![NAPCO logo]

MAV-15

Two-Way Voice
Listen-In Module

Installation & Operating Instructions

What Is The MAV-15 Two-Way Voice/Listen-In Module?

The MAV-15 is a programmable two-way voice communication add-on module which allows on-line communication between a central station and a premise. The MAV-15 default program simplifies programming and reduces installation time. *Listen-In* technology allows the central station to hear what is happening at a premise. *Two-Way Voice* further advances Listen-In technology by giving the central station operator the capability to actually speak with a person on the premises. The alarm condition is verified by the central station operator without the need to call the premise and have a person answer the telephone.

The MAV-15 may also be programmed to allow your subscriber to call their premises using a TouchTone® phone to *Talk* or *Listen In*, as a central station operator would. This feature can not be utilized by your subscriber without entering their pre-programmed User Access Code.

How Can My Customer Benefit From Using the MAV-15?

- **Reduction of False Alarms** - Subscriber error is the cause of over 75% of all false alarms. Two-Way Voice allows instant verification with the premises which will reduce false alarms.

- **Vital Information Can be Immediately Reported** - Knowing where someone is if trapped in a fire can make a life saving difference.

- **Powerful Deterrent** - Voice communication from central station to a burglar may be a better deterrent than a siren.

- **Special Functions** - With the User Call-In Feature, and the User Access Code, subscribers can call their premises and Listen-In to all activity.

> **For Technical Assistance, Contact The Napco Toll Free HelpLine: ☎ (800) 645-9440.**

Table Of Contents

How Does The MAV-15 Work?

The MAV-15 is pre-programmed to operate in a **Normal Operation Mode**. Most installations will not require changes to the existing default program. All three Modes Of Operation include the User Call-In Feature. The following describes the three modes of operation available:

> 1- Normal Operation (Incorporates Immediate Connect & Optional Callback Only)
> 2- Immediate Connect Only Operation
> 3- Callback Connect Only Operation

Normal Operation- After an alarm condition is activated by the control panel and after the communicator has completed its call to central station, the MAV-15 seizes the telephone line before the connection is lost. The MAV-15 then identifies itself as a voice unit to the central station and establishes two-way voice communication with the operator. When central station receives the call, the MAV-15 is in a Listen-In Mode with the premise. The MAV-15 will cut the siren during voice communication and turn it back on as soon as the central station terminates the call, as long as the control panels' siren output is wired through the siren cut off relay of the MAV-15. An option is provided that will prevent the operator from ever switching to the Talk mode, refer to Installation & Wiring Step 5: Listen Only Control. If a CSAVM is used, and the central station does not pick-up the call, the MAV-15 will disconnect and go into a *One Ring Ten Minute Callback Mode*. This gives the central station the opportunity to call back the premises within ten minutes and have the MAV-15 pick-up the line on the first ring, and put them in the Listen-In mode. An Operator Access Code is programmable to further secure MAV-15 communications. Normal Operation is actually incorporating the Immediate Connect Only and Callback Connect Only modes.

Immediate Connect Only Operation- After an alarm condition is activated by the control panel and after the communicator has completed its call to central station, the MAV-15 seizes the telephone line before the connection is lost. The MAV-15 then identifies itself as a voice unit to the central station and establishes two-way voice communication with the operator. When central station receives the call, the MAV-15 is in a Listen-In Mode with the premise. The MAV-15 will cut off the siren during voice communication and turn it back on as soon as the central station terminates the call, as long as the control panels' siren output is wired through the siren cut off relay of the MAV-15. An option is provided that will prevent the operator from ever switching to the Talk mode refer to Installation & Wiring Step 5: Listen Only Control. If the central station does not respond to the call the MAV-15 **will not** go into the *One Ring Ten Minute Callback Mode*.

Callback Connect Only Operation-After an alarm condition is activated by the alarm panel and after the communicator has completed its call to central station, the MAV-15 goes into a *One Ring Ten Minute Callback Mode*. This means that the MAV-15 will allow the central station ten minutes to call back and will answer the call on the first ring. An Operator Access Code is programmable to further secure MAV-15 communications. Once communication is established, the MAV-15 is in a Listen-In Mode with the premise and the MAV-15 will cut off the siren during voice communication and turn it back on as soon as the central station terminates the call - as long as the control panels' siren output is wired through the siren cut off relay of the MAV-15. An option is also provided that will prevent the operator from ever switching to the Talk mode, refer to Installation & Wiring Step 5: Listen Only Control.

User Call-In Feature-This programmable feature allows the customer to call into their premise at any time and establish two-way voice communication with the occupants. The user will dial their home phone number, and enter their user access code, prompting the MAV-15 to seize the line. They will then have access to touch tone commands which will allow them to listen to and/or talk to the occupants. The subscriber can use this feature to check on the children, babysitter, elderly persons, etc., when away from home. When using this feature, it is recommended that the caller/listener obtain any required advance consent of the occupants of the premise prior to this procedure.

Additional Features...

- Works With Any Alarm Panel.
- One-Ring Ten Minute Callback By Central Station After Alarm.
- Works With Any Central Station - With Or Without Special Central Station Equipment..
- Three Selectable Microphone Inputs, With An Auto-Scan Feature.
- Speaker(s) Can Be Mounted Up To 500' Away.
- Programmable User, Dealer & Operator Access Codes
- Warning Tones Prior To Timeout.
- Use Speakers As Speakermics Or Separate Microphones
- Trigger Input & Inhibit Control Input.
- Status Indicator LED.
- Call-In To Premises With A Programmable Number Of Rings.
- Talk/Listen and Call Duration Under Operator Control.
- Random Accounts (Special Accounts Not Required When CSAVM Is Used).
- Listen-Only Control Input.

Installation & Wiring

MAV-15: The MAV-15 is designed for mounting against the rear bottom wall of the control panel enclosure so that the terminal strip and Jumpers J1 and J2 are easily accessible. The unit may be attached using adhesive pads, Velcro® fasteners, or it may be secured with screws through the two oval mounting holes.

STATUS LED- The red Status LED is a useful installation tool as it indicates the status of the MAV-15.

LED flashing on for 2-seconds and off for 2-seconds .... **Standby Mode**
LED flickering rapidly - Alarm Panel is in digital communication
    with the central station receiver and the MAV-15 is waiting
    for the panel to release the telephone line .... **Ready Mode**
LED flashing on for 1-second and off for 1-second - MAV-15 is in
    10 Minute1 Ring Callback Mode .... **Callback Mode**
LED flashes every second .... **Listen Mode**
LED is steady red .... **Talk Mode** or house phone
                           is off hook.
LED off longer than 10 seconds .... **No Power or Malfunction**

1- **Remove All Power From The Alarm Panel.** Be sure that the alarm panel's siren is connected through the control contacts of the MAV-15. This will allow the MAV-15 to turn off the siren during voice communications and turn it back on as soon as the central station disconnects.

