ATTENTION!

Replacing an existing Model 295F or 295W with this telephone (Model 295-001F or 295-001W) requires removing the existing 48 V dc power supply and replacing it with the 5 V dc power supply included with this telephone (or other 5 V dc source).
Connecting 48 V dc to this telephone will cause severe damage.

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GAI-TRONICS®
A HUBBELL COMPANY

Clean Phone® Analog Telephones

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Clean Phone® Analog Telephones

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Product Overview

The GAI-Tronics Model 295-001F Clean Phone® flush-mount and Model 295-001W Clean Phone® wall-mount analog telephones are designed for the exacting requirements of sterile environments. They are constructed of stainless steel and have a completely smooth polyester front panel that will not trap particulate matter. Calls are made by pressing one of the two auto-dial buttons or by using the fully functional keypad. The oversized, clearly labeled buttons allow easy operation with gloved hands.

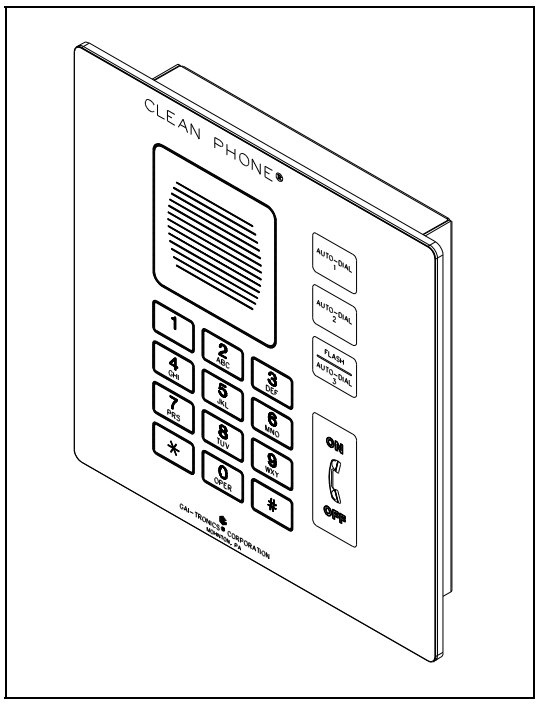

Figure 1. Model 295-001F

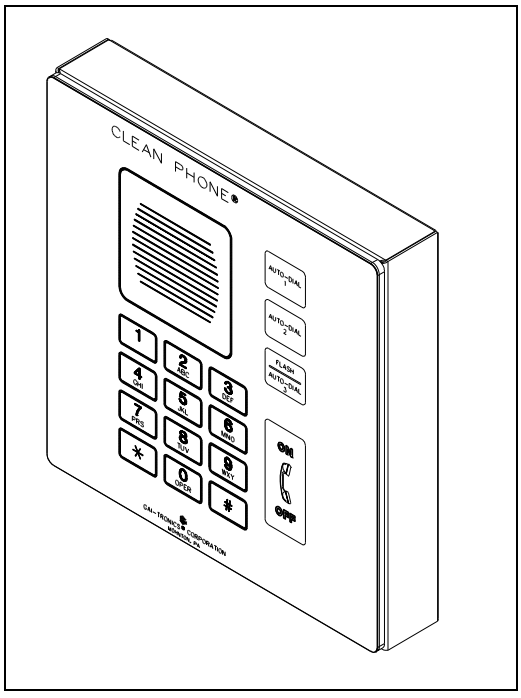

Figure 2. Model 295-001W

Features

Clean Phone® analog telephones offer the following features:

- two auto-dial push buttons
- *flash* push button to access features of the telephone system
- on/off push button with keypad for standard telephone operation
- completely smooth front panel with chemical resistant overlay
- auto-answer capability
- oversized buttons for easy use with gloved hands
- two programmable auxiliary outputs for peripheral control
- standard or SMART (Self-Monitoring and Reporting Telephone) operation
- UL/CSA 60950 compliant
- FCC Part 68 Certified

Auto-Dial Buttons

The Model 295-001*x* Series Clean Phone® analog telephones feature two auto-dial buttons to store frequently dialed telephone numbers. It is important to program the *Auto-dial Time Delay* option if using the auto-dial feature. This sets the amount of time lapse between the auto-dial button press and the actual dialing operation. The 10-second default delay may be too long when the feature is used for emergency communication (see the Auto-Dialing section).

Flash Button

A *Flash* button is provided to enable the flash features of a PBX in the telephone system. This button is labeled FLASH/AUTO-DIAL 3.

Auto-Answer

The Model 295-001*x* Series Clean Phone® analog telephones also offer programmable activation/deactivation of the auto-answer feature. This feature allows the telephone to go off-hook automatically to answer the call when active. All Clean Phone® analog telephones are factory programmed for auto-answer.

A light under the ON portion of the ON/OFF button is illuminated to indicate the telephone is off-hook. The telephone will not go off hook until someone presses the ON portion of the button when the auto-answer feature is not active.

Models

The following Clean Phone® analog telephones are detailed in this manual:

Table 1. Model Chart

Model	Description
295-001W	**Surface-Mount Analog Telephone** including a stainless-steel front panel with polyester overlay, two autodial buttons and a *flash* button, hookswitch push button (on/off), off-hook indicator, keypad, and stainless-steel surface-mount enclosure.
295-001F	**Flush-Mount Analog Telephone** including stainless steel front panel with polyester overlay; two autodial buttons and a *flash* button, hookswitch push button (on/off), off-hook indicator, keypad, and stainless-steel mounting bracket.

TMA (Telephone Management Application)

GAI-Tronics' TMA software is a maintenance data collection and reporting tool that enables viewing and reporting the health of the Clean Phone® analog telephones. Clean Phone® analog telephones can function with or without the TMA software application installed. The decision to use TMA can be made at any time and is not needed for telephone operation. Installation of TMA is not required until system monitoring is desired.

When used with TMA, each telephone is typically polled to determine the health of the unit and report the following:

- stuck push buttons
- microphone failure
- speaker failure
- microprocessor health
- line interrupt (power)

The basic TMA package (Model 12509-042) includes a single line transceiver for polling a single telephone at a time. Each telephone requires approximately 90 seconds to relay its health status to TMA. Use multiple transceivers to poll multiple telephones simultaneously in larger systems. The Model 12509-043 TMA Expansion Kit is available and is required for each additional connected telephone line, with a maximum of eight lines allowed. This allows a maximum of eight telephones to be polled simultaneously. A dedicated PC is strongly recommended for TMA operation.

A dedicated telephone line per Clean Phone® analog telephone is required when using TMA in its typical *polling* operation. Clean Phone® analog telephones can share a telephone line ; however, if two or more telephones are put into use simultaneously, the line current could drop sufficiently to disconnect the telephone call. This will depend on the line current, the length of the cable run, and the condition of the telephone cable. Telephones must be scheduled to *call-in* instead of being polled by TMA when sharing a telephone line. A shared telephone line between Clean Phone® analog telephones is not recommended.

Auto-dial maintenance calls should be scheduled in TMA to alert maintenance personnel of any unusual sensor or fault conditions that exist. Clean Phone® analog telephones can also be programmed to generate an auto-dial maintenance call when certain sensor events occur. Access to the Clean Phone® analog telephone's settings is restricted using a maintenance access PIN that should only be disclosed to trained maintenance personnel.

Operation

Placing an Autodial Call

To place an autodial call:

1. Press the desired autodial push button to place an immediate call to a preprogrammed number.

   The hookswitch indicator lights when the call is connected.

2. Terminate the call by:
   - pressing the ON/OFF push button
   - hang up of the called number
   - exceeding the duration of the call timeout.

Placing a General Telephone Call

To place a general telephone call:

1. Press the ON/OFF push button.
2. Wait for the dial tone.
3. Use the keypad to dial the desired number.

   The *off-hook* indicator lights when the call is connected.

4. Terminate the call by:
   - pressing the ON/OFF push button
   - hang up of the called number
   - exceeding the duration of the call timeout

Receiving a Call

The Clean Phone® analog telephone automatically goes off-hook (auto-answers) when the unit is called. This is the default operating mode. The Clean Phone® analog telephone can be programmed for manual answer (see the Off-Hook Ringing section).

