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CHAPTER 1
INTRODUCTION

The Sensaphone Model 1100 is an environmental monitor that is perfect for use in small businesses, farms, homes, computer rooms, remote facilities, and other applications. The unit monitors specific environmental conditions at your facility and calls you when an alert condition occurs. The Model 1100 has the following built-in monitoring features:

- High/low temperature
- High sound level such as smoke or burglar alarms
- AC electric power failure
- Battery backup condition
- 4 dry contact alert inputs

Sensors can be wired to the alert inputs to monitor a variety of conditions including:

- Intrusion or unauthorized entry
- Water leaks and seepage
- Temperature in remote locations
- Humidity
- Equipment operation

When an alarm condition occurs, the Sensaphone Model 1100 will call out to 4 user-programmed phone numbers to advise key personnel of the condition. You may also call in to the unit at any time to obtain a status report. The unit works with either pulse or Touch-ToneTM phone systems.

Six D-cell alkaline batteries (not included) provide approximately 10 hours of continuous operation if an AC power failure occurs while the unit is ON. Turning the unit OFF disables all functions, but the battery backup will still be used if AC power is removed.

ABOUT THIS MANUAL

This manual is comprised of the instructions and commands necessary to install and program the Model 1100. In addition, summary and trouble-shooting chapters are included to help you speed programming and to understand the 1100's features.

CHAPTER 2
INSTALLATION

This chapter provides information to install the Sensaphone 1100. Please read the entire chapter before starting installation.

Within the packaging will be a Warranty Registration Card. Please take the time to fill this out and mail. The One Year Limited Warranty is explained in the back of this manual.

> CAUTION: The Model 1100 is a sensitive electronic device. Do not install the Model 1100 near strong electrostatic, electromagnetic or radioactive fields.

OPERATING ENVIRONMENT

The Model 1100 should be installed and operated in a safe environment. Do not place the unit where it can be exposed to fumes or corrosive vapors. The vapors may damage the unit, thus voiding the warranty. The temperature range that the 1100 can operate in is 320 F to 1200 F.

MOUNTING

Flat Mount: Place the Model 1100 on top of a desk or other horizontal surface.

Wall Mount: The Model 1100 can also be mounted on a wall with 2 screws using the keyholes on the back panel of the unit. Place 2 screws or bolts 3 13/16 apart at the desired height from the floor. Hook the unit on the screws and slide it towards the floor. See figure 1:

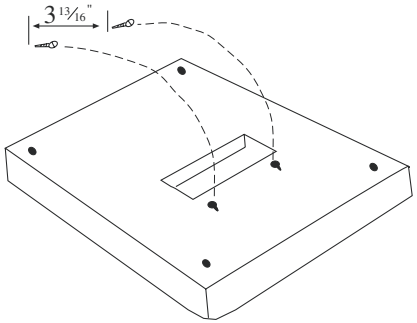


Figure 1: Wall mount

POWER SURGE PROTECTION

The Sensaphone® 1100 can be damaged by power surges and lightning through the telephone line and the 110 VAC power supply. Although the Model 1100 has built-in surge protection, we recommend that additional

protection be obtained for the unit and for any electronic equipment that is attached to your power supply and telephone lines. Power surge protection is especially Important if you live in a lightning-prone area. The ISOTEL Surge Protector Model IB-4 is available through Phonetics. See Appendix B.

POWER SUPPLY AND BACKUP BATTERY

The 1100 is provided with an AC power transformer. Plug the transformer into any standard 110 VAC outlet. Remove the battery compartment door on the back of the unit. NOTE: Be sure that the AC transformer is plugged into an outlet before putting the batteries into the unit. Install 6 D-cell alkaline batteries (not included) in accordance with the diagram below. The batteries enable the Model 1100 to continue functioning when AC power is removed. Replace the battery compartment door.

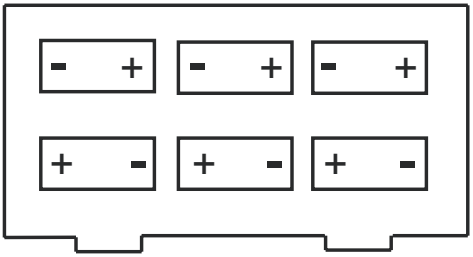


Figure 2: Battery installation

TURNING THE MODEL 1100 ON

The ON and OFF keys on the Model 1100 keypad are used to activate and deactivate the unit. To turn the unit ON, press the ON key. The system ON light will begin to glow. The unit will say ‘Hello, or beep if it is already on.

When the unit is ON, it is able to receive incoming calls and automatically dial out in the event of an alarm on one of the monitored conditions. The red light will glow as long as the unit is on.

When you press OFF, the 1100 will say “Have a good day,” and the system ON light will stop glowing. All functions are disabled except the battery backup. The

batteries will still discharge if the AC transformer is unplugged from the 110 VAC outlet.

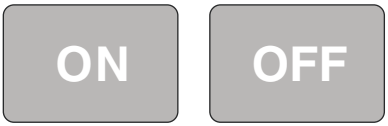


Figure 3: ON and OFF keys

It is not recommended that the unit be turned OFF unless absolutely necessary. (See DISCONNECTING THE MODEL 1100, page 13.) Full power is still

consumed by the unit even though it cannot be programmed or interrogated. Also, the unit cannot dial out with an alarm.

PHONE LINE

The Sensaphone Model 1100 will operate with all standard telephone systems that accept pulse or tone dialing. The Sensaphone Model 1100 cannot be used on an extension line to dial its own telephone number. Also, it may not be installed on a party line or pay telephone line.

Certain private telephone systems and public switching equipment may not accept Sensaphone dialing or may generate an unacceptable ring signal. In those cases, a dedicated line may be required for the 1100. Consult the supplier of your telephone system if you encounter problems.

If you do not have a modular telephone extension at the Model 1100's location, you must contact your local telephone company to have one installed (there is a charge for this service). If you have four-pin jacks, adapters are available to convert them to the modular plugs. Contact your local telephone company or electronics parts store.

> CAUTION: Never install telephone wiring during a lightning storm. Never install telephone lacks in wet locations unless the jack is specifically designed for wet locations. Never touch uninsulated telephone wires or terminals unless the telephone line has been disconnected at the network interface. Use caution when installing or modifying telephone lines.

To install the telephone line, plug the provided modular telephone jack into any standard RJ11 phone outlet. See figure 4:

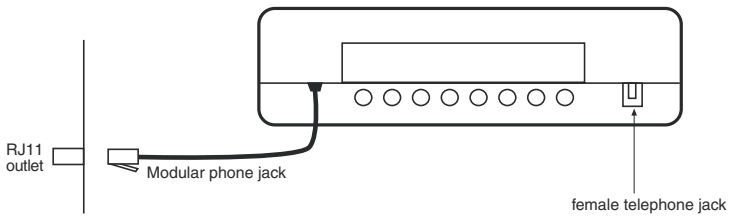


Figure 4: Installing the telephone line

On the back of the 1100 is a female telephone jack. This is provided so that a telephone or other answering device may be used on the same line as the unit. It is not necessary to hook up a telephone for the Model 1100 to operate.

TEMPERATURE SENSORS

The Model 1100 is provided with one pre-wired 2.8K temperature sensor (also called a *thermistor?~.* It is used to monitor temperature. The Model 1100 evaluates the measurement to see if it exceeds the user-programmed high and low limits. The temperature reading is also given in the status report.

To monitor the temperature at a location away from the unit, the remote temperature sensor may be used. The part number is FGD-0005 and is available from Phonetics. When connecting the remote temperature sensor, the 2.8K thermistor must be removed.

THE MICROPHONE

The 1100 is provided with a built-in microphone to monitor high sound level at the unit's location. The microphone will continuously listen for a high sound level that increases approximately 10 decibels over the normal sound level at a frequency of about 1000 Hertz or more. (NOTE: The sensitivity of the microphone can be changed. See Chapter 4, page 31.) If this sound level exists for 8 consecutive seconds or longer (such as with a smoke alarm or burglar alarm), the Model 1100 will dial out with an alarm message.

> NOTE: The location of the audible alarm in relation to the microphone is extremely important. Normally, the 1100 and the audible alarm must be in the same room. The maximum distance can vary considerably depending on the alarm, the acoustics, and the size of the room.

During an alarm dial out, the microphone allows four 4-second intervals to listen in to the Model 1100's location.

During a call in for a status report, the microphone allows you to listen to on-site sounds for the user-programmed time interval.