2- **Select The Method Of MAV-15 Activation.** There are two methods of activation: Trigger Method and Auto-Sense Method, refer to Figures 1 and 2 on pages 3 & 4. The wiring of your MAV-15 will depend upon which activation method is selected. For both wiring options, use # 22AWG to #18AWG stranded wire. Either a telephone or a 1μF/250V non-polarized capacitor (for special applications) must be installed across Terminals 21 and 22 for the Callback or Call-In Feature to function. Be sure not to run this wire near 120Vac wiring, or keypad wiring.
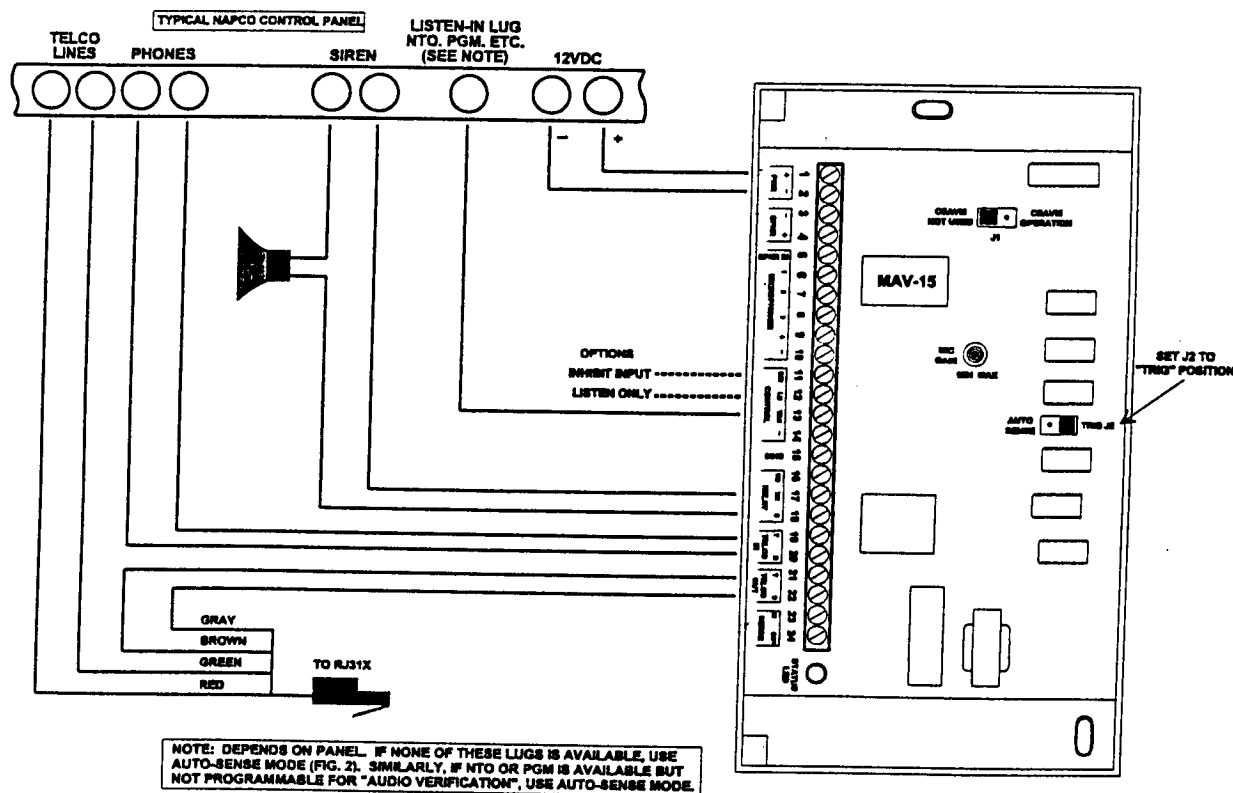
Method of MAV-15 Activation (Continued)

Trigger Method

The Trigger Method (Trigger Input *Terminal 13*) is the preferred method of MAV-15 activation. This method can only be used with Napco Control Panels or any Alarm Panel which has an output which changes from a high state of approximately 12V to a low state of approximately 0V upon digital communications and then returns to a high state upon kiss off. Napco "e" series Controls are equipped with Lugs which can be programmed to allow audio verification upon alarm. The feature is programmable by zone which allows a more flexible selection of alarm conditions which the MAV-15 will respond to. For example, the Lug may be programmed for Zones 1 - 4 but not for an AC Failure or Low Battery condition. The MAV-15 will not be activated for those zones or conditions unless the Audio Verification Lug is programmed to do so.

Figure 1.
    Telephone Wiring To Napco
    1000e, 1008e, & 1016e Controls:
    (Trigger Method)

NOTE: DEPENDS ON PANEL. IF NONE OF THESE LUGS IS AVAILABLE, USE AUTO-SENSE MODE (FIG. 2). SIMILARLY, IF NTO OR PGM IS AVAILABLE BUT NOT PROGRAMMABLE FOR "AUDIO VERIFICATION", USE AUTO-SENSE MODE.

Refer To MAV-15 Wiring Table on Page 18 for Wiring Assistance With All Napco Controls

The trigger input is active only when Jumper J2 is in the Trigger position. The high to low voltage transition puts the MAV-15 into a "ready" mode (if low for at least 1 second). The low to high voltage triggers the MAV-15 which then seizes the telephone line and attempts to establish voice communication. (Unless programmed for Callback Only, at which point it will go into the 10 minute 1 ring mode.

Installation & Wiring (Continued)

Method of MAV-15 Activation (Continued)

Auto-Sense Method

The Auto-Sense method is recommended when not using a Napco Control Panel or any Alarm Panel which does not have an output which changes from a high state of approximately 12V to a low state of approximately 0V upon digital communications and then returns to a high state upon kiss off. The MAV-15 will be able to sense central station communication without the requirement of a trigger input. Be sure that Trip Selector (J2) is in the Auto-Sense position.

Figure 2.
   Telephone Wiring For
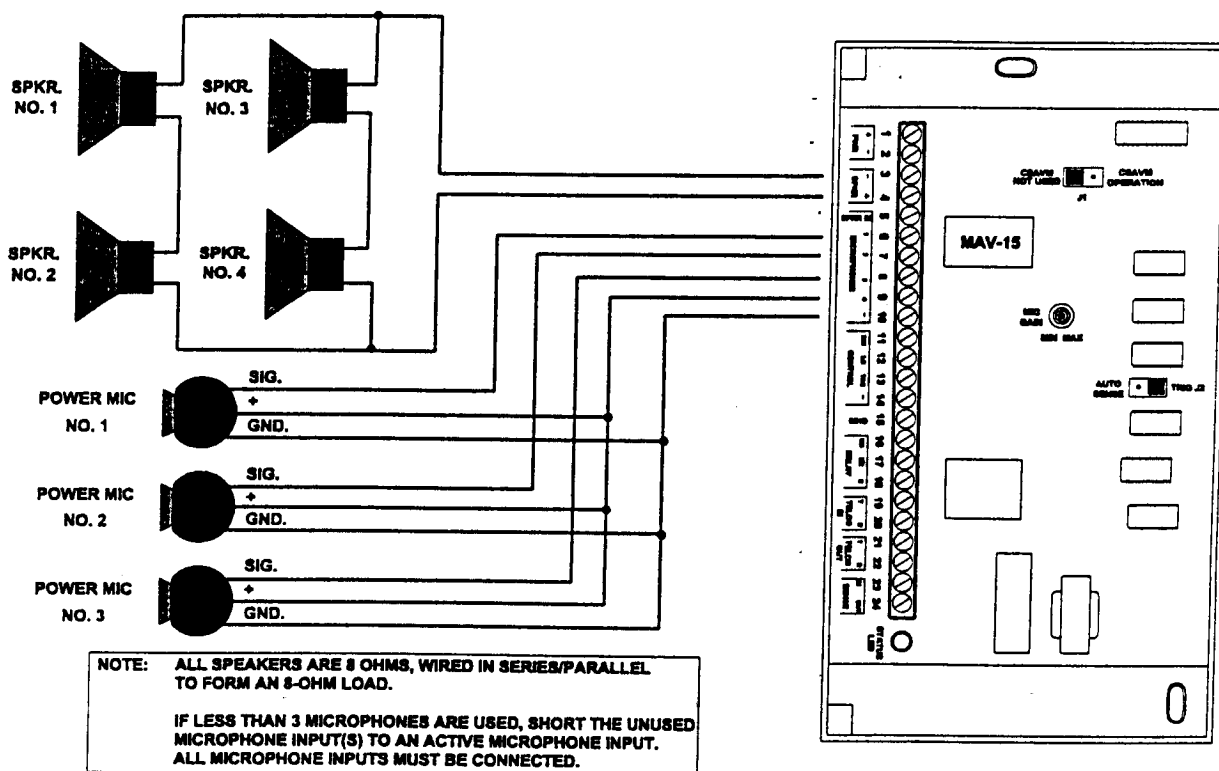   An Alarm Panel:
   (Auto Sense Method)

