Programming Mode

#### 1. Accessing the Programming Mode Locally with a Security Code

<b>Step 1.</b>	Come off-hook with any phone (device) connected to terminals <b>6 &amp; 7, LINE OUT TO PHONES.</b>
<b>Step 2.</b>	Enter * followed by the 6-digit security code (factory set to <b>845464</b> , see <b>B. Security Code</b> ).
<b>Step 3.</b>	A double beep will indicate that you have accessed the programming mode.
<b>Step 4.</b>	You can now touch tone program the features listed in section <b>D</b> .
<b>Step 5.</b>	When finished programming, hang up.

**Note:** If the "\*" command after off-hook conflicts with C.O. call forwarding features, etc. the command can be disabled, see section **D** page 4.

## 2. Accessing the Programming Mode Locally Without a Security Code (Learn Mode)

<b>Step 1.</b>	Move DIP switch 2 from OFF to ON (Learn Mode, see <b>DIP Switch Programming</b> section C).
<b>Step 2.</b>	Come off-hook with any phone connected to terminals <b>6 &amp; 7, LINE OUT TO PHONES.</b>
<b>Step 3.</b>	A double beep will indicate that you have accessed the programming mode.
<b>Step 4.</b>	You can now touch tone program the features listed in section <b>D.</b>
<b>Step 5.</b>	When finished programming, hang up and move DIP switch 2 to the <b>OFF</b> position.

## 3. Accessing the Programming Mode Remotely with a Security Code

<b>Step 1.</b>	Call into the <b>AR-1</b> from a touch tone phone.
<b>Step 2.</b>	When the unit answers and begins playing the greeting message, enter * followed by the six digit security code (factory set to <b>845464</b> , see <b>Programming</b> section <b>B</b> ).
<b>Step 3.</b>	A double beep will indicate that you have accessed the programming mode.
<b>Step 4.</b>	You can now touch tone program the features listed in section <b>D.</b>
<b>Step 5.</b>	When finished programming, hang up.

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

## 4. Accessing the Programming Mode Remotely Without a Security Code (Learn Mode)

<b>Step 1.</b>	Move DIP switch 2 from OFF to ON (Learn Mode, see <b>DIP Switch Programming</b> section <b>C</b> ).
<b>Step 2.</b>	Call into the <b>AR-1</b> with a touch tone phone.
<b>Step 3.</b>	The <b>AR-1</b> will answer after one ring and the double beep will indicate that you have accessed the programming mode.
<b>Step 4.</b>	You can now touch tone program the features listed in section <b>D.</b>
<b>Step 5.</b>	When finished programming, hang up and move DIP switch 2 to the <b>OFF</b> position.

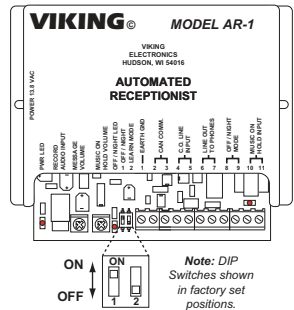
*Note: Programming from a cell-phone may not be suitable in areas with weak coverage.*

## B. Security Code

This six digit number 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. To change the security code, access programming (see **Programming** section **A**). Enter six digits 0-9 followed by **#47**. If you have forgotten your security code, follow the steps in **Programming** section **A, 2. Accessing the Programming Mode Locally Without a Security Code**. **Note: The security code must be six digits in length, can NOT contain a \* or # and can not have the same first four digits as the bypass code.**

## C. DIP Switch Programming

Switch	Position	Description
1	OFF	Day/Off Mode (terminals 8 & 9 open = Day mode, closed = Off mode)
1	ON	Day/Night Mode (terminals 8 & 9 open = Day mode, closed = Night mode) (factory setting)
2	OFF	Normal Operation Mode (factory setting)
2	ON	Learn Mode - enables you to enter local or remote programming without a security code (see <b>Programming</b> section <b>A</b> )