ALERT INPUTS

The Sensaphone Model 1100 can monitor up to 4 dry contact inputs. (The fourth input would be from the AUX terminal. See page 12 for details). Each input consists of two terminal screws: one marked #1, #2, or #3 under the heading ALERT; and the other marked GND for ground. The fourth input is marked AUX. See Fgure 5:

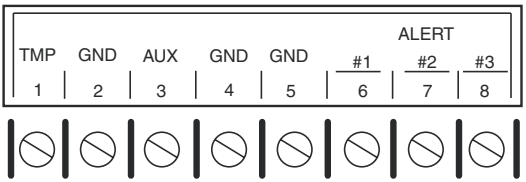


Figure 5: Alert inputs

An alert input can be used with any normally open (NO.) or normally closed (NC.) device. Open is when there is no contact and closed is when a contact exists. The Model 1100 will adapt to NO. or NC. sensors when the unit's ID number is programmed (see Chapter 3, page 21 or Chapter 4, page 26). You must determine what type of sensor will be connected to each alert input.

> **NOTE**: Before wiring, it is advisable to disable the input to prevent accidentally tripping an alarm. See Chapter 4, page 25

After you have selected the sensor, loosen the screw of the alert input and a ground. Two wire leads are used to connect any monitoring sensor. Fasten one lead to the numbered screw (1, 2, 3, or AUX) and the other lead to GND. Tighten both screws. See figure 6. If the input was not disabled, the Model 1100 may recite its "Alert Condition exists" message as you connect the sensor. If it does, just press any key to stop it. Re-enable the input after wiring. See figure 6 for a diagram on connecting a sensor to an alert input.

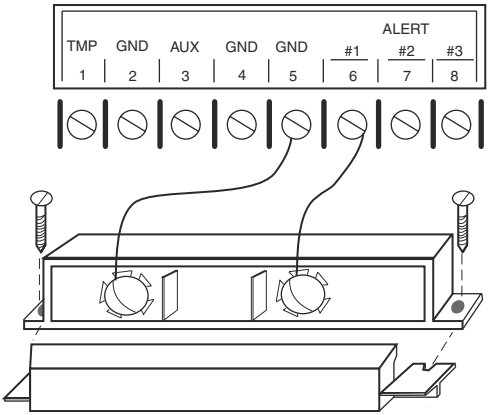


Figure 6: Connecting a sensor to an alert input

Any NO, or N.C. sensor can be attached to the Model 1100 using 22-gauge wire. The sensor can be several hundred feet from the unit, as long as the total resistance of the circuit is not greater than 50 ohms. Use

wire appropriate for the application. Do not use sensors, switches, or relays that supply any voltage or current to the Model 1100.

> **NOTE**: Be aware of where you are placing the wires that lead from the sensors to the unit. Avoid running the wires near electrical devices that use high voltage or current such as motors, heavy machinery etc. This voltage may be inductively coupled into the sensor wiring and could result in damage to the Sensaphone's circuitry. Try to place wires at least 6 inches from other electrical wiring or devices.

MULTIPLE SENSORS

The Model 1100 may have more than one sensor connected to the same alert input. However, the normal condition for each sensor on the same alert input must be identical (either all NO, or all N.C.).

To wire more than one normally closed sensor on one input, they must be connected in series. Connect one lead from the first sensor to the numbered screw of the alert input. Next, take the other lead from the first sensor and connect it to one lead from the next sensor. Continue connecting sensors end-to-end until you have connected all of your sensors. Take the second lead from the last sensor and connect it to the ground screw on the Sensaphone. See Figure 7. Multiple N.C. inputs are typically magnetic reed switches to monitor the security of windows and doors.

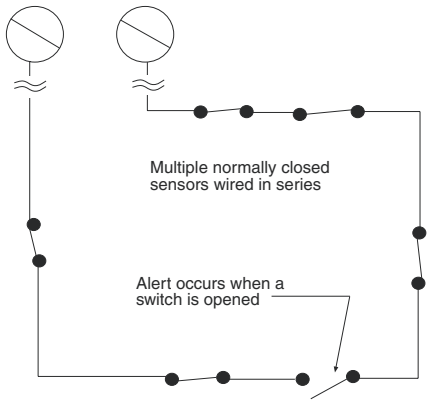


Figure 7: Multiple normally closed sensors

To wire several normally open sensors to one alert input, connect them in parallel. To do this, take one lead from each sensor and attach it to the numbered terminal. Then, fake the second lead from each sensor and attach each to the corresponding ground screw. See Figure 8.

Multiple NO. inputs are typically TEMPº ALERTs to monitor the temperature in several different locations simultaneously.

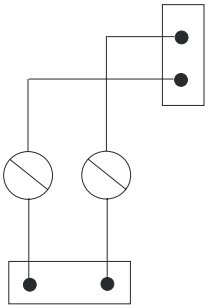


Figure 8: Multiple normally open sensors

AUXILIARY TEMPERATURE / ALERT INPUT 4

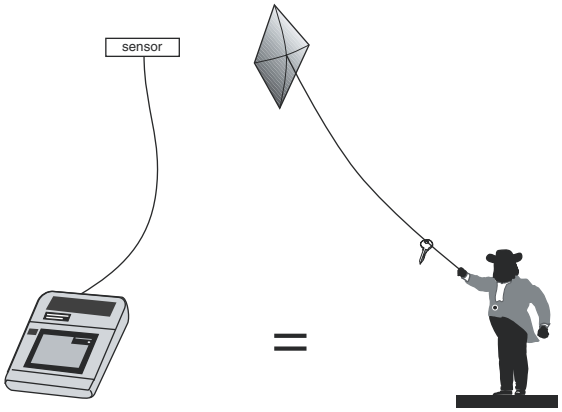
The auxiliary terminal, marked AUX on the terminal strip, is a dual purpose terminal. It can function as either a status-only temperature input, or as a fourth dry contact input. If the AUX input is used as a temperature input, it is only used in a status report and WILL NOT initiate a dial out process. If the AUX input is used as a fourth dry contact input, it WILL initiate a dial out process.

To use the terminal as a status-only temperature input, wire one lead of the remote temperature sensor (FGD-0005) to the AUX screw and the other lead to GND. If you use the terminal with a remote temperature sensor, you cannot attach a dry contact sensor.

To use the AUX terminal as a fourth dry contact input, wire any NO. or N.C. dry contact sensor to it. The Model 1100 will adapt to NO. or N.C. sensors when the unit ID number is programmed. The unit will dial-out with the message “Alert condition four exists.” See pages 9-10 for instructions on how to wire a sensor to an alert input, If you use the terminal as a fourth dry contact, you cannot attach a temperature sensor.

OUTDOOR WIRING

When wiring sensors outdoors, DO NOT let your wiring run freely in open air. This will surely damage your Sensaphone® during a lightning storm. Depending on how far your outdoor wiring must travel, serious consideration should be given to using shielded wire inside a metal conduit. The shield and conduit should both be connected to earth ground. This will prevent any lightning induced voltage from damaging your Sensaphone®.



DISCONNECTING THE MODEL 1100 (FOR SEASONAL USE OR STORAGE)

If you plan to employ the Sensaphone as a seasonal watchdog (i.e. only during the winter or summer months), you must disconnect all wires from the unit completely to avoid damage to the circuitry when the unit is not in use. If the unit is unplugged but left in place with all the sensors still wired, the wires act as antennae that draw in any stray “electrical noise” from such devices as fans, blowers, microwaves, etc.
To preserve your unit during the off season, simply remove the sensor wires at the screw terminals, unplug the unit, remove the batteries and store in a safe place.

FCC REQUIREMENTS

PART 68 - The Sensaphone® Model 1100 complies with Part 68 of the FCC rules. On the back of the unit there is a label that contains, among other information, the FCC Registration Number and the Ringer Equivalence Number (REN) for this equipment. You must, upon request, provide this information to your local telephone company.

The REN is useful to determine the quantity of devices that you may connect to your telephone line and still have all of those devices ring when your telephone number is called. In most, but not all areas, the sum of the RENs of all devices connected to one line should not exceed five (5.0). To be certain of the number of devices that you may connect to your line, you may want to contact your local telephone company to determine the maximum REN for your calling area.

CHAPTER 3
COMMUNICATIONS PROGRAMMING

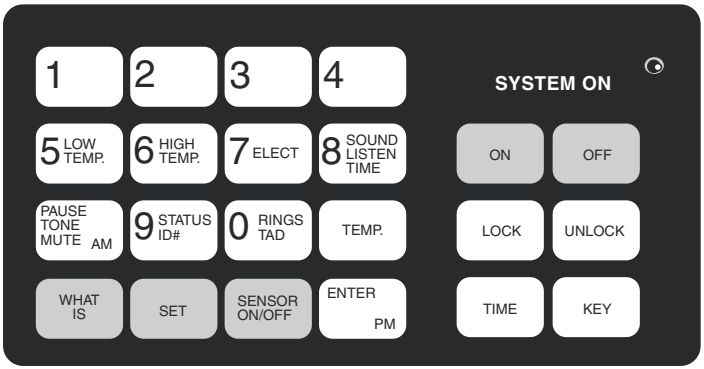
This chapter explains the keyboard functions for the communications operations for the Model 1100. This includes programming interrogation, and/or resetting of:

- Dial-out telephone numbers
- Special dialing
- Tone or pulse dialing
- Rings until answer & Telephone Answering Device compatibility
- Listen-in time
- Security code
- Unit ID number
- Local voice mute

Pre-programmed communications features:

- Call delay time
- Intercall delay time
- Voice repetitions
- Maximum number of calls

All programming is done using the local keypad. Below is a representation of the Model 1100 keypad.



