

Miniguard HF-2 with Prox Reader
or
TELEPROX
Handsfree Telephone Entry Autodialer



INSTALLATION
and
OPERATIONAL INSTRUCTIONS



255 Glider Circle • Corona, CA 92880
(951) 371-1730 • Facsimile (951) 371-2592
www.TrigonElectronics.com

July 22, 2008

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INTRODUCTION

This manual contains all the information required to install and program the TRIGON MINIGUARD HF-2 with proximity reader and the TELEPROX. If you are using this manual to install this unit, it is very important to read all the sections in order.

If you are using this manual as a programming guide after the initial installation, you may find the TABLE OF CONTENTS useful in locating the particular programming procedure you need.

You should read these instructions before you begin installation. This will insure that everything is done efficiently.

PRODUCT OVERVIEW

The TRIGON HF-2 with proximity reader and TELEPROX are multi-number auto dialers with the additional feature of a proximity reader integrated in the front of the unit which activates the entry relay when a valid card is entered. If a valid card is not presented, entry is granted or denied by the remote called party. Upon pressing the call button, the HF-2/TELEPROX dials a programmed telephone number. If the number dialed is busy or does not answer, the HF-2 will hang up and dial the next programmed number, up to a maximum of 10. If the last programmed number is busy or does not answer, the HF-2/TELEPROX will rollover and start the dialing process again with the first phone number.

The HF-2 comes standard with 2 output relays. These relays can be programmed to operate in several different ways. Relays can be set to pulse momentarily for camera call-up, they can be set to stay latched on for the duration of the call, or they can be set to operate for a timed duration (for door strike operation, etc).

There are two Modes of Operation incorporated in the HF-2 with keypad entry:

1. The **Standard Mode** provides timed closure of the relays and is typically used for access control.
3. Optional **Ring Down Mode**: When call button is pressed, the HF-2/TELEPROX seizes the telephone line and waits for the PBX to dial a preprogrammed number.

A Site I.D. code feature provides for unit identification. The Site I.D. code is a programmable four digit code that is transmitted by the HF-2 when it receives a command from the called party. This code, when interpreted by a Trigon DTMF Decoder, will identify the calling unit.

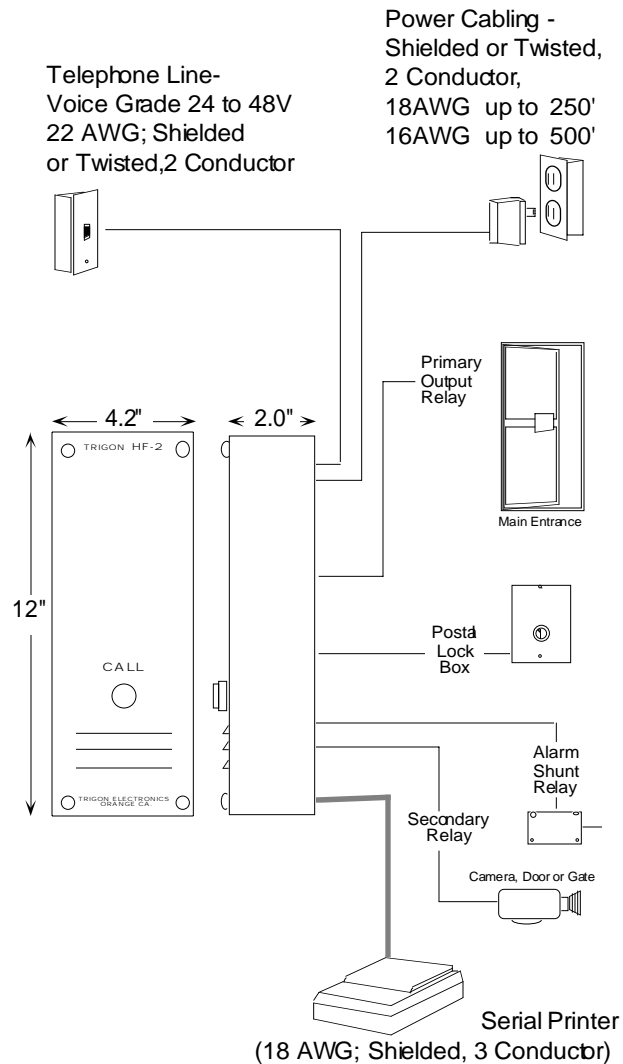
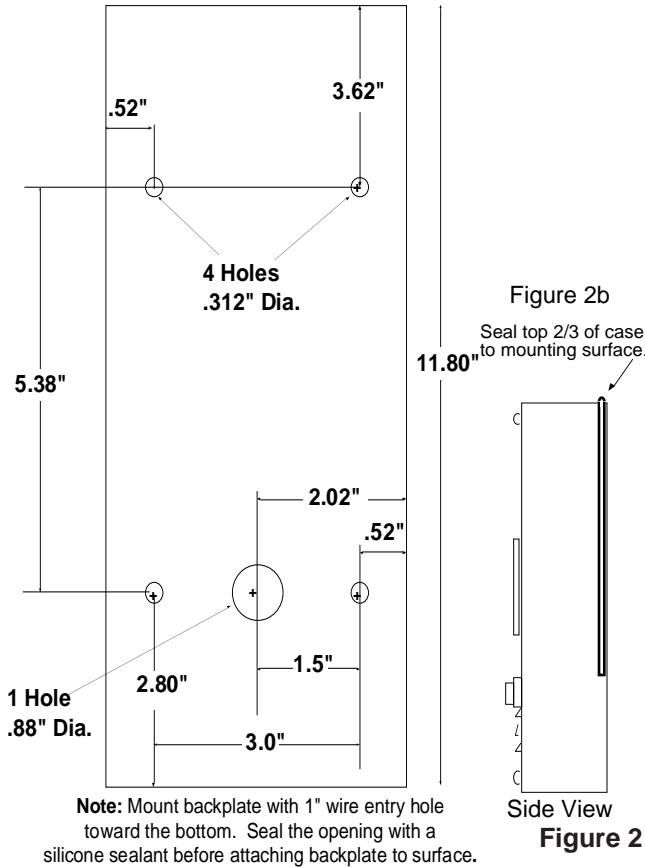