**D. AR-1 Quick Programming Features** (after accessing **Programming Mode**, see section **A** on page 3)

<b>Description</b>	<b>Enter Digits</b>	<b>+ Location</b>
Security Code (default = 845464) .....	<b>6 digits (0-9)</b>	<b>+ #47</b>
Bypass Code (blank = disabled, default = enabled/1234) .....	<b>4 digits (0-9)</b>	<b>+ #48</b>
Record messages 0-7 (press Touch Tone “*” to stop recording) .....	<b>*10 - *17</b>	
Playback messages 0-7 (press Touch Tone “*” to stop message playback) ....	<b>*20 - *27</b>	
Erase messages 0-7 .....	<b>*#0 - *#7</b>	
Erase all messages .....	<b>*#8</b>	
Transfer Message Repeat Count (00 = Disable/menu message 5, 01-99 = Enable, Default = 01) .....	<b>2 digits (00-99)</b>	<b>+ #20</b>
Maximum Ring Count before Auto Disconnect (01-99 rings, 00 = Disabled, Default = 20 rings) .....	<b>2 digits (00-99)</b>	<b>+ #30</b>
Maximum Music On-Hold Time before Re-Ring (00-99 min, 00 = Disabled, Default = 05 min) .....	<b>2 digits (00-99)</b>	<b>+ #40</b>
Music On-Hold Command (##) Enable/Disable (00 = Disable, 01 = Enable, Default = Enable) .....	<b>2 digits (00-01)</b>	<b>+ #41</b>
Local Programming Command (*) Enable/Disable (00 = Disable, 01 = Enable, Default = Enable) .....	<b>2 digits (00-01)</b>	<b>+ #42</b>
Ring Delay (1-20 rings. 00 = disabled/answer after 1st ring and play Greeting message, Default = 00) .....	<b>2 digits (00-20)</b>	<b>+ #50</b>
Maximum Message Playback Time (00 = Disable, 01-99 minutes, Default = Disable) .....	<b>2 digits (00-99)</b>	<b>+ #60</b>
Automatic Ring Transfer (00 = Disable, 01 = Enable. Default = Enable) .....	<b>2 digits (00-01)</b>	<b>+ #70</b>
Touch Tone Ring Transfer (00 = Disable, 01 = Enable. Default = Enable) .....	<b>2 digits (00-01)</b>	<b>+ #71</b>
Caller ID Enable/Disable (00 = Disable, 01 = Enable. Default = Enable) .....	<b>2 digits (00-01)</b>	<b>+ #80</b>
90V Message Playing Enable/Disable (00 = Disable, 01 = Enable. Default = Disable) .....	<b>2 digits (00-01)</b>	<b>+ #90</b>
Forced hang-up .....	<b>##7</b>	
Clear message memory configuration ( <b>Caution: This will erase all messages</b> ) .....	<b>*##</b>	
Message Memory 0-760 seconds (default = 0: Day 120 sec, 1-4: Menu 110 sec each, 5: Transfer 110 sec, 6: Night 60 sec, 7: Goodbye 30 sec) .....	<b>3 digits (000-760)</b>	<b>+ #00 - #07</b>
* Master / slave unit number (00 = master, 01 - 63 = slave number, default = 00) .....	<b>2 digits (00-63)</b>	<b>+ #10</b>
* Number of slaves (programmed in master unit only) (00-63, default = 00) ....	<b>2 digits (00-63)</b>	<b>+ #11</b>
** Reset programming to factory default settings ( <b>Caution: This will erase all messages</b> ) .....	<b>###</b>	

**\* Caution:** The slave unit number must be programmed separately into each slave unit. Numbers must be programmed in sequential order. Total number of slave units must be programmed into master unit and must match the total number of slave units. See page 6 section V.

**\*\* Note:** The values programmed in the master/slave memory locations “#10” and “#11” are not affected by the “###” reset programming to factory default settings command.

**Exiting Programming:** To exit programming simply wait 20 seconds from the last programming command and the unit will beep 3 times. This indicates the **AR-1** has exited the programming mode. **Note:** To eliminate waiting 20 seconds, you can also exit programming after the last programming command by entering “##7”.

## E. Bypass Code

This is a programmable four digit number that allows the caller to bypass the greeting or any menu message and ring through to the "Line out to phones" port in a 1 second On, 3 second Off ring pattern. This is useful to allow employees to quickly ring through to speak to someone live. The Bypass code is factory set to **1234**. It is recommended that you change the bypass code to a personal 4 digit number. To change the bypass code, access programming (see **Programming** section **A**). Enter four digits 0-9 followed by **#48**. When programmed (enabled) simply enter **\*** and the 4 programmed digits to bypass the message and ring through. **Note:** *The bypass code can not have the same first four digits as the security code.*