Model 1100 keypad

DIAL-OUT TELEPHONE NUMBERS

The Sensaphone Model 1100 can store up to 4 phone numbers, 16 digits each. These are the numbers that will be called during an alarm dialout.

The numbers are dialed sequentially i through 4. Therefore, program the first number you want called as Phone #1, the second one as Phone #2, and so on. A pause, pound, or asterisk can be added to the phone number to access different phone or beeper systems. See SPECIAL DIALING, page 17 for further explanation.

> IMPORTANT: It is recommended that you do not program the Sensaphone Model 1100 to dial out to telephone numbers that will be answered by an answering machine. Such alarms will not be acknowledged and will continue to dial indefinitely.

Instruct key people at each telephone number about the Model 1100 and about what actions they should take if called with an alarm. If necessary, instruct switchboard operators to handle alarm and acknowledgment calls. Do not have the alarm call answered by a person who is unable to acknowledge the alarm or to take prompt, effective action to deal with the situation. If appropriate, conduct periodic drills to familiarize personnel with the operation of the unit.

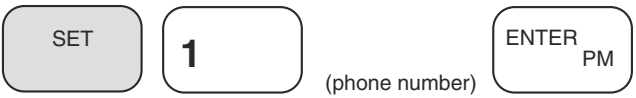
In some areas, municipal services (i.e., police, fire, medical) will not respond to automatic voice messages. Check with your local municipal services.

To program a dialout Phone number:

1. Press the SET key
2. Press a number key (1-4) of the Phone number you want to set
3. Enter the phone number using the number keys

The Model 1100 will recite the numbers as you press them.

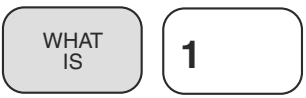
4. Press ENTER. The 1100 will say Enter."



To interrogate a dialout Phone number.

1. Press the WHAT IS key
2. Press the number key (1-4) of the Phone number you want to play back

The Model 1100 will recite the programmed phone number. If there is no number programmed, the 1100 will say "No number."



NOTE: This command also indicates whether the input (1-4) s enabled or disabled. If the 1100 says 'Off" before reciting the phone number, it means that the input has been disabled. See Chapter 4.

To erase a Phone number:

1. Press the SET key
2. Press the number key (1-4) of the Phone number you want to erase
3. Press ENTER. The 1100 will say "Enter."

TONE OR PULSE DIALING

The Sensaphone will normally dial out to a Phone number using pulse. However, you can switch to Touch-ToneTM by inserting TONE as the first digit of the Phone number.

To set a TONE-dialed Phone number:

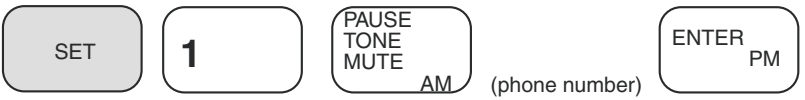
1. Press the SET key
2. Press the number key (1-4) of the Phone number you want to set
3. Press the TONE key

The 1100 will beep.

4. Enter the digits of the Phone number using the number keys

The 1100 will recite the digits as you press them.

5. Press ENTER. The 1100 will say "Enter."



When you interrogate, the tone will be represented by a beep at the beginning of the Phone number.

NOTE: TONE is counted as one digit toward the total 16 digits allowed.

SPECIAL DIALING

The Model 1100 has provisions for special dialing sequences. There are three keys that represent special functions when used within a Phone number. The PAUSE key represents a 4-second pause in dialing. It is used mainly when you must first dial an access number, such as 9, to reach an outside line. The SET key represents the pound (#) tone and

the WHAT IS key represents the asterisk (*) tone. A pound or asterisk tone may be required when calling some phone or beeper systems.

To incorporate a PAUSE:

1. Press the SET key
2. Press the number key (1-4) of the Phone number
3. Press the TONE key (if applicable)

The 1100 will beep.

4. Enter the access digit (i.e. 9)

The 1100 will recite the digit.

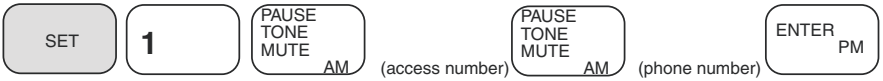
5. Press the PAUSE key

The 1100 will beep.

6. Enter the Phone number using the number keys

The 1100 will recite the digits as you press them.

7. Press ENTER. The 1100 will say “Enter.”



To incorporate a pound or asterisk tone:

1. Press the SET key
2. Press the number key (1-4) of the Phone number
3. Press the TONE key (if applicable)

The 1100 will beep.

4. Enter the Phone number using the number keys

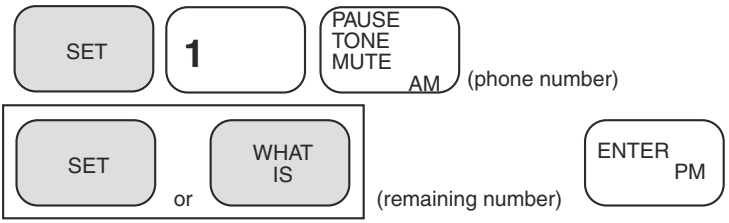
The 1100 will recite the digits as you press them.

4.1. Position the pound or asterisk tone within the Phone number where required

by pressing the SET or WHAT IS key. The 1100 will beep.

4.2. Enter the remaining digits of the Phone numbers (if any).

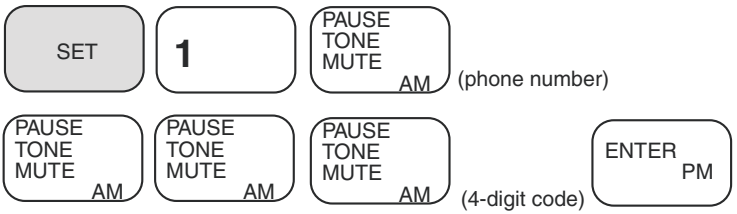
5. Press ENTER. The 1100 will say “Enter.”



NOTE: Each pause, pound (#) or asterisk (“) tone is counted as one digit toward the total of 16 digits allowed.

Below is an example of a dialout phone number calling to a beeper. Note that more than one pause may be needed. It is advisable to test a phone number dialing to a beeper more than once.

Beeper example:



RINGS UNTIL ANSWER & TAD COMPATIBILITY

The rings until answer is the number of rings that must occur before the Model 1100 answers the phone when you call in for a status report. This value can be from 1 to 199. The default value is 4.

To program rings until answer:

1. Press the SET key
2. Press the RINGS key
3. Using the number keys, enter a value

The 1100 will recite the digits as you press them

4. Press ENTER. The 1100 will say “Enter.”

TAD Compatibility stands for TelephoneAnswering DeviceCompatibility. This means that the Model 1100 can be used on the same telephone line with telephone answering devices, such as answering machines and modems. In *normal* operation (see NOTE below), when your phone IS called, the answering machine will always answer first and take a message. The TAD feature provides a method for you to bypass the answering machine and access the 1100. This feature is used in conjunction with RINGS UNTIL ANSWER.

To use TAD:

1. Program the rings until answer (see above) to a greater number than the rings until answer on your answering device. For example, 1100 rings 5, device

rings = 3.

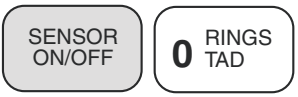
2. Press the SENSOR ON/OFF key

3. Press the TAD key

The 1100 will say “On.” (If the 1100 says “Off,” repeat steps 2 and 3.)

4. Using the above example, when you call in, let the phone ring twice and then hang up. The 1100 recognizes that a call was made and activates a 3-minute internal timer. This allows you 3 minutes to call back and get the unit instead of the answering machine.

5. Call back within 3 minutes. The 1100 will override the answering device on the callback and answer the phone on the first ring.



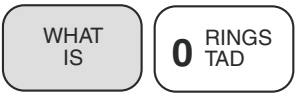
NOTE: When you are using TAD and acknowledging an alarm by calling back, the Sensaphone will answer on the first ring. See Chapter 5, page 33.

