MIGHTY MULE ®
ACCESS CONTROLS

IMPORTANT: Allow the intercom base unit's battery to charge for 12 hours before using the system for the first time.

Base Unit

Keypad Unit

Wireless Gate Entry Intercom
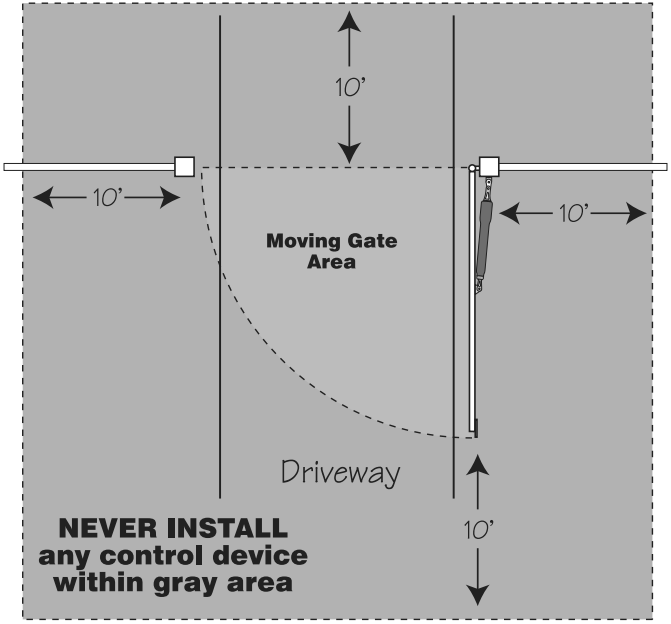## Installation Instructions

Crystal clear two-way wireless communication up to 500 feet

Thank you for purchasing the Mighty Mule Wireless Gate Entry Intercom. Please read the directions carefully and completely before installing.

SAFETY NOTE:

NEVER install the keypad portion of this system where a person can reach through the gate to activate it, or where a person can touch the gate while activating the keypad.

The recommended minimum distance between the gate and keypad is 10 ft.

10'

10'

Moving Gate Area

10'

Driveway

NEVER INSTALL any control device within gray area

10'

rev - 09-20-10

Features of the Wireless Intercom/Keypad

The Wireless Intercom/Keypad has two separate units: the KEYPAD and the BASE UNIT. The keypad should be mounted outside the gate allowing visitors to press the CALL button from their vehicle. The base unit is powered by a rechargeable battery; the charge is maintained by the transformer. It can also be disconnected from the transformer allowing it to go anywhere within range for convenience. Up to three additional base units can be added for convenience in different locations throughout the house.

When someone without an access code approaches the gate, they can press the CALL button on the keypad which will ring the base unit inside the house. To answer the CALL, the person inside presses and holds the ANSWER button to talk to the person at the gate, releasing the ANSWER button to listen. To allow the person calling to open the gate, the GRANT PERMISSION button must be pressed. Then the person at the gate can press any number key on the keypad to open the gate. The END CALL button terminates the calls and the ON/OFF switch can be used to conserve power when using unit on battery (note: the base station will not recieve a signal if turned OFF).

Up to 25 different personal Entry Codes may be programmed into the keypad, allowing you to give different temporary and permanent Entry Codes to different users. For example, you can give a delivery person their own temporary entry code, which you can easily change after he has made the delivery. This will prevent him from being able to regain access, while still allowing those to whom you gave permanent Entry Codes full access.

After entering a valid code, pressing any key on the keypad while the gate is opening will stop the gate; pressing any key while the gate is stopped will cause the gate to reverse direction. The keypad will not affect the auto-close setting of your gate opener system.

The keypad will light up and the unit will beep at the press of any key. The keypad memory will recognize your entry code in a string of up to 20 digits. If it finds the correct sequence, it will activate the gate opener. As a security feature, the keypad will shut down for 40 seconds if it does not find the correct code sequence within a 20-digit string. This will discourage an unauthorized person from trying to use random numbers to access your property.

Entry Codes will remain stored in memory even when the batteries go dead. The keypad will remember your Entry Codes as long as you don't press the RESET button.