## F. Message Memory

The **AR-1**'s message memory can be programmed with from 1 to 8 message memory slots with a total message record time of 760 seconds. The factory default setting for the message memory slots are as follows: 0/ Day message = 120 seconds maximum, Menu messages 1 through 4 = 110 seconds maximum each, 5/Transfer message = 110 seconds maximum, 6/Night message = 60 seconds maximum and 7/Goodbye message = 30 seconds maximum. The message memory slots can be user programmed in one second increments to any size as long as the total record time for all messages does not exceed 760 seconds. **Caution:** *To user program message memory slot sizes requires clearing message memory configuration **\*##** (see **Record / Playback / Erasing Messages** section **G**).*

For example: You would like to user program the maximum recording length of the Day greeting to 2 minutes, the Menu messages to 1 minute, the Transfer message to 4 minutes, the Night greeting to 1.5 minutes and the Goodbye message to 30 seconds. After entering programming (see **Programming** section **A**), you would clear message memory configuration by entering **\*##**. A double beep will be heard indicating the clear command is finished. Enter **120#00** two beeps will be heard indicating the Day greeting is programmed to 120 seconds maximum. Enter **060#01** two beeps, **060#02** two beeps, **060#03** two beeps, **060#04** two beeps indicating the four menu messages are programmed to 60 seconds maximum. Enter **240#05** two beeps indicating the Transfer message is programmed to 240 seconds maximum. Enter **090#06** two beeps indicating the Night greeting is set to 90 seconds maximum. Enter **030#07** two beeps will be heard indicating the Goodbye message is programmed to 30 seconds maximum.

## G. Record / Playback / Erasing Messages

The **AR-1** messages can be recorded locally from a standard touch tone phone on the "Line Out to Phones" port or locally from the 3.5mm Record Audio Input jack (audio from CD, Tape, PC, etc.) using the touch tone phone on the "Line Out to Phones" port to start, stop and playback the recordings. The messages can also be recorded remotely by calling into the **AR-1** and using any touch tone phone to enter programming (see **Programming** section **A**) and record messages. After entering programming (see **Programming** section **A**), you may erase a message by entering **\*#** and the message number 0-7. You can also erase all messages by entering **\*#8**. A double beep will be heard indicating the erase command is finished.

You can record a new message by entering **\*1** and the message number 0-7. A single beep will be heard indicating the unit is now recording. Recite the message into the phone or start your audio source if using the 3.5mm Record Audio Input jack. To stop recording enter any touch tone. The recording will then automatically play back. Messages can be played back any time while in programming by entering **\*2** and the message number 0-7. Message playback can also be stopped by entering a **\***.

**Caution:** *When an audio cable is plugged into the Record Audio Input jack, you are not able to live record from a local or remote phone. Remove the audio cable from the Record Audio Input jack to allow a local or remote live recording.*

Message Number	Message
0	Day Greeting
1	Menu Option "1"
2	Menu Option "2"
3	Menu Option "3"
4	Menu Option "4"
5	Transfer Message/Menu Option "5" (see Programming section H)
6	Night Greeting
7	Goodbye Message

## H. Transfer Message / Menu Message 5

A transfer message can be played to the caller while the "Line Out to Phones" port is ringing. This is especially useful in multi line applications (two or more **AR-1**'s to multi-line phones, etc.) where personnel may be tied up on the first incoming call but would like to pacify the second caller with a transfer message until they can take the second call.

The "Transfer" message is located in Menu message 5's memory slot. The unit can be programmed to either have a Transfer message or a Menu message 5. To disable the Transfer message and enable Menu message 5, enter programming (see **Programming** section **A**) and enter **00#20**, two beeps will be heard confirming the entry. To enable the "Transfer" message and set the repeat count for the Transfer message enter **01-99#20**, two beeps will be heard confirming the entry. The repeat count is programmable from 1-99 times.

With "Automatic Ring Transfer" (**01#70**) enabled and the Transfer message enabled (**00-99#20**), after the Day greeting and/or Menu messages have finished playing (the caller dialed 1 to 6 or no touch tones), the unit will ring the "Line Out to Phones" port and play the Transfer message at the same time. When the Transfer message repeat count has been reached (no delay between repeats), the Transfer message will stop playing and the unit will send ringback to the caller while continuing to ring the "Line Out to Phones" port. If the "Maximum Ring Count" is reached, the unit will play the "Goodbye" message and automatically drop the line. When the caller has dialed 7 to 0, the caller will get distinctive ringback tones only (the Transfer message will not play). With "Automatic Ring Transfer" (**01#70**) enabled and the Transfer message disabled (**00#20**), the caller only hears ringback tones or distinctive ringback tones while ringing the "Line Out to Phones" port.