Figure 1

MOUNTING



Arrangements must be made with the local telephone company for installation of a standard voice-grade telephone line (touch-tone or rotary) as close to the unit mounting location as possible. The telephone company may require the following information.

FCC Registration No.....1Z8898-62546-DI-T
 Ringer Equivalence.....0.8B
 Connector.....Terminal Block

The unit is designed to be as weather resistant as possible*. We do however recommend some shelter from direct rain and sunlight. An overhang is usually sufficient. Bolt the back plate (**Fig. 2**) to the mounting surface using the four .312" holes in the chassis. Feed the wiring through the access hole in the rear of the back plate. At this point, the wiring should NOT be live (energized).

Note: If used in extreme weather, a bead of silicon sealant should be run around the outside top two thirds of the unit, after the front case is secured.

(Fig. 2b).

* We offer an optional Lighted Hood for further protection.

WIRING

1. Use the wiring diagram (Fig. 3) for wire connection information.
2. Do not power any other device from the Trigon's 12 VAC transformer. If a substitute transformer is used, be sure it is rated 12 VAC, 40VA, UL Class 2 listed. The 12 VAC input power wires should be 18AWG, 600V, insulated wire. This should be sufficient for distances up to 250 feet.
3. Do not energize wires until installation is completed.
4. Ground the unit by attaching a separate 12 AWG ground wire to the ground location on the terminal block. This ground wire should go to a grounding rod or grounded metal conduit.
5. Trigon recommends that an EMI filter (Cornell-Dubilier Model APF 1021 or equivalent) be mounted between the 12 VAC transformer output and the unit. EMI/RFI filters are available from Trigon. Mount the filter as close to the unit as possible. Ground the filter to the same point as unit ground.
6. Shielded cable is recommended. Ground the shielding to the same point as the unit and filter. To avoid ground loops, do not ground the shield at both ends. Use 600V insulated wire for this installation.
7. Isolate the Telco phoneline from 12 VAC power wires. This will prevent 60 Hz hum from occurring on the phoneline. Use 22 AWG wire on Telco line run distances of up to 2400 feet. Consult the factory for distances greater than 2400 feet.
8. Power Relays 1 and 2 are dry contact, Form C type, rated for 5 AMPS @ 30 VDC/ 250VAC.
9. The Shunt relay is a low-power (4 watt) reed relay. It can be used for temporary alarm switch bypass, video camera activation, etc. The Shunt relay activates with the #1 or #2 power relay, and deactivates thirty seconds after relay release.
10. Connect printer wiring to the RS-232 port (Printer IN to RS-232 OUT, Printer BUSY to RS-232 DSR, Printer COM to RS-232 COM).
11. If all wiring and grounding is completed, mount the faceplate onto the backbox.