To interrogate rings until answer and TAD:

1. Press the WHAT IS key

2. Press the RINGS/TAD key

If TAD is enabled, the 1100 will simply recite the rings until answer value. (Above example: ‘Five.’) If TAD is disabled, the 1100 will say “Off” and then recite the rings until answer value. (Above example: “Off. Five.’)



LISTEN-IN TIME

The listen-in time is the amount of time you can listen to sounds at the unit site during a status call in. The programmable range is 1 to 199 seconds. The default value is 10 seconds. NOTE: The microphone is also used to monitor high sound level. See Chapter 4, page 30.

To program the listen-in time:

1. Press the SET key

2. Press the LISTEN TIME key

3. Using the number keys, enter the seconds

The 1100 will recite the numbers as you press them.

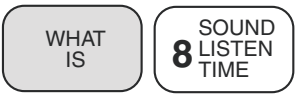
4. Press ENTER

The 1100 will say “Enter.”

To interrogate:

1. Press the WHAT IS key
2. Press the LISTEN TIME key

If the High Sound Alarm is ON (see page 30), the 1100 will recite the listen time in seconds programmed, If the High Sound Alarm is OFF, the 1100 will say "Off," and then will recite the time in seconds programmed.



THE SECURITY CODE

The security code is a 4-digit number that you program to prevent unauthorized access to the Model 1100's programming. Locally, when the security code is employed, it will lock the keyboard, not allowing the programmed parameters to be changed. You may only interrogate the unit using the WHAT IS key. You must unlock the keyboard to program the unit.

To program the security code:

1. Press the LOCK key
2. Press the KEY button

The 1100 will say "Enter security code."

3. Using the number keys, enter up to 4 digits

The 1100 will recite the digits as they are pressed.

4. Press ENTER

The 1100 will say "Enter."

The keyboard is now locked. Anyone who tries to alter the programming will receive the message: "Error two."

To unlock the keyboard:

1. Press the UNLOCK key
2. Press the KEY button

The 1100 will say "Enter security code."

3. Using the number keys, enter the digits of the programmed code
The 1100 will recite the digits as they are pressed.
4. Press ENTER
If the correct code is entered, the 1100 will say “ok.” If the wrong code is entered, the 1100 will say “Error two.”

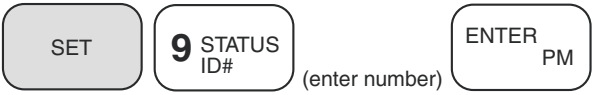
NOTE: If you forget your security code, take the batteries out first and then unplug the AC transformer. Next, plug the AC transformer back into the outlet and reinstall the batteries. This resets all parameters so you will have to reprogram.

THE UNIT ID NUMBER

The Model 1100 unit ID number can be up to 16 digits long. It is usually the telephone number where the unit is installed. The ID should be programmed AFTER all the sensors are wired to the unit in their normal state (See Chapter 2, pages 9-10). Programming the ID number establishes the normal condition of the alert input in the Model 1100’s memory.

To program the ID number:

1. Press the SET key
2. Press the ID# key
3. Using the number keys, enter up to 16 digits for the ID number
The 1100 will recite the digits as they are pressed.
4. Press ENTER
The 1100 will say “Enter.”



To interrogate:

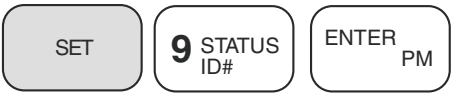
1. Press the WHAT IS key
2. Press the ID# key

The 1100 will say “This is telephone number,” then recite the ID number and provide a status report. (See Chapter 5, page 34 for more information on the status report.)

To delete the ID number:

1. Press the SET key
2. Press the ID# key
3. Press ENTER

The 1100 will say “Enter.” When Interrogating the ID number, the 1100 will say “no number.”



LOCAL VOICE MUTE

When the Model 1100 dials out with an alarm, it recites the alarm message over the phone and at the monitor site. The local voice mute command is programmed within the ID number. It allows you to mute the voice at the monitor site during alarm dialouts and status call-ins.

To locally mute the Model 1100:

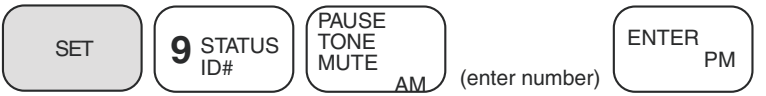
1. Press the SET key
2. Press the ID# key
3. Press the MUTE key

The 1100 will beep.

4. Using the number keys, enter up to 16 digits for the ID number

The 1100 will recite the digits as they are pressed.

5. Press ENTER. The 1100 will say “Enter.”



When you interrogate the ID number, the 1100 will say “Hello, this is telephone number,” and then beep to indicate that the mute is programmed. It will then continue with the rest of the status report.

TIME

The Model 1100 has a built-in clock. The power-up time is 12AM. The clock will keep time from 12 AM until you program the current time. It will then keep time from your programmed time. If the AC power fails, the clock will continue to keep time until the battery back-up fails. It will then reset to 12 AM when power is restored. An incorrect time is a good indication that the power has failed and the batteries have been expended.

To program the time:

1. Press the SET key
2. Press the TIME key
3. Using the number keys, enter the correct time

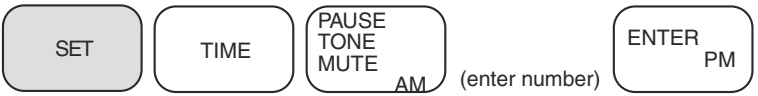
The 1100 will recite the digits as they are pressed.

4. If the time is AM, press the AM key

The 1100 will beep.

4.1 Then press ENTER. The 1100 will say “Enter.”

5. If the time Is PM just press ENTER/PM.



To interrogate the time:

1. Press the WHAT IS key
2. Press the TIME key

The 1100 will recite the time.

PRE-PROGRAMMED COMMUNICATIONS FEATURES

The following communications features are pre-programmed at the factory. The values cannot be reprogrammed by the user.

CALL DELAY TIME - The call delay time is the length of time that the Model 1100 will wait after an alarm is recognized before it starts the dialout sequence. The Model 1100 will wait 30 seconds after an alarm condition exists before it makes a phone call. This time is only for the first call.

INTERCALL DELAY TIME - If the alarm is not acknowledged on the first call, the intercall delay time is the amount of time that the Model 1100 waits before dialing the next Phone number. The Model 1100 waits 1

minute before dialing the next Phone number in the sequence if the alarm is not acknowledged.

VOICE REPETITIONS - The voice repetitions is how many times the Model 1100 will repeat the alarm message per phone call when it dials out. The Model 1100 will recite the alarm message 4 times per phone call.

CHAPTER 4
ALARM PROGRAMMING

This chapter explains the monitoring capabilities and keyboard commands to program the monitoring functions of the Model 1100. This includes:

- Enable/disable inputs
- Input recognition time
- Configure input normality - The ID Number
- Enable/disable temperature input
- Temperature limits
- AC power monitoring enable/disable
- AC power recognition time
- High sound monitoring
- Disable high sound alarm
- Desensitize sound monitoring

ENABLE / DISABLE INPUTS

This function allow you to enable or disable an input (1-3, AUX) to dial out during an alarm. An enabled input will respond to an alarm and allow dialout. A disabled input will not initiate a dialout. This command is useful while you are wiring your inputs (see pages 9-10) or at any other time you would like the alarms to be ignored. The default setting for all inputs is enabled (on).

To enable/disable inputs:

1. Press the SENSOR ON/OFF key
2. Press the number of the input to enable/disable (1, 2, 3, or 4 for AUX)

The unit will say “Off” to indicate disabled or On” to indicate enabled.

3. Repeat key sequence to change

To interrogate:

1. Press the WHAT IS key
2. Press the number of the input (1-4)

If the input is enabled, the 1100 will recite the Phone number programmed for that digit. If it is disabled, the unit will say “Off” and then recite the Phone number. See Chapter 3.\

CONFIGURE INPUT NORMALITY

Inputs must be configured as normally open or normally closed. The default for all inputs is open. See Chapter 2, pages 9-10 for explanation on wiring inputs. It is useful to disable inputs prior to wiring to prevent an alarm dialout. After this is done, the Model 1100 must initialize the inputs as normal. Do this by programming the unit's ID number. When the ID number is set, the Model 1100 looks at the 4 inputs and establishes the present open/closed state as normal. Any change from that is an alarm. The ID number is also (usually) the unit phone number. This number is recited during a status report and alarm dialout report.

To set the status of the inputs as normal:

1. Disable the input (see "Alarm Programming")
2. Wire the input (see Chapter 2)
3. Program the ID# (see Chapter 3)
4. Enable the input.