## I. Maximum Ring Count Before Auto Disconnect

When the AR-1 has finished playing its greeting message and/or menu messages and begins ringing through to the "Line Out to Phones" port (Automatic Ring transfer enabled), when the unit reaches the maximum ring count (when enabled) it will play the "Goodbye" message and automatically disconnect the call. The factory default setting is 20 rings. The unit can be programmed from 00 (disabled) to 99 rings. After entering programming (see **Programming** section A), enter two digits 00-99 and **#30**, two beeps will be heard confirming the entry.

## J. Maximum Music On-Hold Time Before Re-Ring

The maximum music-on-hold time before automatically re-ringing the "Line Out to Phones" port can be programmed from 00 (disabled) to 99 minutes. The AR-1 is factory set to 5 minutes. After entering programming (see **Programming** section A), enter two digits 00-99 and **#40**, two beeps will be heard confirming the entry.

## K. Music On-Hold Command Enable/Disable

If the touch tone "##" command conflicts with your phone system's voicemail, steering calls through automated attendants, etc. the command can be disabled by entering **00#41** in programming. **Note:** *The Music On-Hold feature can not be used when disabled.*

## L. Local Programming Command (\*) Enable/Disable

If the touch tone \* command conflicts with your C.O. call forwarding features, etc. the command can be disabled by entering **00#42** in programming. With the local programming command (\*) disabled, the unit will ignore all touch tone \*'s on outbound calls. Touch tone \*'s are still detected on inbound calls for remote programming. Local programming can be achieved via the "Learn Mode" (DIP switch 2 ON), see **Programming** section A.

## M. Ring Delay

A ring delay can be programmed on the AR-1, allowing all calls to immediately ring through to the "Line Out to Phones" port 1-20 times then if not answered by a live person the unit will answer the call and play its greeting and/or menu messages. This application allows personnel to answer the calls when they can but if too busy they can let the AR-1 answer the call and give frequently asked information. The AR-1 is factory set to "00" (disabled). To enable this feature, enter programming (see **Programming** section A), enter two digits 01-20 and **#50**, two beeps will be heard confirming the entry.

## N. Maximum Message Playback Time

To help eliminate the telephone line from being tied up from overly lengthy callers, the AR-1 can be programmed to automatically play the "Goodbye" message and disconnect the call after a preprogrammed maximum message playback time of 1 to 99 minutes. The AR-1 is factory set to "00" (disabled). To enable this feature, enter programming (see **Programming** section A), enter two digits 01-99 and **#60**, two beeps will be heard confirming the entry.

## O. Automatic Ring Transfer Mode

With Automatic Ring Transfer Mode enabled and the unit in the Day Mode (terminals 8 & 9 open), the AR-1 will answer the incoming call and play the Day greeting and any menu messages the caller has touch tone selected. Four seconds after the greeting or last menu message has played, the unit will automatically start ringing the "Line Out to Phones" port. With Automatic Ring Transfer Mode enabled and the unit in the Night Mode (terminals 8 & 9 closed), the AR-1 will answer the incoming call and play the Night greeting and any menu messages the caller has touch tone selected. Four seconds after the greeting or last menu message has played, the unit will play the "Goodbye" message and automatically disconnect the call. With Automatic Ring Transfer Mode disabled, the AR-1 will answer the incoming call and play the Day or Night greeting and any menu messages the caller has touch tone selected. Four seconds after the greeting or last menu message has played, the unit will play the "Goodbye" message and automatically disconnect the call. The AR-1 is factory set to "01" (enabled). To disable this feature, enter programming (see **Programming** section A), enter **00** and **#70**, two beeps will be heard confirming the entry.

## P. Touch Tone Ring Transfer Mode

With Touch Tone Ring Transfer Mode enabled, the caller can bypass the greeting or menu message by entering a touch tone 0,7,8 or 9 and ring the "Line Out to Phones" port in one of four distinctive ring patterns (see section S on Page 8). The greeting and/or menu messages can then explain to the caller: "Enter 0 to talk to Shipping, 7 to talk to Receiving, 8 to talk to Bob and 9 to talk to Sue". You then inform your departments or employee's to only answer the calls ringing in their distinctive ring pattern (cadence). In addition, an employee can transfer a call by entering #0, #7, #8 or #9 and hanging up the phone. The caller will then be placed on-hold, hearing distinctive ringback and the phones will ring in the selected ring pattern. With Touch Tone Ring Transfer Mode disabled, touch tones 0,7,8 and 9 are ignored by the AR-1 and the caller cannot bypass the greeting or menu messages. **Note:** *If a "Bypass Code" is programmed, the caller will be able to enter \* + the 4 digit code and bypass the greeting or menu message and ring through.* The AR-1 is factory set to "01" (enabled). To disable this feature, enter programming (see **Programming** section A), enter **00** and **#71**, two beeps will be heard confirming the entry.