WIRING DIAGRAM

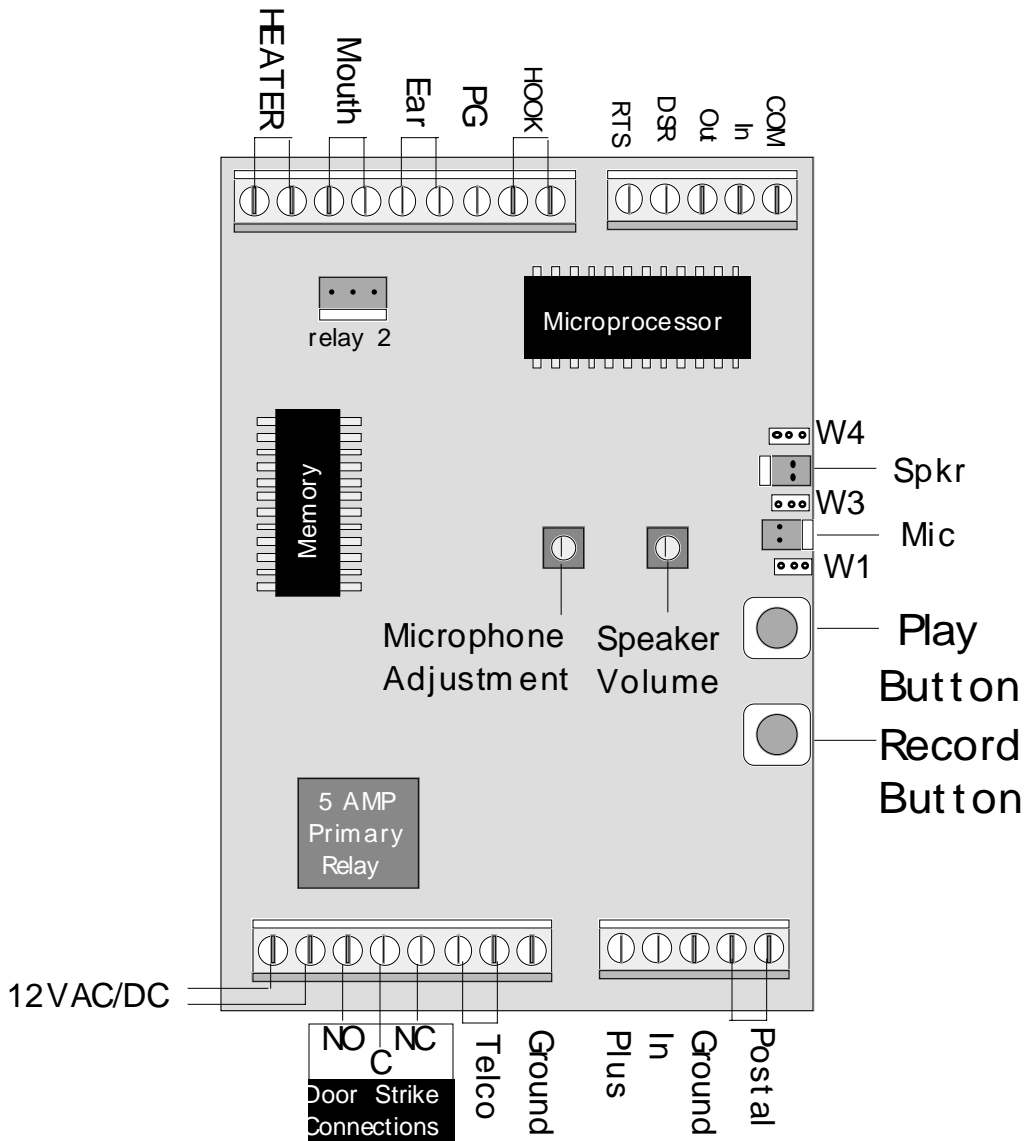
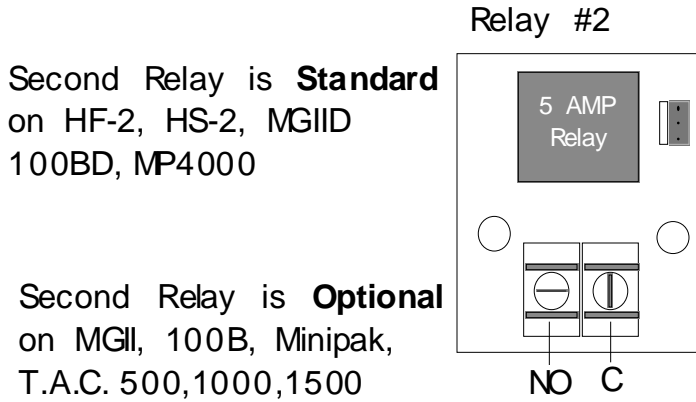