The inputs are now considered normal. If a normally closed input becomes open, an alarm will occur. If a normally open input becomes closed, an alarm will occur.

Interrogating the ID number:

1. Press the WHAT IS key
2. Press the ID# key

The Model 1100 will say "Hello, this is followed by a recitation of the programmed ID number and a status report.

See Chapter 5 for a more detailed description of the status report.

INPUT RECOGNITION TIME - The input recognition time is the length of time an input must have an alarm continuously before the Model 1100 will recognize the condition. If an alarm exists and then clears within the recognition time, it is never considered an alarm. If the alarm exists for 200 milliseconds, the Model 1100 will recognize it as an alarm and initiate a dialout.

TEMPERATURE LIMITS

The temperature limits are the high and low readings at the temperature sensor that will cause the Model 1100 to dialout with an alarm message. The range of the temperature input to measure temperature is 0° F to 128° F.

To program the high temperature limit:

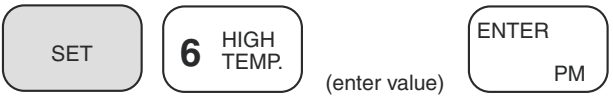
1. Press the SET key
2. Press the HIGH TEMP key

The 1100 will say “Enter high temperature limit.”

3. Using the number keys, enter the value for the high temperature limit

The 1100 will recite the digits as they are pressed.

4. Press ENTER. The 1100 will say “Enter.”



To program the low temperature limit:

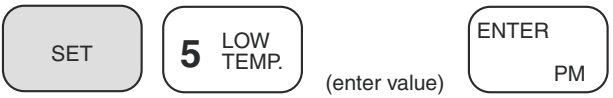
1. Press the SET key
2. Press the LOW TEMP key

The 1100 will say “Enter low temperature limit.”

3. Using the number keys, enter the value for the low temperature limit

The 1100 will recite the digits as they are pressed.

4. Press ENTER. The 1100 will say “Enter.”



NOTE: Do not set the limits too close the normal room temperature. Minor changes in temperature would cause frequent and unnecessary alarm dialouts.

To interrogate the temperature limits:

1. Press the WHAT IS key
2. Press the HIGH TEMP key to check the high temperature limit. Press the LOW TEMP key to check the low temperature limit.

If the high or low temperature alarm is enabled (see below), the 1100 will recite the programmed limit in degrees. If the high or low temperature

alarm is disabled, the 1100 will say “Off” and then recite the programmed limit in degrees.

ENABLE / DISABLE TEMPERATURE INPUTS

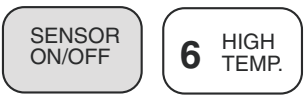
This feature allows you to enable or disable the dialout for the high and low temperature alarms. When a high or low temperature alarm is enabled, it will cause a dialout for an alarm. When a high or low temperature alarm is disabled, it will not cause a dialout. The default is enabled (on).

To enable/disable the high temperature alarm:

1. Press the SENSOR ON/OFF key
2. Press the HIGH TEMP key

The 1100 will say “Off” to indicate that the high temperature alarm is disabled, or “On” to indicate that it is enabled.

3. Repeat key sequence to change

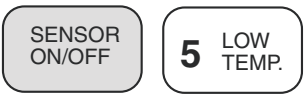


To enable/disable the low temperature alarm:

1. Press the SENSOR ON/OFF key
2. Press the LOW TEMP key

The 1100 will say “Off” to indicate that the high temperature alarm is disabled, or “On” to indicate that it is enabled.

3. Repeat key sequence to change



To interrogate:

1. Press the WHAT IS key
2. Press the HIGH TEMP key to check the high temperature alarm. Press the LOW TEMP key to check the low temperature alarm.

If the high or low temperature alarm is enabled, the 1100 will recite the programmed limit in degrees (see Temperature Limits above). If the high

or low temperature alarm is disabled, the 1100 will say “Off” and then recite the programmed limit in degrees.

AC POWER MONITORING ENABLE / DISABLE

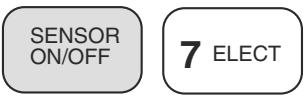
The Model 1100 monitors AC power failure. This command enables or disables the power failure detection feature. When enabled, the Model 1100 will monitor power and dial out if a valid failure occurs (see AC POWER RECOGNITION TIME below). When disabled, the Model 1100 will not dial out for a power alarm. The default setting is enabled (on).

To enable/disable the AC power alarm:

1. Press the SENSOR ON/OFF key
2. Press the ELECT key

The 1100 will say “Off” to indicate that the power alarm is disabled, or the 1100 will say “On” to indicate that the power alarm is enabled.

3. Repeat key sequence to change.



To interrogate:

1. Press the WHAT IS key
2. Press the ELECT key

If the power alarm is enabled, the 1100 will simply recite the programmed power recognition time (see below). If the power alarm is disabled, the 1100 will say “Off” and then recite the programmed recognition time.

AC POWER FAILURE RECOGNITION TIME

The power recognition time is the length of time that a power failure must exist continuously before the Model 1100 will recognize it as an actual alarm and start the dialout sequence. The default setting is 100 seconds. You may program the power recognition time from 1 to 199 seconds.

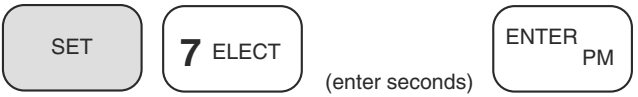
To program the power recognition time:

1. Press the SET key
2. Press the ELECT key
3. Using the number keys, enter the number of seconds

The Model 1100 will recite the digits as they are pressed

4. Press ENTER

The Model 1100 will say “Enter.”



To interrogate:

1. Press the WHAT IS key
2. Press the ELECT key

If the power alarm is enabled (see AC Power Monitoring), the 1100 will recite the programmed power recognition time. If the power alarm is disabled, the 1100 will say “Off” and then recite the programmed power recognition time.

HIGH SOUND ALARM ENABLE / DISABLE

The Model 1100 monitors sound through the built-in microphone. When the current sound level suddenly exceeds the normal sound level, the high sound alarm causes the Model 1100 to dial out. The increased sound level must exist for at least eight seconds. The default for the high sound alarm is enabled (on). The microphone is also used to listen in to on-site sounds. See Chapter 3.

> **NOTE:** Disabling the sound alarm does not affect listen-in capability.

To enable/disable the high sound alarm:

1. Press the SENSOR ON/OFF key
2. Press the SOUND key

The 1100 will say “Off” to indicate disabled. The 1100 will say “On” to indicate

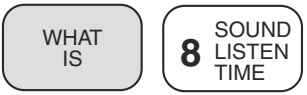
enabled.

3. Repeat key sequence to change.

To interrogate:

1. Press the WHAT IS key
2. Press the SOUND key

If the high sound alarm is enabled, the 1100 will recite the listen-in time programmed (See Listen-In Time, Chapter 3, page 20). If the high sound alarm is disabled, the 1100 will say “Off” and then will recite the listen-in time programmed.



SOUND ALARM MONITORING SENSITIVITY

This command allows you to change the sensitivity of the sound monitoring feature. This is useful to desensitize the Model 1100 if it is installed in an area with a relatively high sound level, or where loud noises occur but are not associated with an alarm. Also, this feature allows you to increase sensitivity in situations where you want to monitor lower sound levels. The sensitivity range for sound alarm monitoring is 0 to 62 and is changed in increments of 2. The value 2 makes the microphone the MOST sensitive to sound changes. **(NOTE:** The value 0 is invalid.) The value 62 makes the microphone the LEAST sensitive to sound. The default value is 8.

To increment the sound alarm sensitivity by 2:

1. Press the SENSOR ON/OFF key
2. Press the ID# key

The 1100 will recite a number value. When the value reaches 62, the next value

is set to 0. **NOTE:** Do not use 0. Set to the value 2.

3. Repeat key sequence to change.

There is no interrogation command. Pressing SENSOR ON/OFF then ID# will increment the value by 2.

CHAPTER 5
CALL-IN COMMANDS

The following two functions are call-in commands. This means that to utilize them you must call the Model 1100 to execute the command. These features are: alarm acknowledgment and the status report. You may use either a pulse (rotary) or Touch-Tone™ phone.

ALARM ACKNOWLEDGMENT

When the Model 1100 dials out with an alarm message, it will request acknowledgment before hanging up. Acknowledgment indicates to the unit that the alarm message has been received. Upon acknowledgment, the Model 1100 will cease the dialout sequence.

There are three ways that an alarm can be acknowledged: locally, by Touch-Tone™ phone, or by callback acknowledgment.

1. **Local acknowledgment:** To acknowledge an alarm locally, press any key on the left-hand side keypad. Avoid pressing the OFF key because that will disable the unit.