MRAV-15 MAV VOICE/SIREN IN MODULE
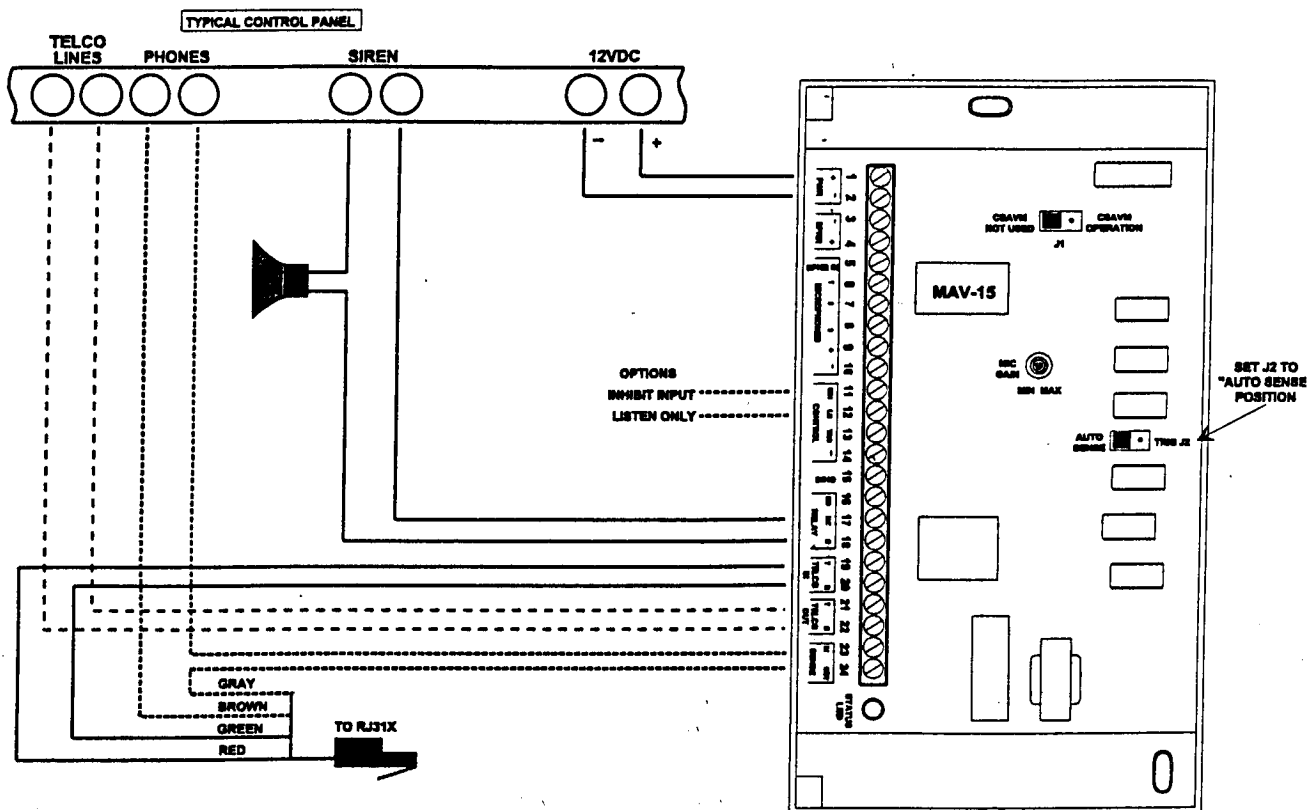
3- Speakers, Speakermics, & Microphones...

Connect Speaker(s) to Terminals 3 and 4. (Polarity is not a factor.)
Speaker selection is very important, especially if the speaker is also being used as a microphone(speakermic).
Paper-cone speakers work best, however plastic-cone speakers are more durable for outdoor applications. The
MRAV-30 Speakermic incorporates a high-quality paper-cone 8 ohm speaker which provides high performance
for indoor applications. If more than one speaker is used, wire them in series-parallel to achieve an impedance
of 4 ohms to 100 ohms. Use 2 conductor #22AWG for wiring runs less than 100'. For wiring runs greater than
100' use twisted wire. Be sure not to run speaker wiring near 120Vac or high-voltage wiring. Figure 4 shows
selectable microphones with separate speakers.

Figure 3.
    Selectable Microphones
    With Separate Speakers.

NOTE: ALL SPEAKERS ARE 8 OHMS, WIRED IN SERIES/PARALLEL TO FORM AN 8-OHM LOAD.

IF LESS THAN 3 MICROPHONES ARE USED, SHORT THE UNUSED MICROPHONE INPUT(S) TO AN ACTIVE MICROPHONE INPUT. ALL MICROPHONE INPUTS MUST BE CONNECTED.

Installation & Wiring (Continued)

3- Speakers, Speakermics, & Microphones...(Continued)

Connect Speakermics to Terminal 3 and Terminal 4. A speaker used as a microphone (speakermic) is different from a microphone in that it detects sound from all directions (front & back) and can pick up vibrations in a wall (such as motors, etc.) that may otherwise not be audible. When using ceiling speakers, install insulation behind the speaker to prevent unwanted noise from being heard from the second floor or roof. DO NOT connect a microphone and a speaker together. Terminals 7 and 8 may be used with a microphone, but if you are not using them, terminals 6,7 & 8 must still be connected together. If selectable speakermics are desired, it is recommended that multiple speakermics be wired as shown in Figure 4a. With this configuration, each speakermic is individually selectable. This will allow the operator to **listen to selectable speakermics at their command**, using the Commands listed on page 10. Figure 4b shows speakers operating as microphones where all **microphones are listened to at the same time**. If wired in this configuration, care should be exercised with more than one speakermic because the listen-in area is increased as well as the potential listen-in noise. When wiring speakermics to the MAV-15, do not exceed a distance of 500'. Use shielded wire when running speakermic wiring and be sure to ground the shield at MAV-15 terminal 10 and nowhere else. Refer to Figure 5 for a Selectable Speakermic and Microphone Combination.
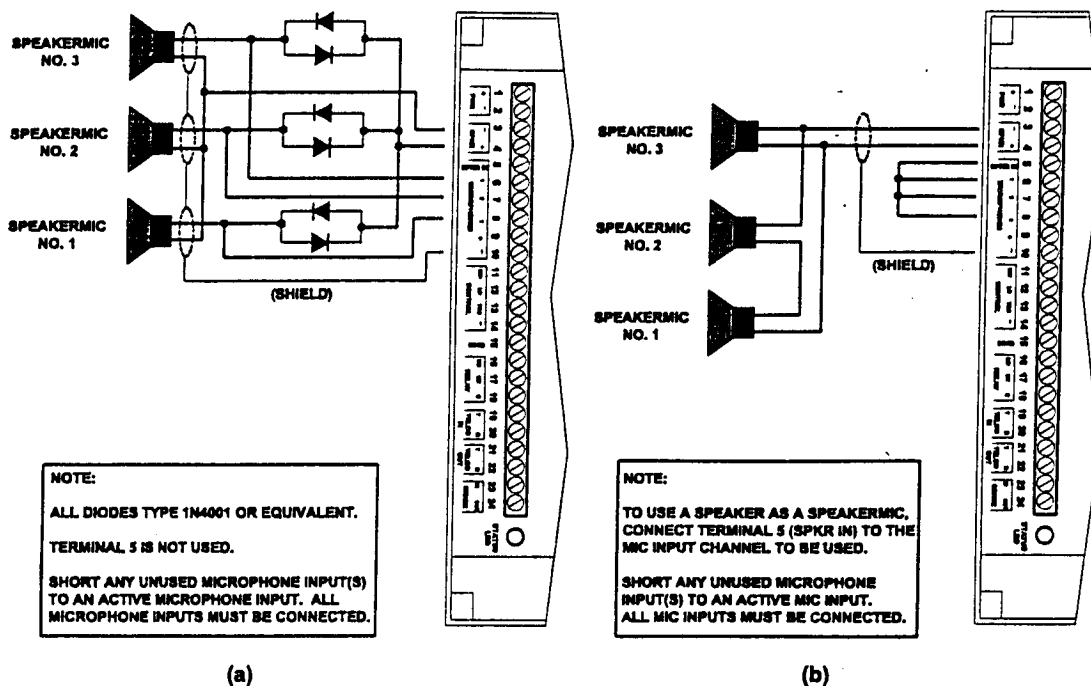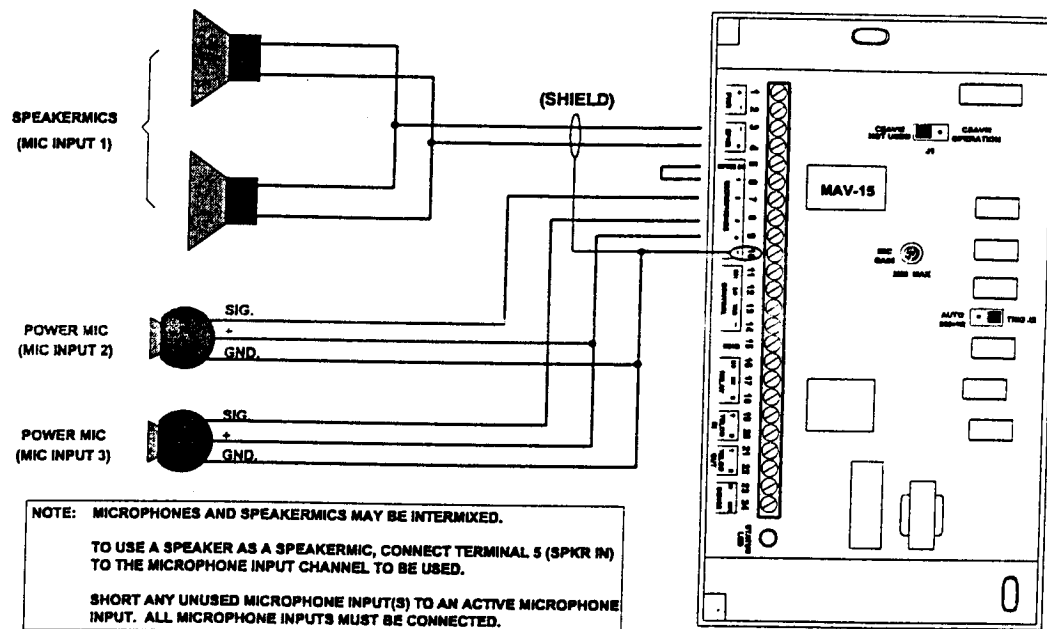