Figure 3

Input Cable Size	
0-250'	18AWG; Shielded
250 to 500'	16AWG; Shielded
500+'	14AWG; Shielded

Telephone Cable
Voice Grade 24 to 48V 22AWG; Shielded or Twisted up to 2400'

PROGRAMMING INFORMATION

General Programming Information

The "Initial Setup" for the HF-2 with proximity reader has been programmed at the factory. The programming of the unit basically includes programming of the telephone numbers to be autodialed when the call button is pushed, and the access entry codes.

Record below up to ten (10) autodialed numbers to be programmed into the HF-2.

Autodialed Numbers

Primary Auto dial Number (16 digit max)

Second Auto dial Number (16 digit max)

Third Auto dial Number (16 digit max)

Fourth Auto dial Number (16 digit max)

Fifth Auto dial Number (16 digit max)

Sixth Auto dial Number (16 digit max)

Seventh Auto dial Number (16 digit max)

Eighth Auto dial Number (16 digit max)

Ninth Auto dial Number (16 digit max)

Tenth Auto dial Number (16 digit max)

Site ID Number-if required Number (4 digits)

SYSTEM SETUP

General Programming Information:

The "Initial Setup" for the HF-2/TELEPROX has been programmed at the factory. These factory default settings may be changed to better suit your particular application. If you decide to alter these settings, follow the instructions below. It is important that each programming step be taken in order. When reprogramming a specific feature, you must always enter the programming mode first. You may then go to the appropriate procedural steps for the changes desired.

Example: Enter program mode: *5269 (beep, beep)

Enter the setup string #0212100 (beep, beep)

If desired exit program mode by entering ##

This would set the following: Resident code length 2 (i.e. 000 to 999), auto answer ring count 1 (i.e. 1 ring), gate/door open interval 2 (i.e. 10 seconds), call length 1 (i.e. 1 minute), dial mode 0 (i.e. touch tone), latch enable/disable 0 (i.e. disabled)

(A) To Enter Program Mode Remotely:

1. Call the telephone number of the unit.
2. Listen for a single tone.
3. Enter " * " then the unit's Program Code.

If the unit is new, use the preset factory code. (**Factory code is 5269**). You will hear two beeps

(B) To Run Initial Setup:

1. Unit must be in programming mode (see above).
2. Enter "#, 0". This tells the unit that you want to run SETUP. No beeps will be heard.

Enter Telephone Code Length:

Note: Telephone code length for the HF-2 must be two digits in length.

3. Enter the telephone code length. 2 for two digits. () [2]

Enter Ring Count:

"Ring Count" refers to the number of incoming rings the Miniguard II will wait before it auto-answers. This count is adjustable from 1 to 9.

4. Enter the number that indicates the number of rings desired. () [1]

Enter Gate Interval:

"Gate Interval" refers to the length of time the output relay (parking gate, front entry, etc.) will stay engaged after the command has been issued.

For example: Enter "1" for *one 5-second interval*. Enter "2" for *two 5-second intervals (10 seconds)*. Enter "6" for *six 5-second intervals (30 seconds) etc.*

Note: Nine is the maximum..

5. Enter the number of 5-second intervals desired. () [2]

Note: A "0" here will allow the output relay to engage for a one second pulse

Enter Call Length:

“Call Length” refers to the maximum time (in minutes) that the unit will allow a conversation to last.

6. Enter the number (1 thru 4) that corresponds to the call length time (in minutes) that is desired. () [1]

Note: A “0” here allows indefinite call length, however the unit will auto disconnect after 30 seconds of voice silence.