Installation

General Information

⚠ **WARNING** ⚠ —This product can contain hazardous voltages. Always remove power to this station and any associated equipment before beginning any installation.

⚠ **CAUTION** ⚠ —Do not install this equipment in areas other than those indicated on the approval standards listing in the Approvals section of this manual. Such installation may cause a safety hazard and consequent injury or property damage.

Install equipment without modification and according to all applicable local and national electrical codes. Consult the National Electrical Code (NFPA 70), Canadian Standards Association (CSA 22.1), and local codes for specific requirements regarding your installation. Class 2 circuit wiring must be performed in accordance with NEC 725.55.

Safety Guidelines

When installing any GAI-Tronics telephone equipment, please adhere to the following guidelines to ensure the safety of all personnel:

- Do not install telephone wiring during a lightning storm.
- **Electrostatic Discharge (ESD) Protection:** The telephone may have an earth ground terminal provision. If so, ensure that it is connected to ground in accordance with all local safety regulations and the National Electrical Code (NEC). Grounding must be ensured for safe and stable communications. Do not use long and coiled ground wires. Trim ground wires to the required length. Use a star configuration whenever possible. Please note; proper grounding does not eliminate the need for lightning protection for the telephone or the telephone system.
- **Install a UL Listed lightning arrestor** on any telephone installed where the telephone or telephone cable is at risk of being exposed to lightning strikes. The lightning arrestor must be installed as close to the telephone as possible to maximize the protection. It must not be installed within the enclosure supplied with the phone.
- Do not install telephone jacks in wet locations unless the jack is specifically designed for wet locations.
- Do not touch uninsulated telephone wires or terminals unless the telephone line has been disconnected at the network interface.

General Installation Guidelines

The preferred system configuration is a dedicated telephone line per Clean Phone® analog telephone. This is **required** when using TMA in its typical *polling* operation.

NOTE: Never install a Clean Phone® analog telephone on the same telephone line as any other non-Clean Phone® analog telephone.

Telephones must be scheduled to *call-in* instead of being polled by TMA if sharing a telephone line while using TMA.

Station Placement

Volume settings and station placement must be taken into consideration to prevent feedback problems in the system. Unpleasant feedback problems can be reduced by:

- pointing the telephone away from other telephones located nearby
- reducing volume levels

Avoid feedback problems by installing each Clean Phone® analog telephone in a separate room and wall.

Model 295-001F Clean Phone® Analog Telephone

The mounting and wiring instructions for the Model 295-001F Clean Phone® analog telephone are as follows:

1. Remove the front panel from the back bracket.
2. Use the cut-out dimensions as a guide to mark the wall and make the required cuts (See Figure 5).
3. Place the modular RJ11 jack provided in the lower right corner of the back bracket.
4. Place the bushing around the field telephone line and the power cable line approximately 6–8 inches from the end of the cable. Snap the bushing closed and insert it into the double D hole in the bottom of the back box (see Figure 3 and Figure 6).
5. Place the back bracket in the wall and mark the mounting hole locations (see Figure 6).
6. Drill holes in the lower right and upper left corners and secure the bracket with screws.

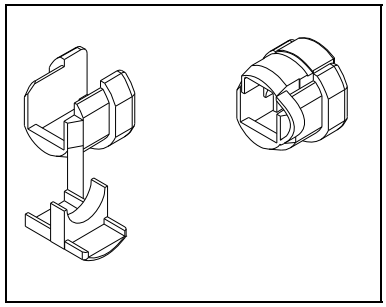

Figure 3. Bushing

7. Drill the remaining holes and secure the bracket with the remaining screws.
8. Connect the field telephone line to the RJ11 module.
9. Connect the telephone line from the PCBA into the modular jack.
10. Plug the power supply connector into P18 on the push-button switch PCBA (see Figure 4).
11. Perform the initial programming of the telephone (see the Configuration section).
12. Take the front panel of the Clean Phone® analog telephone and align it with the four slots in the back bracket.
13. Press the panel in firmly and then push downward to seat the panel in the slots.

NOTE: The Model 295-001F is designed for general wipe down cleaning and to prevent collection (internally and externally) of particulate matter. Additional protection against moisture can be attained by sealing between the outer edge of the telephone panel and the mounting surface with silicone or RTV. Any sealing substance used must be verified to be compatible with cleaning solutions used.