(a)

(b)

Figure 4(a). Speakermics Operate Together As Speakers But Are Selectable Microphones.
Figure 4(b). Speakermics Operate Together As Speakers But Speakermics Are Not Selectable Microphones.

3- Speakers, Speakermics, & Microphones...(Continued)

Figure 5.
Selectable
Speakermic
And Microphone
Combination.

NOTE: MICROPHONES AND SPEAKERMICS MAY BE INTERMIXED.

TO USE A SPEAKER AS A SPEAKERMIC, CONNECT TERMINAL 5 (SPKR IN) TO THE MICROPHONE INPUT CHANNEL TO BE USED.

SHORT ANY UNUSED MICROPHONE INPUT(S) TO AN ACTIVE MICROPHONE INPUT. ALL MICROPHONE INPUTS MUST BE CONNECTED.

Connect a Microphone (if used) to Terminal 6. Connect **all three** microphone inputs. If not using all three microphone inputs, short any unused microphone input(s) to Microphone 1 input. The MAV-15 can accept up to three separate microphones for sound pick-up. The microphones used with the MAV-15 are powered microphones and require three wires: power, shield (ground), and signal. The microphone suitable for this purpose is Napco Part Number MIC 30 . Do not exceed a 200' run from the microphone to the MAV-15, and be sure to ground the shield only at MAV-15 terminal 10. Figure 3 shows selectable microphones with separate speakers.

4- If Central Station Is Equipped With a CSAVM Interface...

Move Jumper J1 to the CSAVM OPERATION position. If central station is not using a CSAVM Interface, leave J1 in the CSAVM NOT USED position. For further details on CSAVM operation, refer to Central Station Operation.

5- Wire for Additional Features...

Listen-Only Control (Terminal 12)
When Terminal 12 (LO) is shorted to ground (Terminal 14), the MAV-15 will allow the central station operator to Listen-In but not to talk. This may be used for silent alarm conditions to prevent the possibility of operator error.

Inhibit Control (Terminal 11)
When Terminal 11 (INH) is shorted to ground (Terminal 14), the MAV-15 will not function. This may be used to inhibit the MAV-15 for selected alarm conditions. (If Normal Operation and Callback Only are programmed, the MAV-15 will function in the Callback Mode.)

Module Active Output (Terminal 15)
Terminal 15 (INHO) goes low when the MAV-15 is active. This open-collector output may be wired to a relay for custom applications. This terminal can be used to sink a maximum of 100mA to ground.

6- Verify correct wiring and then power up the alarm panel.
The red LED on the MAV-15 should be flashing on for two seconds and off for two seconds. This indicates that the MAV-15 is in the Standby mode and is operating properly. If the LED is not flashing, power down immediately and verify proper wiring.

Installation & Wiring (Continued)

MRAV-30: The MRAV-30 is a matching keypad-style unit with a dual-function 8 ohm Speakermic designed to mount along side the alarm panel keypad. There are two slots at the bottom of the case. To open, insert a screwdriver into either slot and push up with a slight twisting motion to release the retainer tab. Repeat for the other slot. To close the case, hang the front panel from the two hooks at the top of the rear case, then push in at the bottom until the front panel snaps into place. If you experience difficulty, it may be necessary to slightly push up on the retainer tabs as you would when opening the case.

Locate the rear case along either side of the keypad about 1/8" away. Position the case so that the lettering embossed into the rear wall is upright. The two elongated mounting holes are provided for skewing adjustment. Mount the case to the wall using #6 screws which are suitable for the mounting surface. The two small circular holes are for wire entry. For the best sound quality and output level, mount on a hollow wall. Cut a hole in the wall the same size as the large hole in the rear of the case. Shielded wire should be used and should not be run close to the keypad wiring or any AC source (within 6 inches).

Testing

Conduct Testing only after all Dealer and User Programming has been completed.

Normal Operation

Call the central station to inform them of the impending test. Before activating the alarm panel, verify that the house phones are operating. Hang up the house phone and activate the alarm panels' communicator. The red LED will come on for 5 seconds, go off for a few seconds, then flash very rapidly. The rapid flashing indicates that the MAV-15 recognizes the alarm panel and is waiting for it to complete its call.

After the alarm panel completes its call and disconnects, the MAV-15 LED will go off for a short period of time and will then flash briefly every second. This condition indicates that the central station is on line and in the Listen-In Mode. When the central station switches to Talk Mode the LED will be steady red. While in communication with the central station, confirm audio quality and walk-test the microphones. If the central station operator has difficulty hearing, adjust the gain control (refer to Troubleshooting). Typically, the gain control will not need to be adjusted from the factory setting. Installations and speakers vary so you may need to experiment with the operator until it is correct. When the operator disconnects, the LED should revert back to its normal 2-second on 2-second off flashing.

Have the Central Station Operator disconnect by using the ⊡ ⑨ Command. This will activate the One-Ring Ten Minute Callback Mode. If a Central Station Operator Access Code was programmed, be sure that the Operator has the correct code. Refer to Central Station Operation.

Immediate Connect Only

Immediate Connect differs from Normal Operation in that it does not offer the capability to utilize the Callback Feature. Conduct testing the same as Normal Operation Callback Testing.

Callback Connect Only

The digital communication to the central station occurs as usual, however after the alarm communication, the MAV-15 will enter the *One-Ring Ten Minute Callback Mode*. The MAV-15 LED will flash on for 1-second and off for 1 second which indicates that the MAV-15 is in the Callback Mode. When the operator calls back the subscriber's premise within ten minutes, the MAV-15 will answer on the first ring and respond to the Operator with a series of three beeps. The operator should then press ⊡, enter the operator code and press ⊡. If there was no operator code programmed, simply press ⊡. When the operator disconnects, the LED should revert back to its normal 2-second on 2-second off flashing. Repeat this until you are satisfied with the operation.

DEALER PROGRAMMING

Accessing The Programming Mode...

The MAV-15 may be programmed using any TouchTone® telephone, Remotely, or Locally. To program **Locally**, upon power-up begin by following these six steps:

1. Power down the MAV-15.
2. Short Trigger Terminal (13) to Ground (14).
3. Pick up the phone which is wired to the MAV-15. (The handset off hook will cause the phone to beep and may cause a telco message. Ignore this and continue.
4. Power up the MAV-15 and listen for one beep.
5. Remove short across terminals 13 & 14.
6. Follow the Six Steps below, or utilize the default program.

To program the MAV-15 **Remotely:**

1- Call the phone wired to the MAV-15.
2- Wait for an answer-indicated by three beeps- and PRESS 🔳.
3- ENTER the Dealer Code.
4- PRESS 🔳 and the MAV-15 Is ready to program.
5- Follow the Six Steps below, or utilize the default program.