Enter Dial Mode:

“Dial Mode” refers to the type of signal the unit uses to dial a telephone number. The HF-2/TELEPROX is capable of dialing rotary/pulse or touch-tone.

Enter “0” for Touch-tone dialout

7. Enter dial mode desired () [0].

Enter Latch Enable/Disable:

“Latch Enable/Disable” refers to the ability of the Miniguard II to latch (hold closed) the #1 relay, from a remote location.

Enter “ 1 ” to enable the latch feature for relay #1.

Enter “ 0 ” to disable this feature.

8. Enter latch mode desired () [0].

You will hear two beeps. . . .setup complete.

9. Enter “##” to exit Program Mode, otherwise, continue programming by entering the desired function code.

PROGRAMMING

General Programming Information:

The “Initial Setup” for the Miniguard HF-2 with proximity reader has been programmed at the factory. The programming of the unit focuses on the program mode, the telephone numbers to be autodialed, the site ID number, and the desired entry codes. It is important that each programming step be taken in order. When reprogramming a specific feature, you must always enter the programming mode first. You may then go to the appropriate procedural steps for the changes desired.

Note: It is recommended that you read thru all of the following sections first, before any change is attempted. This will familiarize you with the procedure required. Record any programmed information you wish to change in the spaces () provided. Factory default is displayed in brackets [].

(A) To Enter Program Mode:

(a) Enter Program Mode Remotely:

1. Call the telephone number of the unit.
2. Listen for a single tone.
3. Enter “ * ” then the unit’s Program Code.

If the unit is new, use the preset factory code. (**Factory code is 5269**). You will hear two beeps

(B) Setting Operational Modes:

These settings determine how the relays will function.

Except when noted, each of the following program commands will result in two (2) tones (high/low) signifying their completion and acceptance.

Standard Mode allows the relays to be activated for a specified time period (such as for access control purposes).

1. Unit must be in Program Mode.
2. Press ‘7’ then press ‘0’ to set unit for standard mode.
3. If desired, exit Program Mode by pressing ‘#’
4. If remotely programming press ‘7’. to terminate call.

Optional Ring Down Mode: When call call button is pressed, the HF-2 seizes the telephone line and waits for the PBX to dial a preprogrammed number. This call may only be terminated by the called party.

1. Unit must be in Program Mode.
2. Press ‘7’ then press ‘2’ to set unit for Ring Down Mode.
3. If desired, exit Program mode by pressing ‘#’ (wait for two second tone).

(C) Setting the Primary and Backup Telephone Numbers:

1. Unit must be in Program Mode.
2. Press ‘0’ then ‘0’ (wait for tone) and enter the first phone number. Press ‘#’ when complete. Press ‘0’ then ‘1’ (wait for tone) and enter the second phone number. Press ‘#’ when complete. If more numbers are needed press ‘0’ then ‘2’ (wait for tone) and so on for up to 10 phone numbers. Press ‘#’ when complete.
3. If desired, exit Program Mode by pressing ‘#’
4. If remotely programming press ‘7’. to terminate call.

(D) Setting the Site ID Number:

This number identifies the unit upon request from a central office.

1. Unit must be in Program Mode.
2. Press ‘#8’.
3. Enter a four digit number.

You will hear two ‘beeps’ indicating command accepted.

4. If desired, exit Program Mode by pressing ‘#’ (wait for two second tone).
5. If remotely programming press ‘7’. to terminate call.

PROGRAMMING

(E) Deleting Telephone Numbers:

1. Unit must be in Program Mode (see section A).
2. Enter the two-digit code for the number you wish to delete. (0,0 for primary, (0,1) for secondary, etc.

You will hear one beep.

3. Enter "#".

Two beeps indicate Erasure complete.

Repeat steps 2 and 3 until you are finished.

4. Enter "##" to exit Program Mode, otherwise, continue programming by entering the desired function code.

Note: If you wish to change an existing telephone number, use the instructions for Adding Telephone Numbers and enter the new number in place of the old one. The old number will be overwritten.

(F) Programming Proximity Entry Cards:

Entry Codes make it possible for the resident to enter a Proximity Card at the unit and gain access without placing a call.