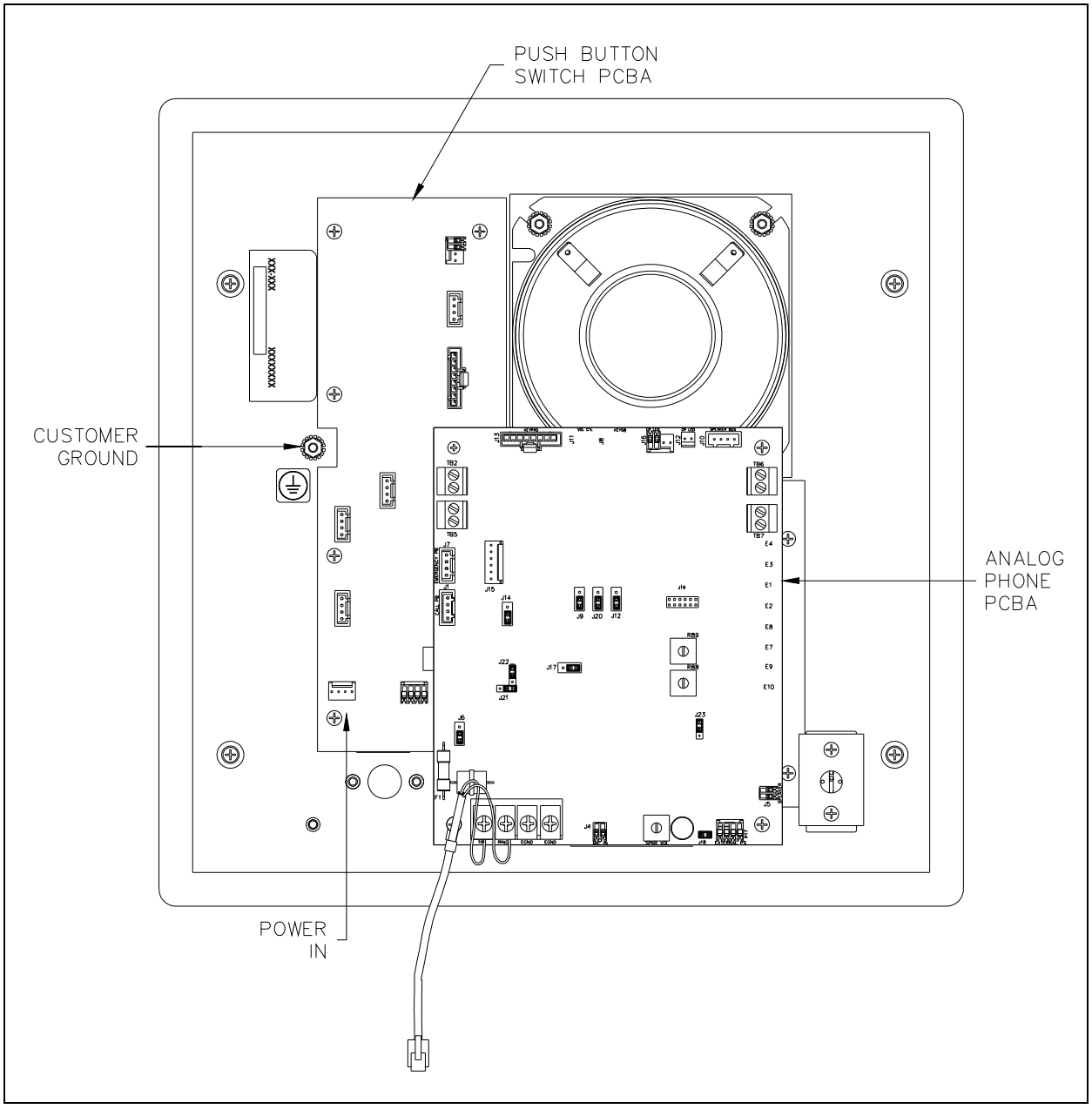

Figure 4. Inside Front Panel

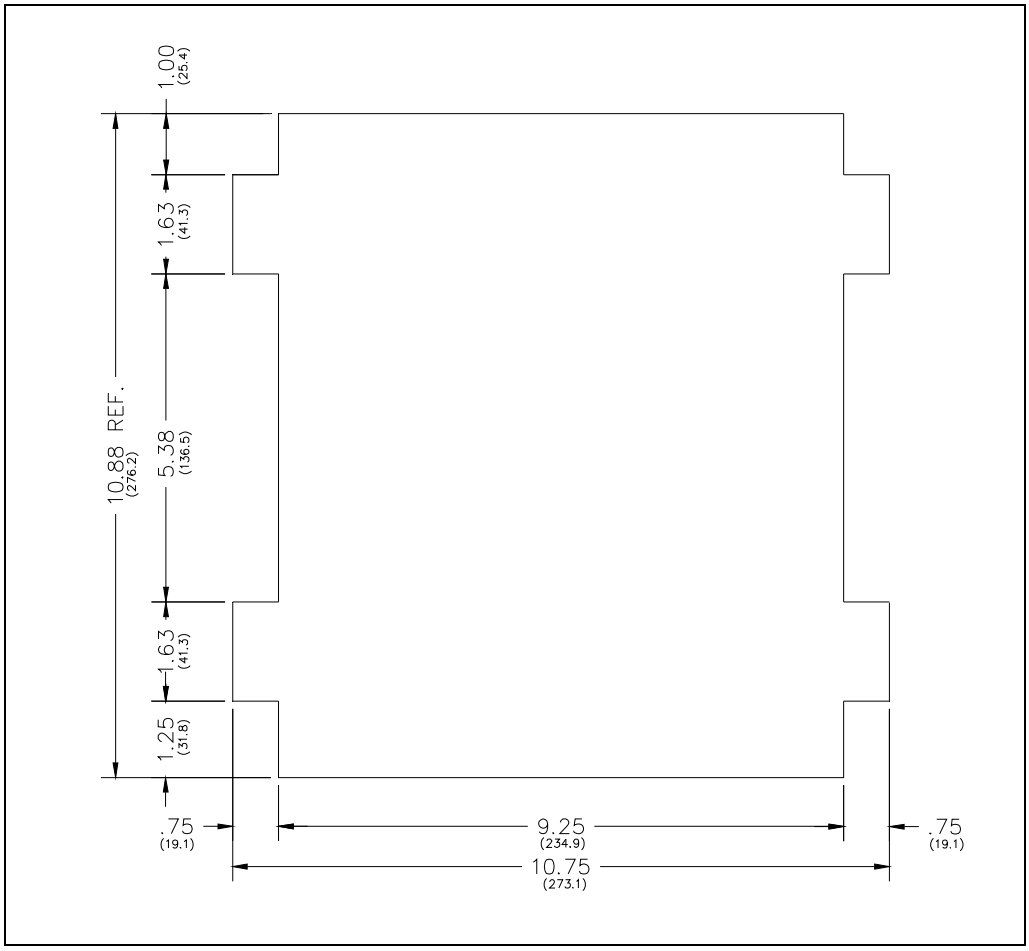

Figure 5. Wall Cut-out Dimensions for Model 295-001F

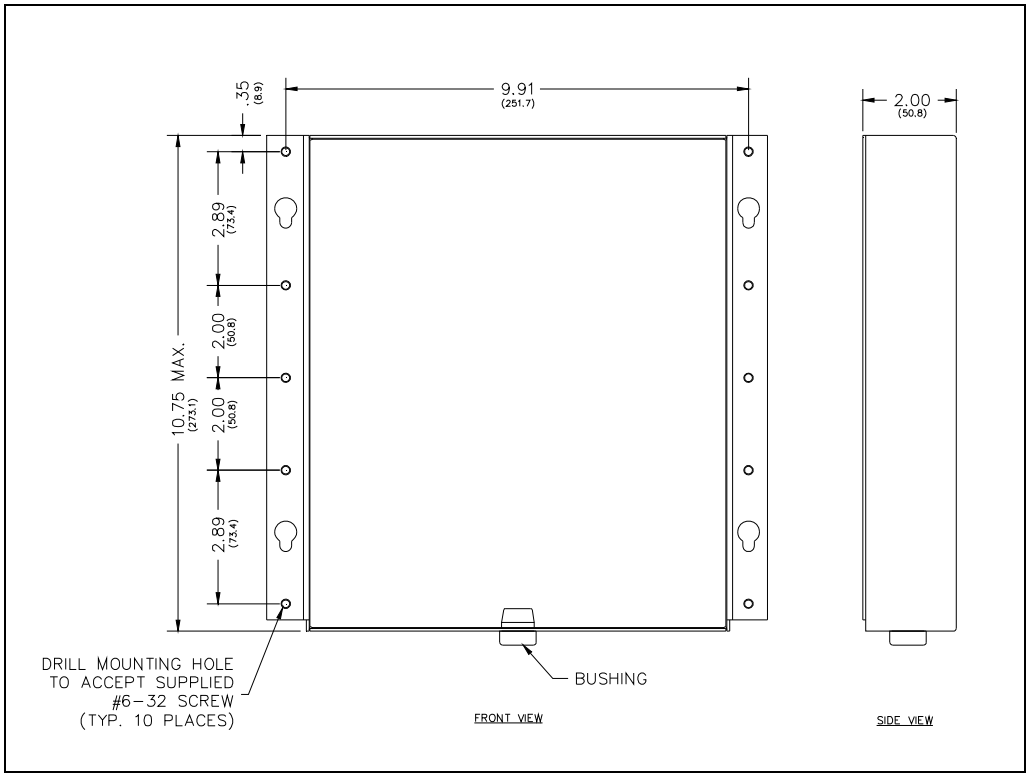

Figure 6. Back Box for Model 295-001F

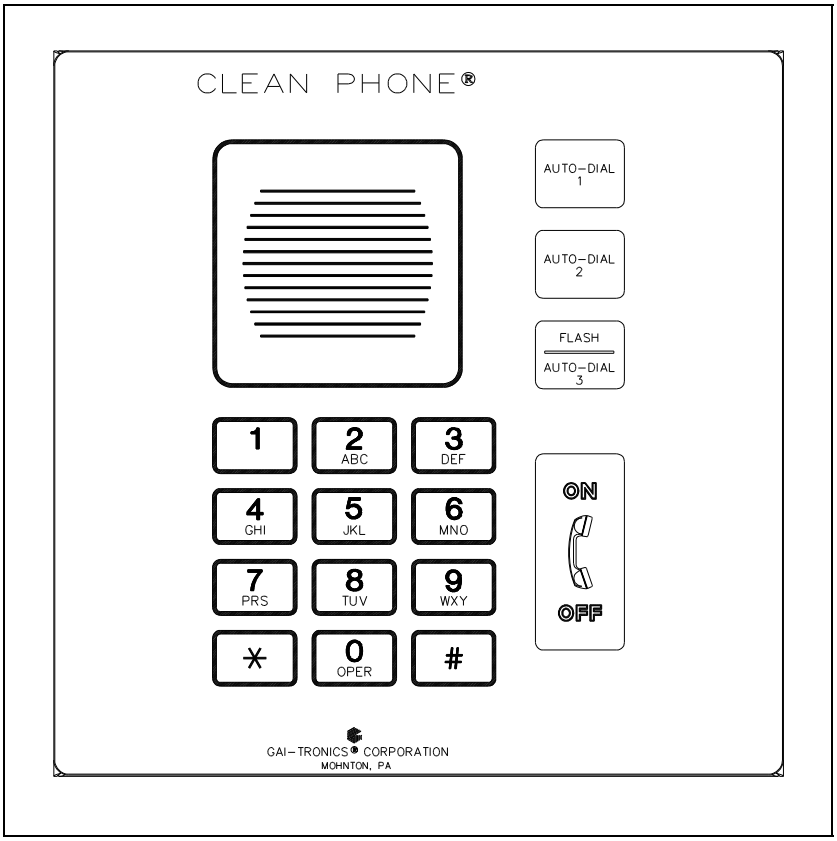

Figure 7. Front Panel

Model 295-001W Clean Phone® Analog Telephone

Mount and wire the Model 295-001W Clean Phone® analog telephone as follows:

1. Remove the front panel from the back box.
2. Place the modular RJ11 jack provided in the lower right corner of the back box.
3. Use the back box as a template to mark and drill the mounting holes on the mounting surface (see Figure 8).
4. Place the bushing around the field telephone line and power cable approximately 8 inches from the end of the cable.
5. Snap the bushing closed and insert it into the double D hole in the back of the back box (see Figure 3 and Figure 8).
6. Secure the back box to the mounting surface.
7. Connect the field telephone line to the RJ11 module.
8. Plug the telephone line from the PCBA into the RJ11 modular jack.
9. Plug the power supply connector into P18 on the push-button switch PCBA (see Figure 4).
10. Perform the initial programming of the telephone (see the Configuration section).
11. Take the front panel of the Clean Phone® analog telephone and align it with the four slots in the back box.
12. Press the panel in firmly and then push downward to seat the panel in the slots.