You may choose to utilize the default program or you may program your MAV-15 by following the Six Steps below. The **default** program is as follows:

Number Of Rings:	20
User Call-In:	Enabled (0)
Mode Of Operation:	Normal (4)
Dealer Security Code:	4,5,6,7,8,9
User Code:	1,2,3,4,5,6

To Reset The MAV-15 To Its Factory Default Settings; Only Upon Power-Up:

PRESS 🔳 🔳 (This **will not** change the Dealer or User Codes if programmed.)

Follow These Six Steps To Program Your MAV-15:

After Each Valid Entry, 1 Beep Will Sound. After an Invalid Entry, 7 Beeps Will Sound. Repeat Current Step If An Invalid Entry Is	[1] Dealer Security Code.
	      A Dealer Security Code of up to 6 digits may be programmed. The default Dealer Security Code is 4,5,6,7,8,9. This code must be changed in order to maintain security.
	
	      PRESS 🔳 ③ One Beep Will Sound.
	      ENTER New Dealer Code 1-6 Digits _ _ _ _ _ _
	      PRESS 🔳 Two Beeps Will Sound.
	
	      ┌───┐
	      │ If The Default Program Is Being Used, Skip Steps 2 - 4 And Go To Step 5. │
	      └───┘
	
	[2] Number Of Rings. Default: (20)
	
	      PRESS 🔳 ④ One Beep Will Sound
	      ENTER The Number Of Rings (01 - 20) _ _ (Must Be A Two Digit Number)

[3] User Call In Enabled? Default: YES (0)

After Each Valid Entry, 1 Beep Will Sound. After an Invalid Entry, 7 Beeps Will Sound. Repeat Current Step If An Invalid Entry Is Made.

User Call-In is a feature designed to allow a user access to their MAV-15 using the Commands listed in Table 1. If enabling this feature, the User Access Code must also be programmed. The default User Access Code is 1,2,3,4,5,6 and can be changed by following the instructions in User Programming on page 10. Refer to User Operation For User Call-In Instructions.

Enter (0) for Yes
Enter (1) for No   —

[4] Mode of Operation. Default: Normal Operation (4)

Callback Only ENTER (1)   —
Immediate Connect Only ENTER (2)
Operator & User Call-In Only ENTER (3)-(Disables all three modes)
Normal Operation ENTER (4)

(5) Operator Access Code (Optional)

The Central Station Operator can only access the MAV-15 with this code when the MAV-15 is in the One-Ring Ten Minute Callback Mode. If selecting Immediate Connect Mode of Operation, this feature is not accessible. Speak with your Central Station prior to programming this code.

ENTER Operator Access Code 1-3 Digits   _ _ _
PRESS [*] Two Beeps Will Sound.

If Not Programming An Operator Code, PRESS * Skip Step 5 And Go To Step 6.

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(6) Exit Dealer Programming

PRESS [*] [8] One Beep Will Sound.
ENTER Your Dealer Code.
PRESS [*] Two Beeps Will Sound And The MAV-15 Will Disconnect.

If Downloading to a control panel that has an MAV-15 wired for Auto-Sense, the MAV-15 call in must first be temporarily disabled. To download and disable the MAV-15 call in for ten minutes, follow these instructions:

Gaining Access to the MAV-15 **Remotely:**

1- Call the phone wired to the MAV-15.
2- Wait for an answer-indicated by three beeps-and PRESS [*].
3- ENTER the Dealer Code.
4- PRESS [*] and the MAV-15 is ready to program.
5- Follow the Six Steps Programming steps , or utilize the default program.

Exit Dealer Programming and Disable MAV-15 for 10 Minutes.
(Allows Time for a Download).

PRESS [*] [9] One Beep Will Sound.
ENTER Your Dealer Code.
PRESS [*] Two Beeps Will Sound And The MAV-15 Will Disconnect.

MAV-15 PROGRAMMING WORKSHEET
(DEFAULT PROGRAMMING IN PARENTHESIS)

Customer Name _____ Account # _____ Phone #_____

■■

TO ENTER PROGRAMMING MODE: (CHOOSE ONE METHOD)

- **POWER-UP PROGRAMMING:**
  1) Take Phone Off Hook
  2) Short The Trigger Input To Ground (TERM 13 To 14)
  3) Power-Up Unit (Beep)
  4) Remove Short
  5) Program Unit Using Touch Pad Of Telephone
     (Ignore Recorded TELCO Messages On Phone)
- **LOCAL Programming:**
  1) Pick Up Local Phone And ENTER:
  2) Program Unit Using Touch Pad Of Telephone
     (Ignore Recorded TELCO Messages On Phone)
- **REMOTE Programming:**
  1) Call The Phone Number,
     Wait For An Answer (Beep) (Beep) (Beep), ENTER:
  2) Program Unit Using Touch Pad Of Telephone.

  * If An Answering Machine Picks Up Before The MAV-15 Picks Up On Ring Count, Simply Enter Above
  Keystrokes To Override.

* NOTE: A Speaker Must Be Wired Between Terminals 3 & 4 In Order For The Feedback Beeps To Be Heard.

(Dealer Code)
[#] [ ] [ ] [ ] [ ] [ ] [*] (Beep)
    (4) (5) (6) (7) (8) (9)

(Dealer Code)
[#] [ ] [ ] [ ] [ ] [ ] [*] (Beep)
    (4) (5) (6) (7) (8) (9)

■■

To Program MAV-15, Enter The Following Keystrokes On The TouchTone Phone. Feedback Beeps Will
Confirm Proper Programming   -   (6 Beeps Indicate An Invalid Entry, Re-enter Field).

•To Change USER CODE:

[#] [2] (Beep) [ ] [ ] [ ] [ ] [ ] [*] (Beep)(Beep)   (If Less Than 6 Digits, Press [*] When Done)
                                                        (For Power-Up Programming Only)

•To Change DEALER CODE:

[#] [3] (Beep) [ ] [ ] [ ] [ ] [ ] [*] (Beep)(Beep)   (If Less Than 6 Digits, Press [*] When Done)

•SYSTEM OPTIONS:

[#] [4] (Beep) [ ][ ] [ ] [ ] [ ][ ][ ]
               (2)(0) (0) (4)

|_____ Operator Code (Optional-For High Security Callback Connect)

|_____ "1" = ENABLE Callback Connect Only
       "2" = ENABLE Immediate Connect Only
       "3" = DISABLE MAV-15 Except For Subscriber Call-In
       "4" = ENABLE Immediate & Callback Connect (Normal Operation)

|_____ "0" = Enable Subscriber Call-In
       "1" = Disable Subscriber Call-In

|_____ # Of Rings To Pick Up (Both Digits Must Be Programmed)

The First Three Options (4 Digits) Must Be Programmed Whenever The "[#][4]" Block Is Entered.
If No Operator Code Is Desired, Press [*] After The 4th Digit.

•To Automatically Reload The "[#][4]" Sytem Option Defaults:

PRESS [#][*] (Beep)(Beep)(Power-Up Programming Only)

•To Exit Program Mode: (Dealer Code)

[#] [8] (Beep) [ ][ ][ ][ ][ ][ ] [*] (Beep) (Beep) (Disconnect)

•To Exit Program Mode & Disable The MAV-15   (Dealer Code)
Operation For 10 Minutes: [#] [9] (Beep) [ ][ ][ ][ ][ ][ ] [*] (Beep) (Beep) (Disconnect)

(Allows The Control Panel To Pick-Up If Downloading)

USER PROGRAMMING

The **User Call-In Mode** is a feature designed to allow a user access to their MAV-15 using the Commands listed on page 11. A user may only access the MAV-15 with the correct **User Access Code**. The phone will be answered by the MAV-15 at a programmable **Number Of Rings**. If an answering machine or person picks up the phone before the programmed number of rings it may be automatically bypassed by entering the User Access Code. These two features may be programmed by following the steps below. Please note that the Number Of Rings may also be programmed in Dealer Programming.

User features may be programmed either locally or remotely as follows:

Local Programming:
1- Pick up the local phone and PRESS 🔳
2- ENTER the default User Code (1,2,3,4,5,6)
3- PRESS 🔳 One Beep Will Sound.