2. Touch-Tone™ acknowledgment: This method can only be used on a Touch-Tone™ phone. At the end of the alarm dialout message, the Model 1100 says “Indicate you have received warning message You have 5 seconds to enter the code “555.”

To do this, press the number key 5 on the Touch-Tone™ phone keypad three times. The Model 1100 will say: “Warning message received by telephone number (last number dialed).” The unit will then hang up and stop the dialout sequence.

If you enter the wrong code or did not enter it within 5 seconds. The 1100 will say: “Dial telephone number (programmed unit phone number) within 60 seconds.” The 1100 will hang up. The alarm will not be acknowledged. You have 60 seconds to call the unit back to acknowledge the alarm. See below.

3. Callback acknowledgment: This feature allows you to call in to the Model

1100 from a Touch-Tone™ or pulse (rotary) phone to acknowledge the alarm.

To use callback acknowledgment, call the unit back within 60 seconds after receiving the alarm call. If you have TAD enabled (see Chapter 3, page 19), the Model 1100 will answer the phone on the first ring before the answering device. If TAD is disabled, the phone must ring 10 times. This is a precaution against a random alarm acknowledgment. When the 1100 answers the callback, it will give a status report, then say “Warning message received by and recite the telephone number that it last dialed.

It will stop the dialout sequence for this alarm.

The status report feature allows you to call in to the Model 1100 and check the temperature, alarm and power status. The unit will answer after the programmed rings until answer (see Chapter 3, page 19). If any alarm conditions exist, the alarm message will be recited. You can also listen in to on-site sounds.

The following is an example of what the unit will recite during a status report:

Hello

This is telephone number 555-1234 (User-programmed unit phone number)

The time is 12:15 PM (Current time)

Alert condition OK (Alarm status. Other responses: 1 EXISTS, 2 EXISTS, 3 EXISTS, 4 EXISTS)

The temperature is 70 degrees (Current temperature)

OK (Temperature alarm condition. Other responses: The temperature is high! low.)

Two. (Says this only if a remote temperature sensor is attached to the AUX input.)

The temperature is 70 degrees (Says this only if a remote temperature sensor is attached to the AUX input.)

The electricity is ON (Power status. Other response: OFF)

Battery condition OK (Backup battery condition. Other response: Battery condition low. Replace batteries.)

Sound level OK (Sound level status. Other response: HIGH)

NO NUMBER (Says this only if no dialout phone numbers have been programmed.)

Listen to the sound level for 10 seconds (User-programmed listen-in time) **Have a good day.**

The Model 1100 repeats the status report once more and then hangs up.

CHAPTER 6
PROGRAMMING SUMMARY

After the Model 1100 has been completely installed, you are ready to begin programming the unit. The following is a recommended sequence for the programming commands. Refer to the programming chapters 3 and 4 for explanation on how to use each command. This section is intended to help you understand the commands and organize your programming.

MONITORING FUNCTIONS

1. Disable inputs 1-3, 4 (AUX). This action will allow you to wire the dry contact inputs without tripping an alarm dialout.

2. Wire inputs 1-4. See INSTALLATION.

3. Configure inputs as normally opened or normally closed. This command determines what will be the normal or alarm state for each input 1-4. When you set the ID number, the present open/closed state of your sensors will be considered normal. For example, if you have input 1 wired as a closed input, setting the ID number will make it normally closed. If the input is opened, an alarm will result.

4. Enable inputs 1-4. The inputs are now operational and monitoring chosen conditions.

5. Disable high/low temperature inputs. This will allow you to set limits without causing an alarm dialout.

6. Set high and low temperature limits. Be careful not to set the temperature limits too close to normal room temperature to avoid dialouts for minor/temporary changes in temperature.

7. Enable temperature inputs. The temperature inputs are now operational.

8. Enable or disable AC power monitoring. The Model 1100 is capable of monitoring AC power failure. This feature is built-in, no external wiring is required. You can enable or disable the power detection. When enabled, the Model 1100 will dial out for a power failure. When disabled, the 1100 will not dial out if a power failure occurs.

9. Power recognition time. This is the length of time a power failure must exist before the 1100 considers it an alarm.

10. Enable or disable high sound level alarm. The Model 1100 monitors sound through the built-in microphone. When the current sound level suddenly exceeds the normal sound level, the high sound alarm causes the Model 1100 to dial out. When disabled, the 1100 will not dial out for high sound.

11. Sensitize/desensitize sound monitoring. This command allows you to make the microphone more sensitive or less sensitive to sound at the unit location. This helps to eliminate false sound alarms if the sound level is normally high.

COMMUNICATIONS FUNCTIONS

The Model 1100 is now prepared for alarm monitoring. Next, you must program your phone numbers and related dialing specifications.

1. Dialout telephone numbers. The Model 1100 can dial up to 4 phone numbers, 16 digits each. These phone numbers are dialed sequentially, so program the first number you want called as Phone #1, the second as Phone #2, etc.

2. Tone or pulse dialing. The Model 1100's phone numbers can be dialed out in either Tone or pulse. This feature is programmed directly into your dialout Phone numbers.

3. Special dialing. The 1100 is capable of dialing out to some special phone and beeper systems that require pound **(#)** or asterisk (*) tones as part of the phone number. Remember that each # or * counts as one digit toward the total of 16 digits.

4. Rings until answer. This parameter determines how many times the 1100 will allow the phone to ring before answering. For example, if you set this to 4, the 1100 will wait 4 rings and then answer when you call in. This feature is also used in conjunction with the Telephone Answering Device (TAD) compatibility.

5. TAD compatibility. The Model 1100 can operate on the same phone line as other telephone answering devices such as a modem or answering machine.

Enable this feature only if an answering device in on the same phone line as the 1100. See "Rings Until Answer" Section.

6. Security code. You may program a 4-digit security code to prevent unauthorized access to the 1100's programming. The security code locks the keyboard for programming but allows interrogation.

7. The unit ID number. This 16-digit number should be programmed as the unit phone number. Programming this number also establishes the normal condition of the alert inputs.

8. Local voice mute. This parameter allows you to mute the local voice when the Model 1100 dials out for an alarm or is called for a status report. When the mute is on, the dialout alarm messages and call-in status messages will not be heard at the monitor site. When the mute is off, the Model 1100 will repeat the message locally as well as over the

phone.

9. Time. This command allows you to set the 1100's built-in clock.

10. Listen-in time. The Model 1100 allows you to listen in to sounds at the monitor site through its built-in microphone when you call in for a status report. This parameter allows you to determine the amount of time for sound monitoring.

CHAPTER 7
OPERATION

After installation and programming have been completed, the Model 1100 is fully operational. This chapter explains the sequence of events that occur during an alarm dialout to illustrate how the Model 1100 operates. Part One outlines the basic dialout sequence. Part Two provides a sample programming strategy and details how the 1100 responds in common monitoring applications.

PART ONE: THE ALARM DIALOUT SEQUENCE

There are 3 stages to a complete alarm event: 1) Alarm Recognition, 2) Dialout, 3) Acknowledgment. Note that not all alarm conditions that are sensed by your sensors will go through each stage. For example, some may not meet the recognition time. Others may be acknowledged locally before dialout is started. Refer to Part Two of this chapter for detailed examples.

Alarm Recognition:

1. A sensor wired to one of the alert inputs (1-3, or AUX if used as a 4th dry contact), or one of the built-in sensors (high/low temperature, AC power) detects an alarm condition.

2. The condition must last long enough to meet the recognition time.

    NOTE: AC power is programmable from 1 to 199 seconds. All other inputs are preprogrammed to recognize an alarm at 200 milliseconds.)

3. If the condition lasts the recognition time, the 1100 considers it a valid alarm and begins the dialout alarm sequence. Go to Dialout.

4. If the condition does not last the recognition time, the 1100 will not consider it a valid alarm. The 1100 will not dialout.

Dialout:

1. The 1100 waits 30 seconds (30-second call delay time on first call only. Waits 60 seconds between subsequent calls) after the alarm is recognized before dialing Phone #1. During this time (if local voice mute is OFF), the 1100 will recite an alarm message locally to indicate which input is in alarm. If on-site personnel acknowledge the alarm within the first 30 seconds, the unit will not dialout.

2. The 1100 dials Phone #1. Immediately, it will begin reciting its dialout alarm message. It repeats the message four times. After the fourth recitation, the unit requests acknowledgment.

    NOTE: The 1100 DOES NOT wait until the phone is answered to begin repeating its alarm message. It is reciting its message when the line is busy, while the phone is still ringing, or when the

call is not answered. If you do not answer the phone until a later ring, it is possible for you to miss hearing the alarm message. Also, if you have an answering machine, the 1100 will be talking during your outgoing message, so you will not get the full alarm message when the machine begins to record incoming messages.