NOTE: The Model 295-001W is designed for general wipe down cleaning and to prevent collection (internally and externally) of particulate matter.

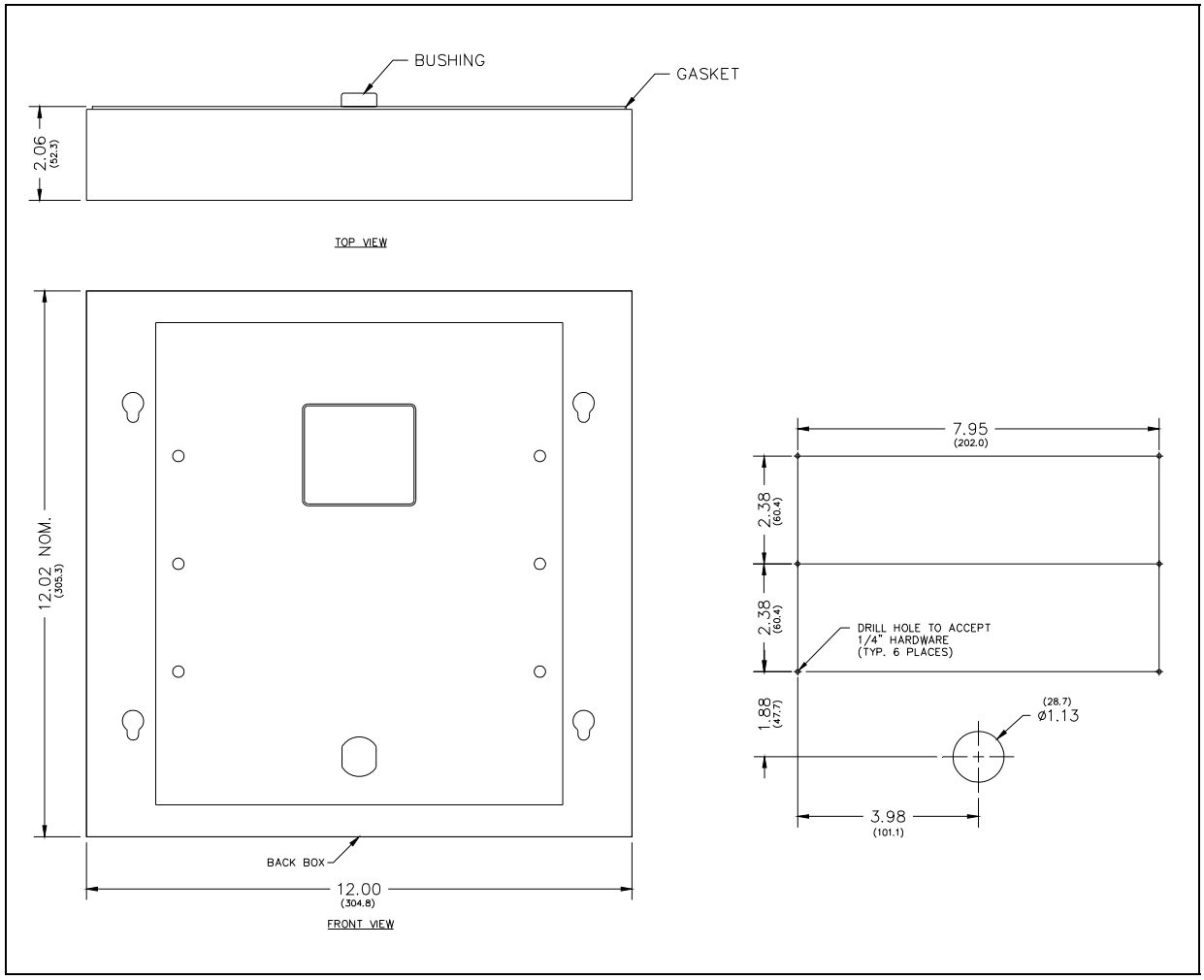

Figure 8. Mounting the Model 295-001W

External Power

The plug-in power supply provided with each telephone requires 100–240 V ac input to provide a 5 V dc output to the unit. The power supply has a 4-foot power cable with modular plug that plugs into P18 on the push button switch PCBA (see Figure 4 and Figure 9 for the location of P18).

The No. 40411-005 power supply has a 4-foot cord for connecting the Clean Phone® analog telephone. Splice additional wire to the existing power supply cord to obtain the desired distance to the telephone. The distance between the telephone and the 5 V dc power source is limited only by the maximum allowable wire resistance, (32 ohms). See Table 2 for calculated distances for standard wire sizes. The 5 V dc power source can be located up to 270 feet, 82 meters, or 0.05 miles away from the telephone when using No. 24 AWG wire. Paralleling pairs of the same wire gauge will double the operating distance.

Table 2. Calculated Distance for Standard Wire Sizes

AWG No.	Feet	Meters	Miles
24	270	82	0.05
22	430	131	0.08
20	690	210	0.13
18	1095	333	0.20
16	1740	530	0.33
14	2770	844	0.52

NOTES:

- Do not plug the power supply into an electrical outlet until the installation is complete.
- Each Clean Phone® analog telephone requires its own, dedicated 5 V dc power source for proper operation.

Configuration

The hardware configuration options are explained in the following sections and the necessary jumper settings are identified to enable or disable each option. Read each section and record the selected options (see Table 3) prior to making the necessary changes (see Figure 9 for the jumper locations).

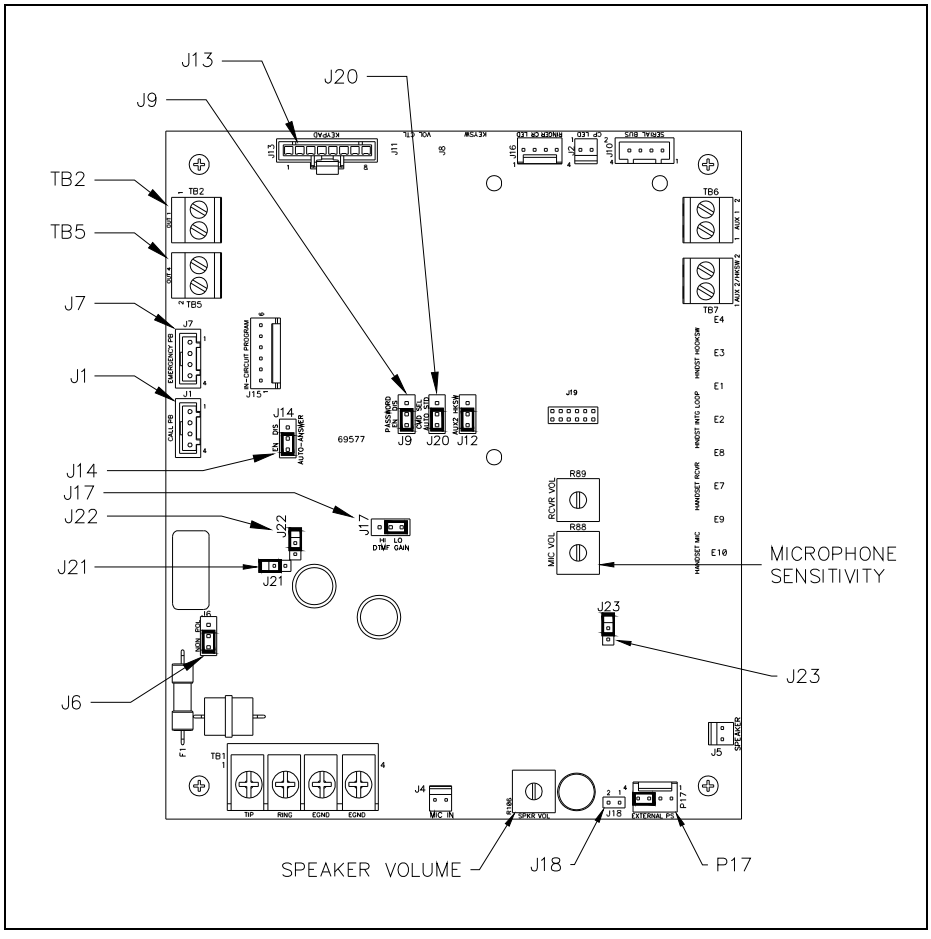

Figure 9. No. 69577-101 PCBA (Top View)