Remote Programming:
1- Call the phone wired to the MAV-15, wait for an answer-indicated by three beeps-and PRESS 🔳
2- ENTER the default User Code (1,2,3,4,5,6)
3- PRESS 🔳 One Beep Will Sound.

When the confirmation beep sounds, **EITHER** The Number of Rings Feature **OR** The User Code feature may be programmed per access. If both features will be programmed, repeat the steps above for the second feature. Local Users will hear the confirmation beep at the speaker only and the remote user will hear the confirmation beep through the phone only.

After Each Valid Entry, 1 Beep Will Sound. After an Invalid Entry, 7 Beeps Will Sound. Repeat Current Step If An Invalid Entry Is Made.

[1]   Number Of Rings.
        The Number Of Rings, (1-20) on which the phone will answer in the Call In Mode.

        PRESS 🔳 🔳 One Beep Will Sound.
        ENTER The Number Of Rings (01 - 20)   — —
        PRESS 🔳 Two Beeps Will Sound.
        The MAV-15 Will Disconnect.

[2]   User Access Code. Default: (1,2,3,4,5,6)
        Remember, **only one feature** is programmable per access. If you have already programmed The Number Of Rings, you must follow the steps for gaining access either locally or remotely before entering a User Access Code.

        PRESS 🔳 🔳 One Beep Will Sound
        ENTER New User Access Code 1-6 Digits   — — — — — —
        PRESS 🔳 Two Beeps Will Sound.
        The MAV-15 Will Disconnect.

USER OPERATION
Commands: Using A TouchTone® Keypad.
Using a TouchTone® phone, the following commands can be accessed by pressing their respective keys:

KEY(S)	COMMAND	KEY(S)	COMMAND
1	Talk To Premise	7	Restart Safety Timer
2	Listen To Premise	9	Disconnect
4	Listen To Microphone Number 1	* 9	Disconnect & Activate Callback
5	Listen To Microphone Number 2	*	Acknowledge On Callback
6	Listen To Microphone Number 3	#	Auto-Scan All Microphone Inputs

Table 1

1 & 3   **Talk & Listen To Premise.** When the MAV-15 has been accessed, it will be in a Listen-In Mode, a 4-minute Timer will start. The operator may toggle between Talk and Listen by pressing their respective Keys. If the MAV-15 remains in this mode with no activity, (no commands being accessed) it will sound two warning beeps 15-seconds prior to disconnecting. Refer to Restart Safety Timer (7) to Extend Timeout.

4, 5, & 6   **Listen to Microphone 1,2, & 3.** Microphone selection is accomplished by pressing the 4,5,or 6 keys on a handset for Microphone 1,2, or 3, respectively. Pressing the # key will cause the MAV-15 to scan all three microphones. Refer to Auto-Scan (#).

7   **Restart Safety Timer.** After the MAV-15 has been accessed and is in the Listen-In Mode, a 4-minute Timer starts. If the MAV-15 remains in the Listen-In Mode with no activity, (no commands being accessed) it will sound two warning beeps 15-seconds prior to disconnecting. Pressing the 7 key, or any other key (except 9) will reset this timeout period for another 4 minutes. During Listen, pressing 7 will not be heard at the subscribers premise. The operator or user can remain undetected in the Listen Mode as long as desired by pressing 7 within the 4 minute timeout period when the warning beeps are heard. Pressing any other Command will also reset the timer.

9   **Disconnect.** This command will disconnect the MAV-15 and will not permit the operator to re-establish the call using the *One-Ring Ten Minute Callback Command* (*9).

*9   **Disconnect & Activate Callback Mode.** This command will disconnect the MAV-15 and will cause the MAV-15 to enter the *One-Ring Ten Minute Callback Mode.* This means that the MAV-15 on premise will allow central station ten minutes to call back and will answer the call on the first ring. If communication is re-established, the MAV-15 is again in a Listen-In Mode.

*   **Acknowledge On Callback.** When calling the MAV-15 in the One Ring Ten Minute Callback Mode, the MAV-15 will respond with three beeps upon answering. The operator must then PRESS * and ENTER the Operator Code (if used) and * within 10 seconds. If no Operator Code is programmed, then simply PRESS * .

**Auto-Scan All Microphone Inputs.** When the MAV-15 is activated, Auto-Scan is initiated, causing the MAV-15 to automatically scan the three microphone inputs in sequence for 5 seconds each. A long beep will sound in the Operators' handset to identify Microphone 1 Input. Microphone 2 and 3 will each sound a short beep. Selecting any Command except 7 will stop Auto-Scan and Pressing # will resume Auto-Scan to the next Microphone in sequence.

User Call In - Gaining Access...
1- User Calls Premise.
2- MAV-15 Will Pick Up On Programmed Number Of Rings (or if an answering machine or person at the premise picks up the phone), User Will Hear 3 Beeps On Pick Up.
3- User PRESSES * (User Access Code) *.
4- MAV-15 will seize phone line and put the User In the Listen-In Mode.
5- User Can Toggle Back & Forth Between Talk & Listen By Using Commands.

Central Station Operation

When a control panel equipped with an MAV-15 communicates an alarm to the central station receiver, there are several ways the MAV-15's two-way voice mode can be accessed. The method chosen will depend upon the type of central station receiver being used, the presence of a NAPCO CSAVM, and the preference of the central station (Normal Operation or Callback Connect). The MAV-15 will operate with any Listen-In capable receiver. If it is to be used on a receiver which does not support Listen-In, the CSAVM must be used. The CSAVM is installed on the incoming phone line of the receiver, and supports a side phone for the operator to listen/talk to the premises. It is capable of detecting the presence of an MAV-15 equipped control panel and seizing the phone line upon kiss-off, initiating the two-way voice session.

When an MAV-15 equipped control is kissed-off by the receiver, the operator's phone will ring. When the operator picks up the phone, the unit will be in an Auto Scan Mode, automatically scanning each microphone input for 5 seconds. There will be a tone at the beginning of the scan of microphone 1, and a very short beep at the beginning of the microphone 2, and 3 scans. This allows the operator to determine which microphone zone shows activity. Using the TouchTone® Commands (refer to page 11) the operator may switch to monitoring only one particular active area. If desired, the operator may speak to the occupants to verify the alarm condition. To terminate the two-way voice session, the operator will simply press ⑨ and hang up, or press ✳⑨ and hang up to put the MAV-15 into a 10 minute, 1 ring Callback Mode.

While in the Listen Mode, the operator may notice a brief, barely perceptible pause every 2 seconds. This pause is a unique feature which assures the operator positive switching using TouchTone® Commands, regardless of the background noise at the premises.

The Central Station should obtain any required advance consent of the user prior to this procedure.

Table 1 on page 11 provides a listing of Commands and their respective features which can be accessed using a TouchTone® phone. The MAV-15 can operate in two different Central Station Modes, each which are discussed below.

1- **CSAVM Operation-**	Normal Operation/Immediate Connect Only/Callback Connect.
2- **NON-CSAVM Operation-**	Normal Operation/Immediate Connect Only/Callback Connect. Listen-In Receiver Required for Normal Operation and Immediate Connect Only.

CSAVM Operation (CSAVM REQ'D)- This is the preferred method of operation. As described in the Installation & Wiring Instructions, the installer must position Jumper J1 at **CSAVM OPERATION.** The Central Station **must be** equipped with a CSAVM Two-Way Voice Interface for each incoming line to which the MAV-15 will be connected. When the CSAVM is used with a standard receiver and a call is received from an alarm panel equipped with an MAV-15, the CSAVM will then ring a standard phone, multiline keyset or PBX, informing the operator that a voice call is on the line.

Normal Operation Mode has been Programmed for the MAV-15, CSAVM is Programmed For Receiver Line Management & A Call is Received:

1- Operator picks up the phone connected to the phone jack at the back of the CSAVM and the system is in the Auto-Scan and Listen-In Modes.
2- Operator may PRESS ① to TALK and may PRESS ③ to resume LISTENING. The Operator may toggle back and forth at will.
3- Call is Terminated by hanging up the phone OR:
4- Operator can disconnect and Callback by PRESSING ✳⑨. (Disconnects and Activates *One-Ring Ten Minute Callback Mode*).