> **IMPORTANT:** In areas of high radio frequency (RF) interference, the keypad may need to be connected (hard wired) directly to the gate opener using 16 gauge (AWG) stranded, direct burial, low voltage wire (**RB509,** not included).

FCC WARNING: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.
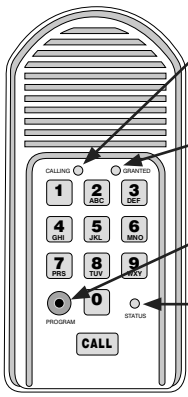
However, there is no guarantee that interference will not occur in particular installations. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: • Reorient or replace the receiver antenna. • Increase the separation between the equipment and the receiver. • Connect the equipment into an outlet on a circuit different from that to which the receiver is connected. • Consult the dealer or an experienced radio/TV technician for help.
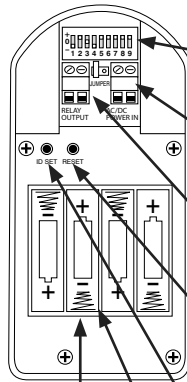

Keypad Description

Keypad Front

CALLING Light:
LED is RED when calling and turns GREEN when call is answered.

GRANTED Light:
LED turns GREEN when access permission is granted.

PROGRAM button:
Used to program entry codes.

STATUS Light:
This LED will blink once when any key is pressed and provides visual feedback when programming entry codes.

Keypad Interior

DIP Switches:
Match the keypad dip switch settings with your entry transmitter's dip switch settings.

Power Input:
Used to connect keypad to gate opener battery for continuous power supply.

Relay output:
Used to connect the keypad to gate opener control board in hard-wired applications.

RESET button:
Pressing this button for 2 seconds will reprogram the keypad to factory settings. All codes are deleted. Default Master Code is "1234."

ID SET button:
Used to reassign new code only when there is another pair of GTO wireless intercom units nearby causing interference.

Battery Holder:
Use 4 AA batteries.

1. Install Batteries

Four (4) AA batteries (not included) are required to power the keypad. If an external DC power supply such as the gate opener's battery is used (see **2.B**."Hard-Wired Installation"), the AA batteries will act as a back up.

Step 1: Remove the two screws from the bottom of the keypad and separate the keypad from its housing.

Step 2: Install four (4) AA batteries (not included).

2. Install Keypad
A. Wireless Installation

For wireless applications, the keypad must be in the line of sight of the gate opener receiver and no more than 50 ft. away from the receiver. Always test the keypad range before permanently mounting it. *NOTE: a metal housing or metal object could cause interference*.
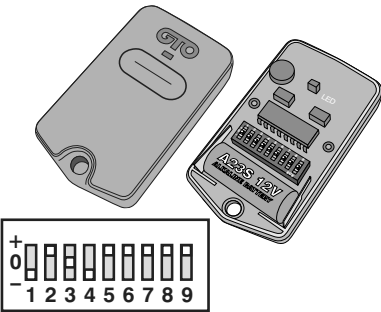
Step 1: Mount the keypad housing using the screws provided.

Step 2: Set the keypad DIP switches to match your entry transmitter's DIP switch settings.

NOTE: If you have not adjusted your gate opener's entry transmitter from the factory setting, see the "Personalize Transmitter Settings" section in the gate opener's installation manual. Then set the keypad DIP switches to match the entry transmitter DIP switch setting.

**Step 3**: Slide the keypad into the housing and secure with the small screws provided.
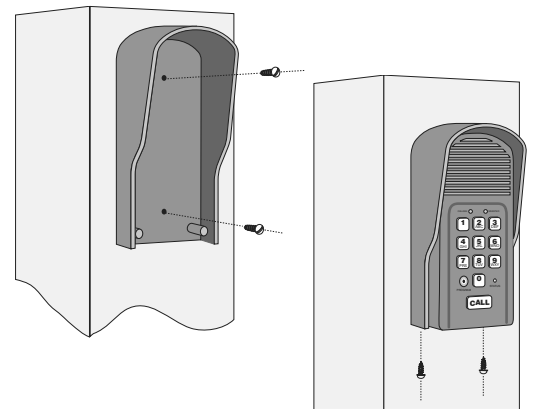
B. Hard-Wired Installation

To power the keypad with the gate opener's battery and hard wire the communication between the keypad and the gate opener, you will need to run two pairs of wires: one pair to hard-wire the keypad to the gate opener's control board; the other pair to connect the keypad to the gate opener's battery.