Auto-answer

Factory Setting: Auto-answer feature enabled

The Auto-answer feature enables or disables the automatic answering of incoming calls. This allows TMA to monitor the health of the telephone via polling when SMART operation is enabled. The telephone automatically answers the call and attempts to communicate with TMA when the auto-answer feature is enabled. The telephone automatically transitions to a standard two-way communication if the caller is not TMA.

- *Enable*: jumper J14 in position **EN**
- *Disable*: jumper J14 in position DIS (Do not use this setting except under the direction of GAI-Tronics personnel.)

NOTE: The auto-answer feature must be enabled to allow the GAI-Tronics TMA PC to contact the telephone or to allow remote touch-tone programming.

Polarity

Factory Setting: Non-polarity sensitive

The telephone can be configured as polarity or non-polarity sensitive. The telephone operates regardless of tip and ring polarity when configured for non-polarity. The telephone will only operate when the telephone line's positive terminal is connected to the tip terminal when configured for polarity. Use the polarity sensitive setting to allow a line voltage reversal disconnect signal to disconnect the call.

- *Non-polarity Sensitive*: jumper J6 in position **NON**
- *Polarity Sensitive*: jumper J6 in position POL

DTMF Gain Select

Factory Setting: Low Gain selected.

Two gain selections are available in the DTMF detection circuit. The low gain setting is recommended for most installations. The high gain setting may be necessary if the telephone does not respond to manual or TMA-generated DTMF commands.

- *Low Gain Selected*: jumper J17 in position **LO**
- *High Gain Selected*: jumper J17 in position HI

Password Enable/Disable

Factory Setting: Password Enabled

This telephone can be configured to enable or disable the password protection for programming (Standard Mode only). This can be useful when initially programming the telephones.

- *Password Enabled*: jumper J9 in position **EN**
- *Password Disabled*: jumper J9 in position DIS

Command Select

Factory Setting: Auto

Jumper J20 enables or disables the automatic transition to SMART operation. SMART operation is disabled when the jumper in the STD position.

- *SMART Operation Enabled (Auto)*: jumper J20 in position **AUTO**
- *SMART Operation Disabled (Standard)*: jumper J20 in position STD

Low-Power Mode

Factory Setting: Low-Power Mode Disabled

The performance of the telephone can be improved by enabling the low power mode in installations where only minimal loop current is available. Symptoms of minimal loop current include low speaker volume and/or momentary muting of audio. The low-power mode should be disabled in most applications. The low-power mode is enabled by installing the following three jumpers: J21, J22, and J23.

- *Low-Power Mode Enabled*: jumpers installed at J21, J22, and J23
- *Low-Power Mode Disabled*: jumpers **NOT** installed at J21, J22, and J23

Auxiliary Outputs

Each telephone includes two isolated solid-state switches capable of switching a maximum of 125 mA at 48 V dc or 80 mA at 28 V ac. TB2 (OUT1) and TB5 (OUT4) on the emergency telephone PCBA provide the connections for the auxiliary outputs (see Figure 9).

Auxiliary Output Control

Output one connects to terminal block TB2 on the telephone's PCBA (see Figure 9). This output closes when the AUTO-DIAL1 push button is pressed and remains in that state for the duration of the telephone call.

Output one can be programmed to remain closed for up to 255 minutes (in 1-minute increments) after the call ends. The output can be deactivated before the call is disconnected via an external switch or by pressing ***921** on the keypad of the called telephone. The Clean Phone® analog telephone acknowledges acceptance of the deactivation command with a short beep. Retry the command if the beep is not initially received.

Output four connects to terminal block TB5 on the telephone's PCBA (adjacent to TB2). This output is remotely controlled by a DTMF command issued from the called telephone. This remote-control output can be used to activate or control a door latch, gate relay solenoid, alarm, etc. from the called party location (see Figure 9).

Hardware Settings

Table 3. Hardware Settings Table

Function	Default Settings		User Settings	
	Setting	Jumper/Position	Setting	Jumper/Position
Auto-answer	Enabled	J14/EN		
Password Protection	Enabled	J9/EN		
Line Polarity	Non-polarized	J6/NON		
Command Select	Auto	J20/AUTO		
DTMF Gain Select	Low Gain	J17/LO		
Low-Power Mode	Disabled	J21, J22, J23 not installed		

Programming

Read this entire section and record the desired key sequences in Table 12 prior to programming the Clean Phone® analog telephone.

There are two methods to program Clean Phone® analog telephones; *Standard Mode* and *SMART Mode*. Standard mode programming is used if the telephone system installation does not include TMA PC software. SMART mode programming should be used with TMA installed and the telephones should be configured for monitoring. Normal telephone operation is identical in both modes of operation.

Each Clean Phone® analog telephone is factory-programmed to receive standard mode commands (see Table 12 for the factory-default settings).

Password Disabled Programming

The programmable features of the Clean Phone® analog telephones are protected by a factory default or user specified password. A telephone may need to be configured for password disabled programming if the password has been changed from the default and has been forgotten or is unknown.

To configure a Clean Phone® analog telephone for password disabled programming:

1. Access the telephone's PCBA and disable the password protection feature by moving jumper J9 to the **DIS** position.
2. Confirm the auto-answer feature is enabled (jumper J14 must be in the **EN** position).
3. Call the Clean Phone® analog telephone using a touch-tone telephone.

   The telephone automatically answers the call and generates a splash tone (low to high sequence) followed by a success tone (single beep).
4. Begin entering the desired key sequences (see the Programming Sequences section).

Standard Mode Programming

Set up each Clean Phone® analog telephone locally using *local* access programming or remotely by calling the telephone from another telephone using *remote* access programming.

Local Access Programming

1. Press the ON/OFF push button.
2. Simultaneously press the **1** and **#** keypad buttons after the dial tone is heard from the speaker.

   The Clean Phone® analog telephone automatically answers the call and generates a splash tone (low to high sequence), followed approximately by a 1.5-second delay, followed by a success tone (short beep). The timing sequence to connect to the telephone, authenticate, and enter a programming sequence is shown below (see Figure 10).

3. Continue programming the telephone (see the Programming Sequences section).

Remote Access Programming

1. Enable the auto-answer feature (see the Auto-answer section.)
2. Use a touch-tone telephone to call the Clean Phone® analog telephone.

   The emergency telephone automatically answers the call and generates a splash tone (low to high sequence), followed approximately by a 1.5-second delay, followed by a success tone (short beep). The timing sequence to connect to the telephone, authenticate, and enter a programming sequence is shown below (see).