- 1 Unit must be in Program Mode (see section A).
- 2 Enter #1
- 3 Swipe proximity card
- 4 Wait for one beep
- 5 If a second card entry is desired, swipe card
- 6 Wait for one beep
- 7 Repeat 3 & 4 to program all cards needed
- 8 Enter ## to exit programming

(G) Changing the Program Code:

This feature allows you to change the Program Code to something other than the factory preset of **5269**.

1. Unit must be in Program Mode (see section A).
2. Enter "# 7"
3. Enter 4 digits for new Program Code.

You will hear two beeps.

4. Enter "##" to exit Program Mode, otherwise, continue programming by entering the desired function code.

Note: The 5269 Code (or any other previous code) is now invalid, so keep a good, safe record of your new Program Code for future use.

Note: If you lose the ability to access the Program Mode after performing this step, call TRIGON service. We have the ability to remotely reset the Program Code back to default.

(H) Deleting Proximity Cards:

1. Unit must be in Program Mode (see section A).
2. Enter "# 2"
3. Swipe the proximity card that you want to delete.

You will hear two beeps. Erasure complete.

Three beeps indicate no Code match found.

4. Enter "##" to exit Program Mode, otherwise, continue programming by entering the desired function code.

(I) Master Erase Procedure:

This procedure allows selective or complete deletion of all data in the Miniguard HF-2's memory. Also, it is possible to reset the Miniguard HF-2 back to its factory defaults (presets).

Note: Use caution when performing these steps.

1. Unit must be in Program Mode (see section A).
2. Enter "# *".
3. Enter "0" if you wish to erase all data and reset unit back to factory defaults.

Upon completion of the full master erase sequence, you will hear a long series of beeps.

Note: Master Erase time will vary greatly depending on memory type, usage and capacity.

PROGRAMMING, Cont.

(J) Recording a new voice message.

To change the voice message on the voice chip follow these steps:

1. Referring to Page 5, move jumpers W1, W3, and W4 from the out board pair to the inboard pair.
2. To record a message press the "REC" button and speak into the microphone on the front of the HF-2. Message can be up to 15 seconds.
3. To play back the message press the play button and the message will play through the speaker. To re-record the message just push the REC button again.
4. If the play back is satisfactory, re position the W1, W3, and W4 jumpers to their out board positions.

If you have changed the message to a Voice Location Identifier the proceed with the "0n" command for message length and the "4n" command for message playback control.

(K) Voice message length:

The voice message feature is set up from the factory as a "Please Enter" message when the visitor is granted entry by the called party. When the message has been changed to a "Voice Location Message" the approximate message length must be programmed as follows:

1. The unit must be in Program Mode.
2. Press '0'.
3. Press '1' through '9' for the number of seconds the auto message lasts.

You will hear two 'beeps' indicating command accepted

4. If desired, exit Program Mode by pressing '#' (wait for two second tone).
5. To terminate call, press '7'.

Example "05" sets auto message to 5 seconds.

The next step is to go to the "4n" command to set the Auto Message Control.

(L) Auto Message Control options:

1. The unit must be in Program Mode.
2. Press '4' then '0' to Disable voice module completely.
Or: Press '4' then '1' Enable message feature, speaker on microphone on. **Or:** Press '4' then '2' Enable message feature speaker on microphone off.
Or: Press '4' then '3' Enable message feature speaker off microphone on.
Or: Press '4' then '4' Enable message feature speaker off microphone off
4. If desired, exit Program Mode by pressing '#' (wait for two second tone).
5. To terminate call, press '7'.

OPERATION

STANDARD MODE

When a CALL button is pressed, the HF-2 dials a pre-programmed phone number and monitors the line for the following signals:

Busy Signal: The HF-2 will hang up and redial the number after approximately three busy tones.

Ring Signal: The HF-2 will hang up and redial the number after approximately six unanswered rings (36 seconds).

Voice or Touch-tones: This indicates an answer. The unit then enters the Talk Mode.

Answering the Call From the HF-2

Answer the HF-2 incoming call with a short phrase at **least 3 seconds long**. The unit may fail to recognize a short greeting such as "Hello" and may not turn on the microphone.

Once voice communication has been established you may then press keys on your touch-tone telephone to do any of the following:

1. To **Activate the Primary Relay** and hang up after time-out, press '0'
2. To **Activate the Secondary Relay** and hang up after time-out, press '8'.