Touch Tone	Ring Pattern
0	Normal
7	Double Ring
8	Short / Short / Long
9	Short / Long / Short

## Q. Caller ID

The **AR-1** can store and forward caller ID data. When enabled the unit will capture the caller ID data after the first ring, store it then resend it when the call rings through to the "Line Out to Phones" port. The **AR-1** is factory set to "01" (enabled). To disable this feature, enter programming (see **Programming** section **A**), enter **00** and **#80**, two beeps will be heard confirming the entry.

## R. 90 Volt Message Playing Signal

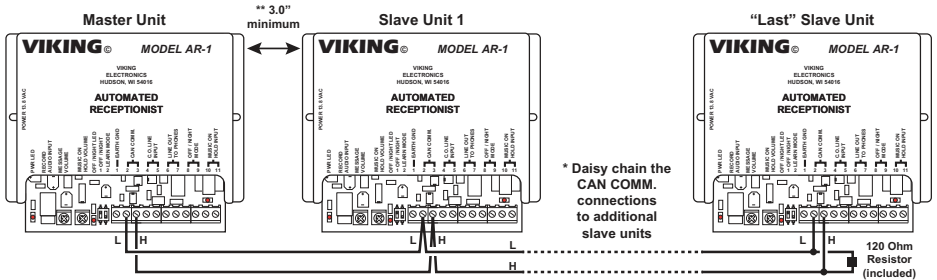
When enabled, the **AR-1** can send a 90 volt message playing signal to the "Line Out to Phones" port whenever a caller is listening to a greeting or menu message. The 90 volt DC signal can be used to activate Viking models **VR-1B**, **LPL-1** or **LM-1A** to light a remotely located visual LED indicator. This is useful for visual indication that a caller is listening to a greeting or menu message. The **AR-1** is factory set to "00" (disabled). To enable this feature, enter programming (see **Programming** section **A**), enter **01** and **#90**, two beeps will be heard confirming the entry.

## S. Placing a Call on Hold

When enabled in programming, a caller can be placed on-hold (Music On-Hold if music source is connected) by simply entering a touch tone "##" while on an incoming or outgoing call. If the phone on the "Line Out to Phones" port is left off hook, a beep will be heard every 4 seconds indicating a caller is on-hold. You can then hook flash to get the caller back or hang up, in which case the next off hook will get the caller back. If the caller exceeds the maximum music on-hold time (see **Programming** section **J**), the **AR-1** will automatically re-ring the "Line Out to Phones" port. To disable the on-hold feature, enter programming (see **Programming** section **A**), enter 00 and #41, two beeps will be heard confirming the entry.

# Multi-Line Applications Using Master/Slave Configuration

## A. Master/Slave Wiring



\* Note: The CAN COMM. terminals are polarity sensitive.

\*\* Note: To avoid audio ring coupling, space units at least 3.0" apart.

**Note 1:** The CAN COMM pair of wires should be terminated with a 120 ohm resistor across the CAN pair of the last AR-1 in a Master/Slave stack as shown. This eliminates noise problems that will occur when the CAN COMM wires are left floating (not terminated).

**Note 2:** When the programming mode of the Master AR-1 is accessed, ALL Slave units that are currently handling phone calls will immediately hang up their in process phone calls to facilitate the programming mode. It is suggested to make any programming changes at a time of day when there will be little or no call traffic on the phone lines.

**Note 3:** The communication link between the Master and all Slave units is only established when the program mode of the Master unit is first accessed. When the number of slave units in the Master AR-1 is changed ("#11" memory location), you must exit the program mode and then re-enter the program mode of the Master before proceeding with any programming that must be passed to all Slaves.

**Note 4:** The loss of CAN communications only affects the ability to program all units in a Master/Slave stack at once, until the problem with CAN communications is corrected. All units will continue to operate properly (answer and re-ring calls) when CAN communication is lost.