3. Continue programming the telephone (see the Programming Sequences section).

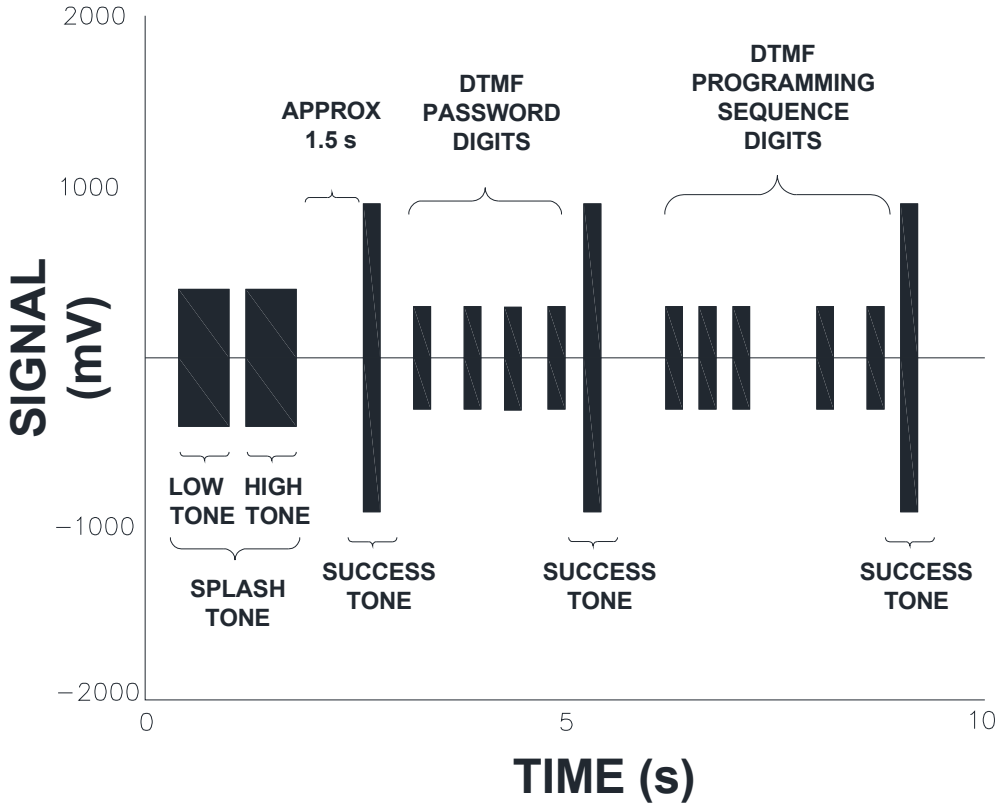

Figure 10. Telephone Programming Timing Diagram

Programming Sequences

The information on the following pages explains the programming options. The telephone is shipped from the factory with default parameters configured (see Table 12). A column is included in the table to record the modified programming parameters.

Programming Legend
D = DTMF digit 0–9, *, or #
N = Numeric digit 0–9
L = 0—Disable, 1—Enable

The following command sequences are common to both *remote* and *local* programming. Use the following procedure to configure the telephone to the desired operating parameters:

1. Connect to the telephone locally (see Local Access Programming or remotely (see Remote Access Programming section).
2. Dial the factory-default password **2468** (or the appropriate customer-selected password).

   A success tone (short beep) is generated to indicate that *standard* programming mode has been accessed.
3. Enter each desired programming key sequence (see the Programming Sequences section).

   A success tone (short beep) is generated each time a new key sequence is accepted.

   An error tone (two low tones) is generated to indicate an error.
4. Verify each key sequence and reenter the sequence if an error tone is generated.
5. To terminate the programming call:
   - Local—Press the ON/OFF push button to end the call.
   - Remote—Place the programming telephone on hook. The Clean Phone® analog telephone will automatically end the programming call within 20 seconds.

NOTES:

- The Clean Phone® analog telephone automatically times out and disconnects after 20 seconds elapses between digit entries or if an invalid password is entered.
- The telephone will exit programming mode and revert to a standard voice call if DTMF digits are not dialed within 3 seconds of the first success tone.
- The telephone has failed to recognize the password if the password success tone is not generated. The telephone must be programmed with the password disabled if the correct password is not known (see the Password Disabled Programming section).

Dialing Methods

The telephone can be configured for either auto-dialing or ring-down operation for the auto-dial push buttons. Select the dialing method that fits the application. The dialing methods are explained in detail below.

Auto-Dialing

The AUTO-DIAL1 push button can be programmed to call up to three unique telephone numbers. The unique telephone numbers include a primary telephone number and two rollover numbers. The emergency telephone will automatically dial the first rollover number if the emergency call cannot connect to the primary telephone number (i.e., a busy signal or no answer). The emergency telephone automatically dials the second rollover number if the emergency call cannot connect to first rollover telephone number (if used). This sequence will continue until the emergency call is answered, or all numbers have been attempted (one attempt each).

The number of attempts to call each programmed number can be increased when operating in SMART mode (two attempts each, three attempts each, etc.). All three auto-dial memories must be programmed with valid telephone numbers for the rollover feature to function properly. The three auto-dial numbers can all be the same or any combination of telephone numbers. The numbers will only be dialed one time if the telephone has only one or two auto-dial numbers programmed.

The telephones can be programmed to access outside CO lines if connected to a PBX, PABX, KSU, etc. telephone system. Access to a CO line typically requires adding a digit (e.g. 9) to the auto-dial number. A *pause* may also be required in the auto-dial number. The pause is normally required to wait for the secondary (CO line) dial tone (see Table 4, AUTO-DIAL 1 Number 1 for examples).

The telephones also have a programmable *Primary Dial Tone Delay* and *Secondary Dial Tone Delay* in addition to the pause capability. Both delays determine the amount of time the telephone will wait before dialing the stored telephone number.

NOTE: The secondary dial tone delay can only be used if a 9 must be entered to gain access to the CO line.

The AUTO-DIAL2 push button can only be programmed for a single telephone number when operating in standard mode. Configure the telephone for SMART mode with TMA to program the AUTO-DIAL 2 button for three-number rollover.

Table 4. Auto-Dialing Key Sequence Setup

Feature	Key Sequence	Description	Default
AUTO-DIAL1 Number 1	*DD* ... *1	Assigns a telephone number to the auto-dial memory 1. *DD*... represents the telephone number digits. Telephone numbers can be up to 24 digits long. A pause may be required in the telephone number to wait for a secondary dial tone for access to an outside line. The ***#** key combination represents a pause in the telephone number. *Examples:* To assign the police emergency number 911 to the auto-dial button, enter **911*1**. To assign 911 when a 9 is required to gain access to a CO line, enter **9*#911*1**. To store * or # as part of the auto-dial number, (such as for speed dialing), enter these digits twice in succession.	None
AUTO-DIAL1 Number 2	*DD* ... *2	Same as AUTO-DIAL1 Number 1 except the sequence ends in *2 instead of *1.	None
AUTO-DIAL1 Number 3	*DD* ... *3	Same as AUTO-DIAL1 Number 1 except the sequence ends in *3 instead of *1.	None
AUTO-DIAL2	*DD* ... *4 *DD* ... *5 *DD* ... *6	Same as AUTO-DIAL1 Number 1 except the sequence end digits. **NOTE:** The *5 and *6 telephone numbers are used only when operating in SMART mode.	None

Feature	Key Sequence	Description	Default
Primary Dial Tone Delay	# 1 0 *N N*	Dial tone delay is the amount of time the telephone waits for a dial tone before auto-dialing the telephone number. (00 [20 seconds] | 01–15 seconds) *Example*: To wait 5 seconds for a dial tone, enter **# 1 0 0 5**.	03 (3 seconds)
Secondary Dial Tone Delay	# 1 1 *N N*	This feature is only used if a 9 must be dialed to access an outside line. It determines the amount of time (00–15 seconds) that the telephone waits for a second dial tone. In the example for the AUTO-DIAL 1 Number 1 feature above, the 9*# digits prefix the auto-dial number to add the pause. This programming parameter allows choosing the amount of time the telephone waits after sending the 9 before dialing the auto-dial number. *Example*: To wait 10 seconds for the second dial tone, enter **# 1 1 1 0**.	02 (2 seconds)
Ring-down Operation	*1	This option clears the telephone number to prevent auto-dialing when the button is pressed. The ring-down system must detect the loop current and ring-down to the appropriate telephone after the button is pressed.	None

Ring-down Operation

Ring-down operation enables the telephone to go off-hook when the AUTO-DIAL1 push button is pressed. Ring-down operation requires a *ring-down* line from the PBX. Ring-down operation renders the telephone as a single button unit, as any push button press will begin the ring-down process.