NOTE: Upon termination of the call (when the operator hangs up), the CSAVM will automatically send a command to the MAV-15 to prompt it to also hang up. If for any reason, the call is interrupted and terminated, the MAV-15 will hang up within 60 seconds. This is due to a Restart Safety Timer (Command ⑦) which is sent automatically to the MAV-15 every 45 seconds. This timeout applies to the MAV-15 only when used with the CSAVM. If the CSAVM is not used by the central station, an interruption in communication could result in a 4 minute time out before the MAV-15 hangs up.

Immediate Connect Only Mode has been Programmed for the MAV-15, CSAVM is Programmed For Receiver Line Management & A Call is Received:

  1- Operator picks up the phone connected to the phone jack at the back of the CSAVM and the system is in the Auto-Scan and Listen-In Modes.
  2- Operator may PRESS ① to TALK and PRESS ③ to resume LISTENING. The Operator may toggle back and forth at will.
  3- Call is Terminated by hanging up the phone.

Callback Connect Only has been Programmed for the MAV-15, A Call is Received & MAV-15 Goes Into The One-Ring Ten Minute Callback Mode: Note: A Separate Phone Line For the CSAVM is Required.

  1- Operator Must Call Premise and The CSAVM Will Access The MAV-15 And Automatically Send An Operator Code (If Programmed).
  2- Operator is in the Auto-Scan and Listen-In Modes.
  3- Operator May PRESS ① to TALK and PRESS ③ to LISTEN. The Operator may toggle back and forth at will.
  4- Operator may disconnect and Callback by PRESSING ✱ ⑨ .

NON-CSAVM Operation (No CSAVM & Listen In Receiver Req'd Only For Normal Operation & Immediate Connect Only - Not Required For Callback Only.)-As described in the Installation Instructions, the installer must position Jumper J1 at the CSAVM NOT USED position. With this method, the central station receiver must have listen-in capability. Set up the receiver so that the accounts to which the MAV-15 will be connected will be in the Listen-In mode. Set the hold-time to a convenient time for the operator to pick up the phone which is connected to the same line as the receiver. When a call is received the central station line receiver will hold the line open until the operator picks up the phone.

Normal Operation Mode has been Programmed for the MAV-15, & A Call is Received:

  1- Operator Picks Up the phone connected to the Listen-In Receiver, and the system is in a *Listen-In Mode*.
  2- Operator May PRESS ① to TALK and PRESS ③ to LISTEN. The Operator may toggle back and forth at will.
  3- Operator Must terminate the call by one of the following three methods:

        (a) PRESS ⑨. Disconnects.
        (b) PRESS ✱ then ⑨. Disconnects and Activates *One-Ring Ten Minute Callback Mode*.
        (c) Let the MAV-15 at premise timeout (4 minutes) and disconnect itself. The MAV-15 will then automatically go into a 10 minute 1 ring Callback Mode. (Not Recommended)

Immediate Connect Only Mode has been Programmed for the MAV-15 & A Call is Received:

  1- Operator Picks Up the phone connected to the Listen-In Receiver, and the system is in a *Listen-In Mode*.
  2- Operator May PRESS ① to TALK and PRESS ③ to LISTEN. The Operator may toggle back and forth at will.
  3- Operator Must terminate the call by one of the following two methods:
        (a) PRESS ⑨.
        (b) Let the MAV-15 at premise timeout (4 minutes) and disconnect itself. (Not Recommended)

Callback Connect Only has been Programmed for the MAV-15, a Call is Received & MAV-15 Goes Into The One-Ring Ten Minute Callback Mode: Note: A separate phone line is required.

  1- Operator Must Call Premise.
  2- Operator PRESSES ✱, ENTERS Operator Code (If Programmed) PRESSES ✱, within 10 seconds. If no Operator Code is used, Simply PRESS ✱ .
  3- Operator Hears three beeps and is in the Auto-Scan and Listen-In Modes.
  4- Operator May PRESS ① to TALK and PRESS ③ to LISTEN. The Operator may toggle back and forth at will.

NON-CSAVM Operation (Continued)

Callback Connect Only (Continued)

    5- Operator must terminate the call by one of the following three methods:
        (a) PRESS ⑨. Disconnects.
        (b) PRESS✱ then ⑨. Disconnects and Activates *One-Ring Ten Minute Callback Mode*.
        (c) Let the MAV-15 at premise timeout (4 minutes) and disconnect itself. The MAV-15 will then
            automatically go into a 10 minute 1 ring Callback Mode. (Not Recommended)
If the wrong operator code or no operator code is received, the 10-Minute time period will continue and the MAV-15
will disconnect and await call with the correct operator code.

Callback Only (No CSAVM & No Additional Equipment Needed)-As described in the Installation Instructions, the
installer must position Jumper J1 at the CSAVM NOT USED position. In this mode, a separate phone line is required but
no modification to the central station receiver is required. The digital communication to the central station occurs as
usual, however after each alarm communication, the MAV-15 will enter the *One-Ring Ten Minute Callback Mode*. When
the operator calls back the subscriber's premise within ten minutes, the MAV-15 will answer on the first ring and respond
with a series of three beeps:

    1- Operator Must Call Premise.
    2- Operator PRESSES ✱, ENTERS Operator Code (If Programmed) PRESSES ✱, within 10 seconds.
        If no Operator Code is used, Simply PRESS ✱ .
    3- Operator hears three beeps and is in a Listen-In Mode.
    4- Operator May PRESS ① to TALK and PRESS ③ to LISTEN. The Operator may toggle back
        and forth at will.
    5- Operator must terminate the call by one of the following three methods:

        (a) PRESS ⑨. Disconnects.
        (b) PRESS✱ then ⑨. Disconnects and Activates *One-Ring Ten Minute Callback Mode*.
        (c) Let the MAV-15 at premise timeout (4 minutes) and disconnect itself. The MAV-15 will then
            automatically go into a 10 minute 1 ring Callback Mode. (Not Recommended)

If the wrong operator code or no operator code is received, the 10-Minute time period will continue and
the MAV-15 will disconnect and await call with the correct operator code.

Troubleshooting...

SYMPTOM	SOLUTION
MAV-15 Will Not Pick Up When Being Called	1- J2 Is In The Wrong Position. 2- MAV-15 Is Still In Dealer Mode. 3- No Telephone Or Capacitor Across Terminal 21 & 22 (TELCO OUT).
MAV-15 Will Not Trigger On Alarm (Trigger Method Being Used)	1- Trig/Sense Jumper In The Wrong Position. Move to TRIG Position. 2- MAV-15 Is Still In Dealer Mode. 3- TRIG Wire Not Connected Properly. Check At MAV-15 As Well As Panel.
MAV-15 Always Goes Into Callback After An Alarm.	1- MAV-15 Set For CSAVM Operation And Central Station Is Not Equipped With CSAVM. J1 Should Be Set For NO CSAVM OPERATION. 2- MAV-15 Programmed For Callback Only Program To Restore Full MAV-15 Operation.
MAV-15 Will Not Trigger On Alarm	1- TRIG/SENSE Jumper Is In The Wrong POSITION. Move To TRIG Position. 2- House Phone Wires Should Be In Series With Sense Terminals 23 & 24. 3- MAV-15 Must Be Wired On The TELCO Side Of The Control Panel.
Unable To Get Into The Programming Mode.	1- Wrong Version Of The MAV-15. V1 Has No Program Mode. 2- Wrong Dealer Code Being Used. Force Dealer Mode By Powering Up With TRIG Grounded. 3- Incorrect Voltage At Term. 1 & 2.
Unable To Exit Dealer Mode.	1- Code Entered Does Not Match Programmed Code. Reprogram Code and Reattempt the Exit.
MAV-15 Will Not Switch To Talk.	1- L.O. Lug Wired To Ground. 2- Adjust MIC Gain. 3- Hold 1 For At Least 2 Seconds.
Listen-In Not Working (Using Speakermics).	1- MIC Input(s) Not Connected. Connect Short From SPKIN (Terminal 5) To The Malfunctioning MIC Input(s).
Phone Company Tones Are Sounding Over The Phone While In Program Mode.	1- These Tones May Be Ignored While In The Program Mode. Continue Entering The Required TouchTone® Digits.
Unit Triggers Into Listen-In Mode But The Central Station Never Picks Up- Central Station Is Equipped With A CSAVM.	1- Set J1 To CSAVM Position
High Background Noise Using MIC-30.	1- Adjust MIC Gain Up or Down. 2- Use Shielded Wire Making Sure That The Shield Is Connected To Ground, ONLY AT Terminal 10.
Central Station Has Difficulty Hearing While In The Listen-In Mode.	1- Adjust MIC Gain Control Counter-Clockwise.