Below is an example of what the 1100 says:

"Hello, this is telephone number 555-5674. Alert condition one exists. (4-second listen in time)

Hello, this is telephone number 555-5674. Alert condition one exists. (4-second listen in time)

Hello, this is telephone number 555-5674. Alert condition one exists. (4-second listen in time)

Hello, this is telephone number 555-5674. Alert condition one exists. (4-second listen in time)

Hello, this is telephone number 555-5674.

Indicate you have received warning message."

Acknowledgment:

1. The 1100 will wait 5 seconds for the Touch-Tone acknowledgment code

"555" to be entered. If the code is entered within 5 seconds the 1100 will say:

"Warning message received by telephone number 555-1111."

The alarm has been acknowledged and the dialout will CEASE.

2. If the 1100 does not receive the Touch-Tone code within 5 seconds, it recites the following and then hangs up:

"Dial telephone number 555-5674 within 60 seconds."

If the call was answered, the receiver must call the unit back within 60 seconds to acknowledge the alarm. If local voice mute is off, the unit will beep locally during the 60-second wait time.

3. When you call the unit back to acknowledge the alarm, the unit waits 10 rings before answering to protect against random acknowledgment. If you have an answering device on the same line as the 1100 and you have TAD enabled, the 1100 will answer on the first ring. When it answers, the 1100 will recite a status report and then say:

"Warning message received by telephone number (last number dialed). Have a good day."

The unit will hang up. The alarm has been acknowledged and the dialout sequence stopped.

4. If the call was not answered, was received by an answering machine

or FAX, or was not acknowledged by the receiver within 60 seconds, the 1100 will continue the dialout sequence. It waits 60 seconds before dialing the next phone number. It will dial Phone #2 and repeat the message, dial Phone #3 and repeat the message, dial Phone #4 and repeat the message, dial Phone #1 again, etc. until the alarm is acknowledged.

5. The alarm may also be acknowledged locally at any time before or during the dialout sequence to stop the dialout.

> **NOTE:** It is important that your dialout Phone numbers will be answered by responsible humans (not answering devices) who will be able to acknowledge the call and take appropriate action to correct the situation.

Acknowledging the alarm does not correct the alarm situation! The alarm condition will still exist until the sensor is restored to its normal state.

PART TWO: SAMPLE PROGRAMMING STRATEGY

An example programming strategy is outlined below. The communications and monitoring programming are charted to give you a reference for the sample 1100. Next, possible alarm situations that you may encounter in your own application are given to explain the process by which the 1100 will respond.

This section does not provide all the possible circumstances that you may encounter, but it should give you an understanding of how the many features of the 1100 interplay. Refer to Chapters 3, 4, and 5 for instructions on how to program the 1100. See Chapter 6 for a summary of the programming.

COMMUNICATIONS PROGRAMMING

Dialout Phone Numbers:

Phone 1: 555-1111 (tone)

Phone 2: 555-1222 (pulse)

Phone 3: 555-1333 (tone)

Phone 4: 555-1444-1234 (beeper)

Rings until answer: 5

Listen-in time: 10 seconds

Security code: 6453

Unit ID number: 555-5674

Local voice mute: OFF

TAD: Disabled

MONITORING PROGRAMMING

INPUT	CONDITION	SENSOR	ENABLED/DISABLED	OPEN/CLOSED
Input 1	water seepage	water detection sensor	enabled	N.C.
Input 2	humidity	humidistat	enabled	NO.
Input 3	intrusion	magnetic reed switch	enabled	NC.
AUX/4	temperature	Temp~Alert	enabled	NO.
LOW TEMP	low temperature 6O°F		disabled	
HIGH TEMP	high temperature 9O°F		enabled	
SOUND	high sound level		enabled	
AC Power	power failure, recognition time: 180 sec		enabled	

EXAMPLES

Each example is divided into three parts: Alarm Recognition, Dialout, and Acknowledgment. Alarm Recognition refers to the events that occur when the monitored condition changes to exceed acceptable limits. The sensor's normality changes state (i.e. normally open to closed) and the 1100 recognizes the condition. Dialout enumerates what happens during the dialing sequence when an alarm condition exists. Acknowledgment illustrates how an alarm is acknowledged.

EXAMPLE 1:

Alarm Recognition:

During a torrential rainstorm, water has seeped into your basement. The water detection sensor placed on the floor senses this. The sensor changes state from normally closed to open and trips an alarm. Input 1 is enabled, so the unit enters the dialout sequence.

Dialout:

1. The Model 1100 waits 30 seconds (preprogrammed call delay time). During this time, the unit recites the message: "Alert condition one exits." (Local mute disabled.)
2. After 30 seconds, the unit dials Phone #1(555-1111).
3. The unit receives no answer and hangs up.
4. The 1100 waits one minute (preprogrammed intercall delay time) and then dials Phone #2 (555-1222)
5. The call is answered.
6. The 1100 recites the following message four times:

   "Hello. This is telephone number 555-5674.
   Alert condition one exists."
   (4-second listen in time)

7. After the fourth repetition, the 1100 will request acknowledgment:

"Hello, this is telephone number 555-5674.
Indicate you have received warning message."

Acknowledgment:

1. You received the alarm call at a rotary (pulse) phone, so you cannot enter the 555 code to acknowledge the alarm.
2. After 5 seconds, the 1100 says:

"Dial telephone number 555-5674 within 60 seconds."

3. You call the unit back within 60 seconds. After 10 rings (TAD disabled), the 1100 answers and says:

"Hello, this is telephone number 555-5674.
The time is 1:15 AM.
Alert condition one exists.
The temperature is 70 degrees.
OK.
The electricity is ON.
Battery condition OK.
Sound level OK.
Listen to sound level for 10 seconds (listen).
Warning message received by telephone number 555-1222.
Have a good day."

4. Once the alarm has been acknowledged, the dialout sequence is stopped.

NOTE: The 1100 will not dial out for alert condition one until after the sensor is returned to its normal state (NC.) and is retripped.

EXAMPLE 2:

Alarm recognition:

Input #2 is monitoring humidity in the greenhouse. The humidifier malfunctions causing the moisture level to drop below programmed safe levels, endangering delicate ferns. The condition causes the humidistat to trip an alarm. The alert on input #2 causes the 1100 to dialout.

Dialout:

1. After the 30-second call delay time, the 1100 dials Phone #1(555-1111).
2. The call is answered. The 1100 repeats the following alarm message:

"Hello. This is telephone number 555-5674. Alert condition two

exists." (4-second listen in time)

3. After the fourth repetition, the 1100 requests acknowledgment:

"Hello, this is telephone number 555-5674.
Indicate you have received warning message."

Acknowledgment:

1. The call is to a Touch-Tone phone. You enter the code "555" within the 5 second time limit. The 1100 says:

"Warning message received by telephone number 555-1111."

2. The unit will then hang up. The alarm has been acknowledged and the dialout sequence stopped. NOTE: The 1100 will not dial out for alert condition two until after the sensor is returned to its normal state (NO) and is retripped.

EXAMPLE 3:

Alarm Recognition:

A suspicious character enters through the side door monitored by a magnetic reed switch wired to input 3. The normally closed sensor is thus opened, causing an alarm. The unit begins reciting its alarm message locally. The suspicious character turns out to be your mother-in-law. Since she was generous enough to give you the Sensaphone 1100 as a Christmas gift, she knows how to acknowledge the alarm locally to prevent a dialout. She does this and saves you from being woken up at 3AM with an alarm call for nothing.

EXAMPLE 4:

Alarm Recognition:

You are monitoring the temperature in your greenhouse using a Temp°Alert wired to the AUX input. (Note: The Temp°Alert is a dry contact sensor. It is not the same as a remote temperature sensor.) The temperature rises above the set high limit on the sensor and triggers an alarm. The condition lasts longer than 200 milliseconds, so the 1100 recognizes it as a valid alarm. It recites the alert message locally for 30 seconds. The alarm is not acknowledged, so it continues with the dialout sequence.

Dialout:

1. The unit dials Phone #1. It recites its message and requests acknowledgment. It does not receive the Touch-Tone code within five seconds. The unit requests callback acknowledgment and hangs up.

2. The unit waits 60 seconds but does not receive callback acknowledgment.

3. The unit dials Phone #2 and repeats the alert message-acknowledgment request. It receives no Touch-Tone acknowledgment or callback acknowledgment.

4. The unit dials Phone #3 and repeats the alert message-acknowledgment request. Again, it receives no acknowledgment.

5. The unit continues and dials Phone #4. This call is to a beeper. The 1100 sends the Touch-Tone code 1234 to the beeper. You read the code 1234 on your beeper and know to call the 1100 back. Although you cannot hear the recitation, the 1100 repeats its alarm message and requests acknowledgment.