Note: Activating either power relay will simultaneously activate the alarm shunt relay for the relay activation time plus an additional thirty (30) seconds.

3. To **Terminate the Call**, press '7'.

Note: The unit will beep twice to warn of auto-call termination in 10 seconds.

4. To **Activate the Secondary Relay**, press '9'. The unit will respond with one beep to indicate that the relay has been activated.
6. To **Retrieve the HF-2s Site ID number**, press '#'.
7. To **Enter the Program Mode**, press '* ', followed by the four digit Programming Code.

Calling the HF-2 To Grant Access

When a call is placed to the HF-2, the caller can perform any of the above operations with the following exceptions:

1. To **Enter the Talk Mode**, press '2' or any of the above tones.
2. To **Activate the Primary Relay**, press '0' or '5'. You will hear one beep. Enter your four digit Program Code. The relay will activate for the preset cycle duration, and providing 1 beep per second until the end of the cycle.
3. To **Activate the Secondary Relay** and hang up after time-out, press '1' or '6'

TROUBLE SHOOTING GUIDE

NO DIAL TONE

1. Check input power at unit. Should be 12 VAC.
2. Check that unit is properly grounded to a good Earth ground.
3. Current starved. Increase AC input wire size.
4. Remove power, wait 5 seconds, restore power. Check for dial tone.
5. Check for phone line. Should be 48-52 VDC across phone line terminals (on hook).
6. Check VOLUME adjustment on PC board.
7. Check "SPKR" plug on PC board. Make sure speaker is properly plugged in (Handsfree units).
8. Verify that contacts and wires are clean and tight.

CANNOT PROGRAM

1. Incorrect/lost program code.
2. Not entering '* ' before program code.
3. Try 'NO DIAL TONE' troubleshooting procedures.
4. Keypad damaged. Check for vandalism.
5. Check that Program Prom/Microprocessor is fully seated.
6. Unit is in the wrong Operational Mode

LOSES MEMORY

1. Electrical noise on power line. Install EMI/RFI filter.
2. Excessive electrical noise from strike. Use low current strike.
3. Unit transformer shared with another device (i.e. door strike).

RESIDENT CANNOT ACTIVATE STRIKE/GATE

1. Tenant not pressing correct number on phone.
2. Strike/gate operator not wired correctly.
3. Missing or incorrect power to strike or gate operator.
4. Current starved. Increase wire size.
5. Tone may be too brief in duration (cordless phones, etc.).

AC HUM IN SPEAKER

1. Phone wires running in same conduit as AC power.
2. Unit not properly grounded.
3. Defective microphone.

RESIDENT CANNOT HEAR VISITOR

1. Defective handset/microphone.
2. Person receiving the call answers in too short a duration to activate the HF-2 (person must speak a minimum of 2 seconds to be detected).

CONDENSED GUIDE TO USE and PROGRAMMING

General

Data between [] is a mandatory program key stroke sequence. Data between { } is to be supplied by the programmer. Unit responses are shown between ().

Legend:

d	Dial mode (0= Touch, 1= Rotary)‡	pppp	Program Code
f	Five second relay duration time (1, 2,...9)	r	Ring Count (1, 2, ...9)
iiii	Site ID number (always use four digits)	*	The “star” key of the telephone
lll	Call Length Time in seconds (001, ...999)	#	The “pound sign” key of the telephone
nnn nnnn	Phone Number (up to 12 digits)	☎	Tones returned by the unit

SECURITY DEPT. OPERATION

When Security personnel receive a call from the unit, they press key [X] on their telephone to:

STANDARD MODE

- [0] Activate Primary Relay then disconnect.
- [8] Activate Secondary Relay then disconnect.
- [2] Factory Tone Test (answer tone)
- [7] Force disconnect (hang up)
- [9] Toggle on Secondary Relay (☎ = off, ☎☎ = on)
- [#] Requests Site ID Number
- [*{pppp}] Enter Program Mode

RING DOWN MODE

- [0,5] Cycle Primary Relay
- [1,6] Cycle Secondary Relay
- [2] Factory Tone Test (answer tone)
- [7] Force disconnect (hang up)
- [8] Extends current Call Timer 3 minutes
- [9] Toggle on/off Secondary Relay (☎ = off, ☎☎ = on)
- [#] Requests Site ID Number
- [*{pppp}] Enter Program Mode