Table 2

Specs

Input Voltage: 12Vdc
Current Drain: Standby, 40 mA; Active, 180mA
Output: Open Collector, 100mA max,; max voltage, 0.5V
Speaker Impedance: 4 Ohm, minimum
Relay: Form C; Contact Ratings, 5A/30Vdc
Housing Dimensions: MAV-15, 7.0"L x 4.75"W x 1.38"H
                    MRAV-30, 4.38"L x 2.5"W x 0.94"H

Ordering Info

MAV-15- Two-Way Voice Listen-In Module With 1 MRAV-30 Speaker Unit.
MRAV-30- Matching Keypad Style Unit With Dual Function 8 Ohm Speakermic.
CSAVM- Central Station Two-Way Voice/Listen-In Interface With Power Transformer.
MIC-30- Optional Microphone & Acoustic Insulator

MAV-15 Wiring Table:

MAV-15	MA 1008LKDL	MA 1016LKDL	MA1000e	MA1008e	MA1016e	MA 2600LKDL	MA3000
(+) (1)	25	36	6	5	11	12	36
(-) (2)	24	37	5	6	12	13	37
TRIG IN (13)	-	E5	E3	E5 or E15	E5 or E15	E5	E5
INHO (15)	-	-	-	21 *	32*	-	-
TELCO IN (19)	RJ31X RED	31	24	25	40	40 ·	31
TELCO (20)	RJ31X GRN	32	25	26	41	41	32
TELCO OUT (21)	19	RJ31X GY	RJ31X GY	RJ31X GY	RJ31X GY	RJ31X GY	RJ31X GY
TELCO OUT (23)	20	RJ31X BR	RJ31XBR	RJ31X BR	RJ31X BR	RJ31X BR	RJ31X BR
SENSE IN (23)	21	-	-	-	-	-	-
SENSE OUT (24)	RJ3IX GY	-	-	-	-	-	-
J2 SET AT:	AUTO SENSE	TRIG	TRIG	TRIG	TRIG	TRIG	TRIG

Table 3

MAV-15 Terminal Strip Connections:

PIN NO.	DESCRIPTION
1	+ 12 Volts
2	Ground
3	Speaker (Ground)
4	Speaker (Hot)
5	Speaker/Speakermic Input
6	Microphone Number 1
7	Microphone Number 2
8	Microphone Number 3
9	Microphone Power +
10	Ground
11	Inhibit Control Input
12	Listen-Only Control Input

PIN NO	DESCRIPTION
13	Trigger Input
14	Ground
15	Module-Active Output (INHO)
16	Normally-Open Relay Contact
17	Normally-Closed Relay Contact
18	Common Relay Contact
19	TELCO IN - TIP
20	TELCO IN - RING
21	TELCO OUT - TIP
22	TELCO OUT - RING
23	SENSE IN
24	SENSE OUT

Table 4

Glossary

Auto-Scan-Whenever voice communication is established, Auto-Scan is activated. Auto-Scan causes the MAV-15 to automatically scan the three microphone inputs in numeric order. Each microphone input is scanned for 5 seconds. The operator or subscriber has the option of terminating the Auto-Scan feature and listening to individual microphones by pressing the respective commands. Refer to Commands: Using A Touchtone® Keypad.

Auto-Sense Method-The Auto-Sense is an MAV-15 activation method which is recommended when using a Napco 1008LKDL Control Panel or any Alarm Panel which does not have an output which changes from a high state of approximately 12V to a low state of approximately 0V upon digital communications and then returns to a high state upon kiss off.

Call-In Mode-The User Call-In Mode is a feature designed to allow a user access to their MAV-15 using the Commands listed on page 11. If enabling this feature, the User Access Code must be programmed. The default User Access Code is 1,2,3,4,5,6 and can be changed in User Programming.

Callback Connect Only Mode-With this method of central station operation, no CSAVM or additional equipment is needed. However, a separate phone line is required but no modification to the central station receiver is required. After an alarm condition is activated by the alarm panel and after the communicator has completed its call to central station, the MAV-15 seizes the telephone line before the connection is lost. The MAV-15 then goes into a *One Ring Ten Minute Callback Mode*. This means that the MAV-15 will allow the central station ten minutes to call back and will answer the call on the first ring. An Operator Access Code is programmable to further secure MAV-15 communications.

CSAVM Not Used Operation- With this method, the central station receiver must have listen-in capability. Set up the receiver so that the accounts to which the MAV-15 will be connected will be in the Listen-In mode. Set the hold-time to a convenient time for the operator to pick up the phone which is connected to the same line as the receiver. When a call is received the central station line receiver will hold the line open until the operator picks up the phone.

CSAVM Operation-This is the preferred method of central station operation. The Central Station must be equipped with a CSAVM Two-Way Voice Interface for each incoming line to which the MAV-15 will be connected. When the CSAVM is used with a standard receiver and a call is received from an alarm panel equipped with an MAV-15, the CSAVM will then ring a standard phone, multiline keyset or PBX, informing the operator that a voice call is on the line.

Immediate Connect Only Mode-After an alarm condition is activated by the control panel and after the communicator has completed its call to central station, the MAV-15 seizes the telephone line before the connection is lost. The MAV-15 then identifies itself as a voice unit to the central station and establishes two-way voice communication with the operator. The MAV-15 can not go into the *One Ring Ten Minute Callback Mode* with this mode of operation.

Normal Operation Mode-After an alarm condition is activated by the control panel and after the communicator has completed its call to central station, the MAV-15 seizes the telephone line before the connection is lost. The MAV-15 then identifies itself as a voice unit to the central station and establishes two-way voice communication with the operator. If a CSAVM is used, and the central station does not pick-up the call within, the MAV-15 will disconnect and go into a *One Ring Ten Minute Callback Mode*. This gives the central station the opportunity to call back the premises within ten minutes and have the MAV-15 pick-up the line on the first ring, and put them in the Listen-In mode. Normal Operation is actually incorporating the Immediate Connect and Callback Connect Only modes.

One-Ring Callback Mode- The MAV-15 on premise will allow central station ten minutes to call back and will answer the call on the first ring.

Operator Access Code-The Central Station Operator can only access the MAV-15 with this code when the MAV-15 is in the 10-Minute 1-Ring Callback Mode. If selecting Immediate Connect Mode of Operation, this feature is not accessible.

Restart Safety Timer- When the MAV-15 is accessed, a 4-minute timer starts. If there is no activity between the operator and premise, the MAV-15 will automatically disconnect. The Restart Safety Timer (Command 7) restarts the timeout period for an additional 4 minutes.

Safety Timeout-. After the MAV-15 has been accessed and is in the Listen-In Mode, a 4-minute Timer starts. If the MAV-15 remains in the Listen-In Mode with no activity, (no commands being accessed) it will sound two warning beeps 15-seconds prior to disconnecting.

Trigger Method-The Trigger Method (Trigger Input *Terminal 13*) is the preferred method of MAV-15 activation. This method can only be used with Napco Control Panels or any Alarm Panel which has an output which changes from a high state of approximately 12V to a low state of approximately 0V upon digital communications and then returns to a ~~low~~ *HIGH* state upon kiss off.

User Access Code- The User Call-In Mode is a feature designed to allow a user access to their MAV-15 using the Commands listed on page 11. If enabling this feature, the User Access Code must be programmed. The default The User Access Code is 1,2,3,4,5,6 and can be changed in User Programming.

User Call-In Feature-This programmable feature allows the customer to call into their premise at any time and establish two-way voice communication with the occupants. The user will dial their home phone number, and enter their user access code, prompting the MAV-15 to seize the line. They will then have access to touch tone commands which will allow them to listen to and/or talk to the occupants. The subscriber can use this feature to check on the children, babysitter, elderly persons, etc., when away from home. When using this feature, it is recommended that the caller/listener obtain any required advance consent of the occupants of the premise prior to this procedure.

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