## B. Master/Slave Programming

To simplify programming in multi-line applications, one “Master” **AR-1** can be programmed to automatically update all programming and messages for up to 63 additional “Slave” units. Each time you enter programming on the Master unit, all programming commands and message data are echoed to all the Slave units. This greatly reduces programming time by only requiring you to update the programming on the Master unit. All slave units are then updated at the same time. The CAN communications terminals 2 & 3 must be connected to each slave unit (see diagram on page 8). Caution this connection is polarity sensitive. The Master **AR-1** must be programmed with a unit number of “00” (00#10) and the correct number of slave units in the “#11” memory location (01-63#11). Each Slave **AR-1** only needs to be programmed with the unit number in the “#10 memory location (01-63#10). The unit number must be individually programmed into each slave (through local or remote programming) and must be sequentially numbered, starting with “01” for the first Slave. Connect the CAN pair together between all units and program the Master and all Slaves as described. You can now enter the programming mode of the Master **AR-1**. 2 beeps should be heard and any programming changes made in the Master are also sent to all Slave units.

Touch tone programming in the master/slave configuration is similar to programming individual units in that two beeps indicates a successful entry and three beeps indicates an error. Four beeps, however, indicates that the programming data sent by the master to at least one of the slaves was either not received or not acknowledged properly. If you hear four beeps after an entry in programming, first try repeating the command sequence. For example if you entered “03#50” and heard four beeps after, enter the entire “03#50” command again. If the master replies with two beeps, the error was cleared and the command was successfully programmed. If you hear four beeps again, hang up the programming phone. Go back off hook on the programming phone and enter programming. If you hear two beeps, enter the “03#50” command again. If you hear two beeps, the error has been cleared and you may resume programming. If you hear four beeps, see **C. Troubleshooting Master/Slave Configurations** below.

## C. Troubleshooting Master/Slave Configurations

Go off hook on the Master unit and access the programming mode by way of the “learn” mode (dip 2 ON) or by dialing “\*” plus the security code. The Master **AR-1** then attempts to “poll” all connected Slaves and if the poll is successful, you will hear 2 beeps (and there is no problem to troubleshoot). If the poll of all Slaves is not successful, you will hear 4 beeps.

When the Master **AR-1** provides 4 beeps because of an error, you have two options:

- Dial a “#” to have the Master **AR-1** identify which slave has the problem. After dialing the “#”, the Master will output a series of beeps in an attempt to identify the unit number of the problem Slave. Any long duration tones that are heard represent a Slave number count of ten and short duration tones are a Slave number count of one. For example, if you hear two long tones followed by three short tones, the Slave with unit number 23 programmed (“23#10”) is the one that has the problem. Keep track of the unit number. If needed, redial the “#” and listen to the tones provided again.
- Dial a “\*” to force your way into the programming mode of the Master **AR-1** to make any necessary changes in the Master **AR-1** programming, in an attempt to improve the situation. After dialing the “\*”, you will hear 2 beeps and are in the program mode of the Master AR-1 (only) and are able to make any changes to the Master. When finished programming, press “##7” and hang up or just hang up.

If an existing Master/Slave set-up of **AR-1**’s was working and you now get 4 beeps while trying to program, the following procedure can save some programming time, to get all remaining **AR-1**’s working again. *Note: This procedure assumes that only one unit in the stack has failed and the failed unit is an **AR-1** in the “middle” of the stack (not the Master or the “last” Slave).*

- Test as described above to determine the Slave unit that has the problem. Check the CAN communication connections on that unit on screw terminals 2 (CANL) and 3 (CANH).
- Power cycle the Slave and attempt to access the program mode of the Master **AR-1** again. If you still get 4 beeps, enter “#” to see if it replies with the same Slave unit number having the problem. If it is the same Slave number with the problem, that particular Slave may be defective and should be removed from the stack (make sure to bypass the CAN pair to all remaining **AR-1**’s). Proceed to step 3. If it is a different Slave number with the problem now, go back to step 1 above.
- On the Master **AR-1**, attempt to access the program mode and dial “\*” after the 4 beeps. Subtract one from the original number of Slaves (#11) and program the new value in the “#11” memory location. 2 beeps will be heard and hang up from programming. For example, if one unit out of (16) total **AR-1**’s in a stack has failed, the Master would now be programmed with “14#11” instead of the original “15#11”.
- Access the programming mode of the “last” Slave in the stack (the one with the highest unit number) and program it with the Slave unit number used by the defective Slave that was just removed. For example, if Slave unit number 12 was just removed, program the last Slave with “12#10”. Hang up from the programming mode of the Slave.
- Attempt to access the program mode of the Master again and you should now hear 2 beeps versus 4 beeps. If you do get 2 beeps, you can now make any necessary programming changes to all remaining **AR-1**’s.