Password Protection

The password protection feature allows changing the four-digit password required to program the Clean Phone® analog telephone. Each telephone is password protected to maintain the integrity of programmed information and should not be disabled.

The password is required to enter programming mode when programming the telephone locally or from a remote location. The programming password hardware configuration must be enabled when programming with the password. Jumper J9 must be in the **EN** position to enable the password protection feature. Complete the key sequence below to change the four-digit password.

Table 5. Password Programming

Feature	Key Sequence	Description	Default
Password Protection	# 1 4 *N N N N*	A four-digit password must be supplied to remotely program the telephone. If you change the password and cannot enter programming mode, see the Password Disabled Programming section. *Example*: To program the password 1234, enter **# 1 4 1 2 3 4**.	2468

Auto-Answer Alert Feature

When auto-answering an incoming call, the Clean Phone® analog telephone will generate a splash tone on the telephone line. This tone is always heard by the calling party. This tone can be pre-programmed to also be heard over the telephone's integral speaker using this key sequence.

Table 6. Auto-Answer Alert Programming

Feature	Key Sequence	Description	Default
Auto-answer Alert	# 1 6 *L*	The auto-answer alert feature allows a person to call the emergency telephone and monitor the area around the telephone with or without sounding a splash tone over the unit's integral speaker. (Disable alert tone), *L*=0. (Enable alert tone), *L*=**1**.	1 (Enabled)

Off-Hook Ringing

The telephone can generate a ringing signal from the speaker when the telephone is called. The factory default setting for this feature is *disabled.*

NOTE: In addition to enabling this feature, the *Auto-Answer* feature must also be enabled for proper operation.

Table 7. Off-Hook Ringing

Feature	Key Sequence	Description	Default
Off-Hook Ringing	# 2 2 *L*	Enabling the *off-hook ringing* feature allows a person to call the telephone and have the telephone function as a normal telephone. The telephone will ring after the splash tone is heard in the receiver if remote programming is not commenced within 7 seconds of the splash tone. To enable the ringing feature (enable splash tone and ringing), *L*=1. To disable the ringing feature (only splash tone on the phone), *L*=**0**. **NOTE:** Answering a call by pressing the CALL push button is only available on phones equipped with a CALL push button.	0 (Disabled)

Disconnect Options

Several options are available for disconnecting a call. Any combination of disconnect options may be used. Select the method that best suits the application and follow the appropriate programming directions.

Table 8. Disconnect Options

Feature	Key Sequence	Description	Default
Call Time-out Disconnect Option	# 1 2 *N N*	This feature programs the maximum length of a call if no other disconnect features are used. The valid entries are 1–99, representing 1-minute increments and 0 representing 4.5 hours. The call duration timer begins when the telephone goes off-hook. The telephone automatically disconnects after the programmed time-out period elapses. *Example*: To make the maximum call length 2 minutes, enter **# 1 2 0 2**.	10 (10 minutes)
Dial Tone Disconnect Option	# 1 9 *L*	**NOTE:** Use this option only if no other disconnect options are available. The telephone automatically terminates a call if it detects a dial tone continuously for 10 seconds with this option enabled (Ex. the called party hangs up). To enable the dial-tone disconnect, *L*=1. To disable the dial-tone disconnect, *L* = **0**. *Example*: To enable the dial tone disconnect, enter **# 1 9 1**. To disable the dial tone disconnect, enter **# 1 9 0**.	0 (Disabled)

NOTE: Simply pressing the on/off push button will disconnect the call.

Output One Extended Control Operation

Output one can be programmed for extended operation (remain closed) for up to 255 minutes (in 1-minute increments) after the emergency call ends.

Table 9. Extended Strobe Operation

Feature	Key Sequence	Description	Default
Extended Strobe Operation	# 2 5 *N N N*	Sets the duration of activation for output one contact starting at the end of a call. Use entries 001–255, representing 1 minute to 255 minutes in 1-minute increments. Use 000 to disable this feature. To set a duration of 7 minutes, enter **# 2 5 0 0 7**.	0 0 0 (Disabled)

Output Four Control Setup

The command (DTMF key sequence) that triggers the timed activation of output four contact closure (TB5) is configurable. The sequence can contain up to eight DTMF digits in the range 0–9. The first digit must not be 0 (zero). Some examples of valid control sequences are: 87654321, 832, or even a single digit such as 7. The duration of the activation (closure) of output four can be set in the range of 0.1 to 12.7 seconds in 0.1-second increments.

Table 10. Output 4 Control Options

Feature	Key Sequence	Description	Default
Control Sequence	*N N*..* 8	Assigns the digits *NN*... as the command key sequence that triggers the timed activation of Output Four. NN is a sequence of 1–8 digits, with the first digit not zero. *Example*: To assign "726" as the control sequence, enter **7 2 6 * 8**.	90125
Duration of Timed Activation	# 2 6 *N N N*	Sets the duration of the activation of the output four contact when triggered by the control sequence. Use entries 001–127, representing 0.1 second to 12.7 seconds in 0.1-second increments. Use 000 to disable this feature. To set a duration of 7 seconds, enter **# 2 6 0 7 0**.	5 seconds

Early Microphone Option

The microphone in each telephone activates only after the unit determines connection to the called party. This will occur in one of two ways based on factory-default programming; when the telephone receives a DTMF ***** from the called party, or when the telephone detects that no more ring-backs from the called number are occurring. This ring-back determination may take 4–6 seconds to detect, rendering the microphone non-active during that time.

Enabling early microphone activates the microphone when the telephone begins checking for ring-back tones, typically less than 1 second after the unit completes the dialing sequence.

Use of the early microphone feature includes an operational risk that ring-back tones can be missed, or audio received by the microphone can be recognized by the telephone, causing it to operate as if the call had been answered. This could prevent call *rollover* from occurring.

NOTE: The early microphone feature should only be used if the telephone number being called by the emergency telephone is attended 24 hours per day. If call rollover is desired, the appropriate feature setting is *early microphone option* disabled.

Table 11. Early Microphone Option

Feature	Key Sequence	Description	Default
Early Microphone Option Enable	# 7 1 1	Provide microphone activation within 1 second of dial sequence completion.	No
Early Microphone Option Disable	# 7 1 0	Returns telephone to default operation of microphone.	Yes

SMART Mode Programming

The TMA software is designed to remotely program Clean Phone® analog telephones for SMART mode operation. The telephones can be locally programmed for SMART operation but there is no advantage to having a Clean Phone® analog telephone set up for SMART mode without having TMA installed.

Clean Phone® analog telephones should be programmed for standard mode operation when installed in systems that do not have TMA installed but will have TMA operational in the future. The installed telephones can be reprogrammed from the TMA PC upon installation of TMA.

Table 12. Programming Documentation Table

Function	Key Sequence	Default Settings	User Settings
Auto-dial or Ring-Down Programming (see Table 4)			
Auto-dial1 Number 1	*DD**1	None	
Auto-dial1 Number 2	*DD**2	None	
Auto-dial1 Number 3	*DD**3	None	
Auto-dial2 Number	*DD**4	None	
Primary Dial Tone Delay	#10*NN*	3 seconds	
Secondary Line Dial Tone Delay	#11*NN*	2 seconds	
Ring-down Operation	*1	None	
Password Protection Feature Programming (see Table 5)			
Password Protection	#14*NNNN*	2468	
Disconnect Options Programming (see Table 8)			
Call Time-out Disconnect	#12*NN*	10 minutes	
Dial Tone Disconnect	#19*L*	0 (disabled)	
Other Programming Features			
Auto-Answer Alert Feature (see Table 6)	#16*L*	0 (disabled)	
Off-Hook Ringing Feature (see Table 7)	#22*L*	0 (disabled)	
Extended Strobe Operation (see Table 9)	#25*NNN*	0 0 0 (disabled)	
Output Four Control Setup (see Table 10)	*NN*…*8 #26*NNN*	90125 050 (5 sec.)	
Early Microphone Option (see Table 11)	#71*L*	0 (disabled)	
Table Legend D = DTMF digit 0–9, *, or # N = Numeric digit 0–9 L = 0-Disable, 1-Enable			

Maintenance

⚠**WARNING** ⚠—Always remove power to this station prior to servicing.