Acknowledgment:

1. Since you received the message on a beeper, you have 60 seconds to call the unit back to acknowledge the alarm and stop the unit from dialing the next number.

2. You manage to get to a phone and call the unit back but not within 60 seconds. The unit waits 10 rings and then answers (TAD disabled).

3. The 1100 provides a status report and then says:

> "Warning message received by telephone number 555-1111. Have a good day."

4. Because you did not call within 60 seconds, the unit dialed the next number, Phone #1. When it receives the callback, it always indicates that the message was received by the last dialed number.

5. The alarm is acknowledged and the dialout sequence stopped. The unit will not dialout for an alarm on AUX/input 4 until the condition is cleared and the sensor retripped.

EXAMPLE 5:

Alarm Recognition:

When your mother-in-law left, she did not close the door completely. The opening allowed an icy December draft to blow into the room where the 1100 was located and cause the temperature to drop below the programmed low temperature limit. The built-in temperature sensing has been disabled, so the unit does not dialout. (If you called into the unit for a status report, the unit would indicate that a low temperature condition exists.)

EXAMPLE 6:

Alarm Recognition:

The 1100 is positioned near a smoke alarm that produces a loud, high-pitched squeal when tripped. A frayed wire sparks and sets off a small

fire. The smoke alarm goes off. The noise causes a high sound alarm in the 1100. The condition lasts the recognition time. For 30 seconds the 1100 recites the high sound alarm message locally and then begins the dialout.

Dialout:

1. The 1100 dials Phone #1 and repeats the following alarm message four times:

    "Hello, this is telephone number 555-5674. Sound level high."

    (4-second listen in time)

2. Then it requests acknowledgment:

    "Hello, this is telephone number 555-5674.

Indicate you have received warning message."

3. The unit does not receive a response.

4. The 1100 dials Phone #2 and recites the above alarm message-acknowledgment request. Again, the unit does not receive a response.

5. The 1100 dials Phone #3 and the call is answered.

Acknowledgment:

1. You received the call at Phone #3 but were unable to enter the Touch-Tone code within 5 seconds. So, you call the unit back within 60 seconds to acknowledge the alarm. The 1100 provides a status report and says:

"Warning message received by telephone number 555-1333. Have a good day."

2. The unit hangs up. The dialout is stopped. The unit will not dialout again for a high sound alarm until the condition is cleared and retripped.

EXAMPLE 7:

Alarm Recognition:

The building power blacks out at 7:25 AM. One minute later (7:26 AM) the power is restored. Because the power failure did not last for 180 seconds (programmed recognition time), the 1100 does not recognize it as a valid alarm.

There is no alarm, therefore there is no dialout.

APPENDIX A
Checking your Sensaphone for Proper Operation

We recommend that you test your Sensaphone weekly to be sure it is functioning properly. This will ensure that when a problem arises the Sensaphone will be ready to alert the appropriate personnel.

There are several tests that can be performed:

1) Call the unit and listen to the Status Report. This will test the unit's ability to answer the phone and speak a message. It will also verify that all of the inputs are reading properly, the alarm conditions are OK, the electricity is on, the microphone is functioning, and the batteries are OK.

2) Create an alarm on each input and allow the unit to contact all programmed telephone numbers. This will make sure that the Sensaphone is programmed properly. It will also prepare personnel to respond appropriately when they receive a call from the Sensaphone.

3) Test the batteries by unplugging the AC adapter and making sure that the Sensaphone continues to function. Press WHAT IS, then STATUS on the keypad, and listen to the status report. Make sure the report states that "the electricity is off" and "battery condition OK". Keep the AC adapter unplugged so that a Power Failure alarm occurs. Allow the unit to dial all programmed telephone numbers while running on battery backup. Plug in the AC adapter after the unit has finished dialing all of the telephone numbers.

4) If you are using your Sensaphone to listen for a smoke alarm, then be sure to test the smoke alarm to make sure that the Sensaphone picks up the audible signal and triggers a high-sound-level alarm. Allow the unit to dial all programmed telephone numbers.

APPENDIX B
TROUBLESHOOTING

Problems with the Model 1100 can range from simply making sure the unit is plugged in to lightning damage. This appendix is provided to help you pinpoint and solve functioning problems. It is divided into the common areas where problems occur. They are:

- Communications / Dialout problems
- Incorrect temperature readings
- Microphone problems
- Monitoring problems

The following pages describe problems in these areas, possible causes and solutions. If the unit still does not work after you have tried the following solutions, call our Customer Service Department at (610)558-2700 or follow the guidelines for sending the unit in for repair.

PROBLEM	POSSIBLE CAUSE:	SOLUTION
Communications / Dialout:		
Unit won't dial out	Phone number incorrectly programmed	See Chapter 3
	Incorrect tone/pulse selection	See Chapter 3
	Incompatible phone line	The Model 1100 must be hooked up to a standard 2-wire analog phone line, NOT a digital extension to a phone system. If the unit won't dial out and it is not the two previous problems, try hooking the unit up to a phone line that you know is standard (such as a residential or home phone). If it works, then there is an incompatibility with the other phone system. If this does not work, call Phonetics Customer Service Department.
Unit won't answer phone	Incorrect programming of rings until answer	When used on a proper extension line, some phone systems won't let the phone ring past 4 rings. If rings until answer is greater than 4, you cannot get to the unit. Try setting the rings to less than 4 (see Chapter 3, page 19). If it still does not work, then the phone line may be incompatible. See below.
	Incompatible phone line	The Model 1100 must be hooked up to a standard 2-wired analog phone line, NOT a digital extension

		to a phone system. If you cannot call into the unit, try hooking it up to a phone line that you know is standard (such as a residential or home phone). If you can call in, then there is an incompatibility with the other phone system. If you still cannot call in, call Phonetics Customer Service Department.
Incorrect temperature readings:		
Temperature reads 0º	Temperature sensor is either disconnected or has broken wires.	Check wires to temperature sensor and connect or replace wiring.
Temperature reads 128º	Temperature sensor wires touching or shorted.	Verify and correct wiring.
Temperature inaccurate	Both a remote temperature sensor (FGD-0005)and the built-in temperature sensor (thermistor)are wired to the same input channels.	Remove either the remote temperature sensor or the built-in thermistor.
	If not using a remote temperature sensor, the built-in temperature sensing may be affected by ambient heat source (ie. direct sunlight, heating vent).	Move the unit to a different location.
	Unit wall mounted, using built-in temperature sensor	If you have the unit wall mounted, the heat generated by the unit rises across the built-in sensor and can cause an incorrect high temperature reading. To solve this problem, do not wall mount or use a remote temperature sensor instead.

Microphone Problems:		
False high sound alarms	Too close to high sound, unit too sensitive for environment.	Move unit or adjust sound sensitivity. See Chapter 4.
Sound alarm not tripping	Unit not close enough to high sound, unit not sensitive enough.	Move unit closer or adjust sound sensitivity. See Chapter 4.
Monitoring Problems:		
Alarm status of alert input incorrect	Incorrect input normality	Reset input normality. See Chapter 4.
False power out alarms	Power recognition time too short	It is common for the power to have brief interruptions. To solve a false alarm, program the power recognition time longer. See Chapter 4.
Does not recognize power failure	Batteries incorrectly installed or no good	To verify proper battery function, unplug unit and verify continued operation running on batteries only. If unit does not work, change the batteries or install them correctly. See Chapter 2.
Unit does not recognize any alarm	Inputs disabled for alarm	Enable the inputs for alarm. See Chapter 4.

Batteries drain prematurely	Unit turned off and unplugged	The batteries are still drained and the unit consumes full power when the unit is shut off and unplugged. If you are not using the unit, remove the batteries. See Chapter 2.
Unit does not seem to respond properly	Various causes	Try starting from scratch. Unplug the unit and then remove the batteries. This will erase all programming. Allow the unit to rest for a few minutes. Plug the unit back in and reinstall the batteries. Reprogram. If the unit still does not work, call Phonetics Customer Service.

APPENDIX C
ACCESSORIES

The sensors listed are the most commonly used input devices. However, there is a virtually unlimited variety of sensor/switch input devices available at commercial or industrial electrical supply houses. They can provide a device to monitor virtually any condition that might be required for your business or residential needs. Contact Phonetics, Inc. at (610) 558-2700 for more information.

MODEL NUMBER	SENSOR/SWITCH
FGD-0005	Remote Temperature Sensor
FGD-0006	Magnetic Reed Switch
FGD-0007	Passive Infra-Red Detector
FGD-0013	Water Detection Sensor
FGD-0022	Temp^0 Alert
FGD-0023	ISOTEL Surge Protector
FGD-0027	Humidistat