Other notes about the 4 error beeps:

1. If you dial “#” to determine the problem Slave and the Master always replies that the Slave unit number with the problem is one higher than the “last” unit in the stack, the Master AR-1 may have the wrong value programmed in the “#11” memory position (number of Slaves).
2. When the “learn” mode of the Master AR-1 is activated (dip 2 ON) and locally programming the Master of a Master/Slave stack, you will get 4 error beeps if you only briefly hang up the programming phone and then lift it up again. The Master unit requires some time to disconnect communication with all Slaves when you hang up the programming phone and then must re-establish communication with all Slaves when you lift it up again. The minimum hang up time to successfully get back into the program mode is 2 seconds.

## Operation

### A. Outgoing Calls

When a phone line is picked up and there are no inbound callers currently listening to the greeting or a menu message, the phone line is passed straight through transparently as if the **AR-1** was not connected. Calls can be placed on hold Hold/Music On-Hold at any time by entering a touch tone “##” (if enabled, see programming section K). Local programming of the **AR-1** can also be accomplished by dialing “\*” plus the correct six digit security code (if enabled, see Programming section L). If the touch tone commands “##” or “\*” conflict with commands needed on the phone line (voice mail, call waiting, etc.), they can be independently disabled in programming (see Programming sections K and L).

When a phone is picked up and there is currently a caller listening to the greeting or a menu message(s), the phone will hear a simulated busy signal provided by the **AR-1**. The phone can then hang up and the caller will ring through (if applicable) after the message is over. While listening to the simulated busy signal, the phone also has the option of providing a hookswitch flash to intercept (immediately answer) the inbound call.

**Note:** When a phone is picked up and there is no phone line connected to the C.O. Line Input screw terminals, the phone will hear a constant beeping sound provided by the **AR-1** until the phone hangs up (1KHz – 100 ms on, 250 ms off, repeating).

### B. Incoming Calls

The **AR-1** will automatically detect incoming calls, capture the Caller ID and answer the call after the first ring or will wait to answer after the programmed ring delay (see Programming section M). The caller will then hear the greeting message (Day or Night message depending on open or closure on terminals 8 & 9). Any time during the greeting or menu messages and up to 4 seconds after any message, the caller can enter the following touch tone commands:

Touch Tone/s	Function
0	For caller to bypass the greeting and/or menu message and ring through (if enabled, see <b>Programming</b> sections <b>P</b> and <b>T</b> ).
1,2,3,4,5	For caller to listen to the corresponding menu message.
6	For caller to hear the greeting message again (Day or Night message, depending on open or closure on terminals 8 & 9).
7,8,9	For caller to bypass the greeting and/or menu message and ring through (if enabled, see <b>Programming</b> section <b>P</b> ) in a distinctive ring pattern.

If the **AR-1** is in the Day mode, the Automatic Ring Transfer Mode is enabled (see Programming section O) and the caller does not enter a touch tone command within 4 seconds after the greeting and/or menu message, the AR-1 will begin ringing the “Line Out to Phones” port. If the **AR-1** is in the Night mode or the Automatic Ring Transfer Mode is disabled (see Programming section O), 4 seconds after the greeting or last menu message has played, the unit will play the “Goodbye” message and disconnect the call. While ringing the “Line Out to Phones” port, the caller will hear a “Transfer” message (if enabled, see Programming section H) which is repeated until the call is answered or the unit has reached the maximum transfer message repeat count (see Programming section H). If the maximum repeat count is reached, the caller will then begin to hear a standard ring back signal.

When the call is then answered from a phone (or a phone system) connected to the “Line out to Phones” port, the call can then be placed On-Hold (Music On-Hold) by entering a touch tone “##” (if enabled, see Programming section K). After the ## is detected, a beep will be heard every 4 seconds indicating a call is On-Hold. To remove the call from On-Hold simply hook switch flash or hang up the phone and the next off hook will have the call. You can also send the call to the greeting message by entering a touch tone #6 or to any of the menu messages by entering a #1, #2, #3, #4 or #5 and hanging up your phone. The **AR-1** will then play the selected message to the caller and the “Line Out to Phones” port will receive a busy signal. Any time during the message and up to 4 seconds after the message, the caller can enter the above touch tone commands to replay the greeting or play other menu messages. When a caller has been transferred back to the greeting and/or menu messages, 4 seconds after the last message has played, the caller will hear the “Goodbye” message and be disconnected (the caller does not ring back to the “Line Out to Phones” port).