General Information

1. Inspect and replace frayed or cracked wiring.
2. Secure/replace loose wires and terminal lugs.
3. Remove corrosion from terminals.

Service

Contact a regional service center for an RA# (return authorization number) if a Clean Phone® analog telephone requires depot service. Ship equipment prepaid to GAI-Tronics with a return authorization number and a purchase order number. Repairs will be made without charge if the equipment is under warranty. Please include a written explanation of all defects to assist our technicians in their troubleshooting efforts.

Call 800-492-1212 inside the USA or 610-777-1374 outside the USA for help identifying the regional service center closest to you.

Replacement Parts and Accessories

Part No.	Description
235-001	Maintenance Cover
12575-008	Replacement Front Panel Kit
12562-107	PCBA, Replacement Kit
40404-088	Replacement Power Supply Kit (includes 40411-005 Power Supply and five adapter clips)
12585-001	Speaker Assembly Replacement Kit

Specifications

TMA compatibility profile type ..... GTC SMART Hands-free
Auto-dial digit limit ..... 24 digits

Electrical

Audio output ..... 1 kHz tone—87 ±3 dB SPL @ 1 m with 40 mA loop current
Battery voltage (tip and ring) ..... 24 V dc or 48 V dc
Telephone line requirements ..... loop start, central office (CO), or analog station port (PBX, PABX, or KSU)
Minimum loop current ..... 24 mA (35 mA recommended)
Auxiliary outputs (Isolated solid-state switch) ..... 125 mA @ 48 V dc
80 mA $_{RMS}$ @ 28 V ac
Signaling ..... DTMF 100 ms tone
Memory ..... non-volatile EEPROM
Power supply ..... 100–240 V ac input, 5 V dc output

Mechanical

Temperature range
Operating ..... −4 ºF to +131 ºF (−20 ºC to +55 ºC)
Storage ..... −40 ºF to 158 ºF (−40 ºC to +70 ºC)
Relative humidity ..... up to 95%, non-condensing
PCBA (printed circuit board assembly) ..... conformal coated

Chemical Resistance

The Clean Phone® analog telephone graphic overlay is designed to withstand exposure to many chemicals. Please contact the factory for questions pertaining to chemicals not listed below:

Ajax/Vim in solution	Downey/Lenor[1]	Petroleum spirit[1]
Alkali-carbonate solution[1]	Ethanol	Phosphoric acid (<30%)
Ammonia (<40%)	Glycerin	Potassium ferricyanide
Acetic Acid (50%)	Glycol	Potassium hydroxide (<30%)
Ariel powder in solution[1]	Gumption[1]	Pure turpentine
Bleach[1]	Hydrochloric acid (<36.7%)	SBP 60/95[1]
Castor oil	Hydrogen Peroxide (25% solution)	Sulfuric acid (<10%)
Caustic soda (<40%)	Linseed Oil	Tomato Ketchup
Cutting oil	Methanol	Trichloroacetic acid (<50%)
Cylohexanol	Nitric Acid (<10%)	White spirit
Diacetone alcohol	Paraffin oil	Windex[1]
Diesel	Persil powder in solution[1]	Wisk

[1]Extremely faint glossing of the texture was noted.

The Clean Phone® analog telephone graphic overlay is NOT resistant to the following:

Concentrated mineral acids	High pressure steam at over 100º C	Methylene chloride
Concentrated caustic solution	Benzyl alcohol	UV exposure
Dimethylformamide	Tetrahydrofuran	

Model 295-001F Clean Phone® Analog Telephone

Construction

front panel: ..... 8 mil polyester over 16-gauge stainless steel

mounting bracket: ..... 16-gauge stainless steel

Dimensions

Front panel: ..... 12.00 W × 12.00 H in; (304.8 × 304.8 mm)

Mounting bracket: ..... 10.75 W × 10.88 H × 1.75 D in; (273.1 × 276.2 × 44.3 mm)

Model 295-001W Clean Phone® Analog Telephone

Construction

Front panel: ..... 8 mil polyester over 16-gauge stainless steel

Back enclosure: ..... 16-gauge stainless steel

Dimensions

Front panel: ..... 12.00 W × 12.00 H in (304.8 × 304.8 mm)

Back enclosure: ..... 12.00 W × 12.00 H × 2.06 D in (304.8 × 304.8 × 52.3 mm)

Shipping weight & dimensions ..... 12.15 lb, 17.00 × 17.00 × 11.00 in

Approvals

Safety of Information Technology Equipment ..... UL/CSA 60950

47 CFR Part 68

Certification Number ..... US: ADGTE05BGTC2010

Ringer Equivalence Number ..... 0.5 B

Network connection (USOC) RJ11

IC Information (Canada)

IC Certification Number 822B-GTC2010

Ringer Equivalence Number ..... 0.5 B

Connection Method CA11A

Warranty

Equipment. GAI-Tronics warrants for a period of one (1) year from the date of shipment, that any GAI-Tronics equipment supplied hereunder shall be free of defects in material and workmanship, shall comply with the then-current product specifications and product literature, and if applicable, shall be fit for the purpose specified in the agreed-upon quotation or proposal document. If (a) Seller's goods prove to be defective in workmanship and/or material under normal and proper usage, or unfit for the purpose specified and agreed upon, and (b) Buyer's claim is made within the warranty period set forth above, Buyer may return such goods to GAI-Tronics' nearest depot repair facility, freight prepaid, at which time they will be repaired or replaced, at Seller's option, without charge to Buyer. Repair or replacement shall be Buyer's sole and exclusive remedy. The warranty period on any repaired or replacement equipment shall be the greater of the ninety (90) day repair warranty or one (1) year from the date the original equipment was shipped. In no event shall GAI-Tronics warranty obligations with respect to equipment exceed 100% of the total cost of the equipment supplied hereunder. Buyer may also be entitled to the manufacturer's warranty on any third-party goods supplied by GAI-Tronics hereunder. The applicability of any such third-party warranty will be determined by GAI-Tronics.

Services. Any services GAI-Tronics provides hereunder, whether directly or through subcontractors, shall be performed in accordance with the standard of care with which such services are normally provided in the industry. If the services fail to meet the applicable industry standard, GAI-Tronics will re-perform such services at no cost to buyer to correct said deficiency to Company's satisfaction provided any and all issues are identified prior to the demobilization of the Contractor's personnel from the work site. Re-performance of services shall be Buyer's sole and exclusive remedy, and in no event shall GAI-Tronics warranty obligations with respect to services exceed 100% of the total cost of the services provided hereunder.

Warranty Periods. Every claim by Buyer alleging a defect in the goods and/or services provided hereunder shall be deemed waived unless such claim is made in writing within the applicable warranty periods as set forth above. Provided, however, that if the defect complained of is latent and not discoverable within the above warranty periods, every claim arising on account of such latent defect shall be deemed waived unless it is made in writing within a reasonable time after such latent defect is or should have been discovered by Buyer.

Limitations / Exclusions. The warranties herein shall not apply to, and GAI-Tronics shall not be responsible for, any damage to the goods or failure of the services supplied hereunder, to the extent caused by Buyer's neglect, failure to follow operational and maintenance procedures provided with the equipment, or the use of technicians not specifically authorized by GAI-Tronics to maintain or service the equipment. THE WARRANTIES AND REMEDIES CONTAINED HEREIN ARE IN LIEU OF AND EXCLUDE ALL OTHER WARRANTIES AND REMEDIES, WHETHER EXPRESS OR IMPLIED BY OPERATION OF LAW OR OTHERWISE, INCLUDING ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

Return Policy

If the equipment requires service, contact your Regional Service Center for a return authorization number (RA#). Equipment should be shipped prepaid to GAI-Tronics with a return authorization number and a purchase order number. If the equipment is under warranty, repairs or a replacement will be made in accordance with the warranty policy set forth above. Please include a written explanation of all defects to assist our technicians in their troubleshooting efforts.

Call 800-492-1212 (inside the USA) or 610-777-1374 (outside the USA) for help identifying the Regional Service Center closest to you.