### C. Power Outage

If the **AR-1** loses power, incoming and outgoing calls will route through the unit transparently as if the phone/s or phone system is connected directly to the telephone line.

There are two basic categories for **AR-1** applications.

1. Answer with greeting and menu messages and then ring through to the "Line Out to Phones" port.
2. Answer with greeting and menu messages only (do not ring through).

Answer with greeting/menu message and then ring through allows the caller to get information and then either automatically ring through or when pressing "0,7,8 or 9" are transferred through. Answer with greeting/menu message only applications allow the caller to listen to informational messages but does not allow them to ring through. The **AR-1** features two messaging modes; one for day and one for night. The "Day" greeting can support either type of application. (by enable/disable of the Automatic Ring Transfer Mode in the "#70" memory location). The "Night" greeting will support answer with greeting/menu messages only applications. It will not allow ring through after the greeting/menu messages. Application examples:

## A. Typical Bank

**Day Message:** "Hello and thank you for calling XYZ bank. If you are calling for our hours please press 1. For today's interest rate please press 2, or stay on the line and one of our representatives will be with you as soon as possible."

**Night Message:** "Hello and thank you for calling, unfortunately you have called after hours. Our office hours are from 8am to 5:00pm Monday through Friday."

**Menu Message 1:** "Our office hours are from 8am to 5:00pm Monday through Friday."

**Menu Message 2:** "Today's interest rate is 3.5%."

At the bank each morning, the staff records a new Menu Message 2 with the current rate and then places the unit in the Day mode. Throughout the day the **AR-1** answers the line and plays the Day Message and Menu Message 1 or 2 as requested, allowing callers to ring through to the bank staff if needed. At the end of the day, the staff places the **AR-1** into the Night mode. The Night mode is set to play the Night Message and then hang up on the caller, preventing the staff from being bothered by unwanted calls.

## B. Real-Estate Agent

**Day Message:** "Hello and thank you for calling XYZ realty. I am out of the office right now but have a number of listings to tell you about. For information on a beautiful rambler on a 2 acre lot press 1. For information on a spacious 3 bedroom two story press 2. For information on a duplex that's a great investment press 3. Thank you for calling and have a great day."

**Menu Message 1:** "This beautiful Rambler sits on a 2 acre lot overlooking pristine valleys..."

**Menu Message 2:** "This spacious 3 bedroom Two Story has 3 full baths, granite counter tops..."

**Menu Message 3:** "This great investment property features..."

As houses go on and off the market, the Real-estate Agent updates the Day Message, and any other Menu messages that need to be changed. Whenever the Agent goes out on a call, or home for the day, they place the **AR-1** in Day Mode, playing the Day Message and any requested Menu Messages and then hanging up. While in the office the Agent places the unit in Off Mode, where all calls ring straight through to the phones.

### NOTES:

1. Program "00#70" to disable the Automatic Ring Transfer Mode while in the Day mode ( See Programming Section O).
2. Dip switch #1 must be OFF.

# Warranty

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

Our Technical Support Department is available for assistance Monday through Friday 8am - 5pm central time. So that we can give you better service, before you call please:

1. Know the model number, the serial number and what software version you have (see serial label).
2. Have your 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, 1531 Industrial Street, Hudson, WI 54016**
3. Return shipping address: Be sure to include your return shipping address inside the box. We cannot ship to a PO Box.
4. RA number on carton: In large printing, write the R.A. number on the outside of each carton being returned.

## RETURNING PRODUCT FOR EXCHANGE

The following procedure is for equipment that has failed out-of-box (within 10 days of purchase):

1. Customer must contact Viking's Technical Support at 715-386-8666 to determine possible causes for the problem. The customer MUST be able to step through recommended tests for diagnosis.
2. If the Technical Support Product Specialist determines that the equipment is defective based on the customer's input and troubleshooting, a Return Authorization (R.A.) number will be issued. This number is valid for fourteen (14) calendar days from the date of issue.
3. After obtaining the R.A. number, return the approved equipment to your distributor, referencing the R.A. number. Your distributor will then replace the Viking product 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.

**Product Support: 715-386-8666**

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