Step 1: Turn the gate opener's power switch OFF. Use two pairs of 16 gauge (AWG) stranded, direct burial, low voltage wire (**RB509**) to connect the keypad to the gate opener control board and battery. Run wire through PVC pipe from the ground to keypad and from the ground to the opener control board to protect it from lawn mowers or grazing animals.
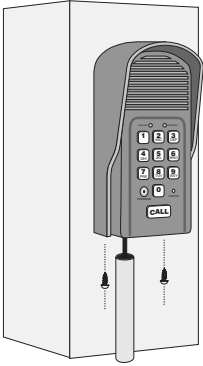
Determine how the wires will enter the keypad (e.g., from the back through a hole drilled in the post; running the wire on the post surface). Remove the small rectangular knock-out on the back of the keypad housing and pull the wires into the housing. Then mount the housing to the post using the screws provided.

Knock-out
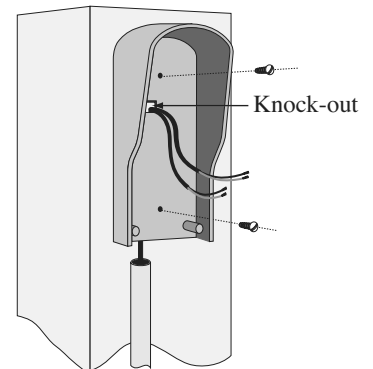
Step 2: Strip 3/16" off the ends of one pair of low voltage wires. Attach the wires to the terminal block marked RELAY OUTPUT on the keypad control board as shown. Connect the other end of the wires to the gate opener's control board as shown in **Control Board Connections** (below).
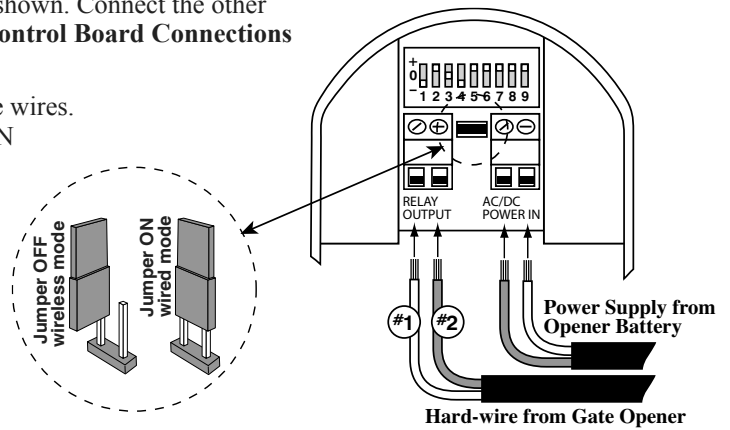
Step 3: Strip 3/16" off the ends of the second pair of low voltage wires. Attach the wires to the terminal block marked AC/DC POWER IN on the keypad control board as shown. Connect the other end of the wires to the opener's battery: one end to the POSITIVE (RED) pole and the other to the NEGATIVE (BLACK) pole.

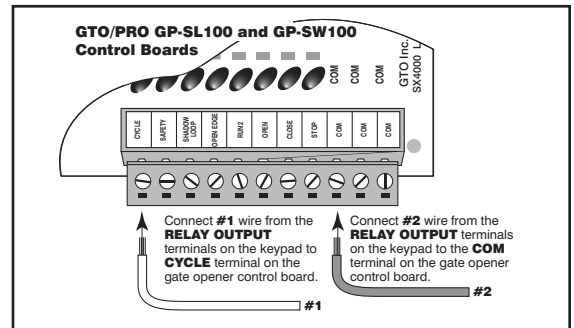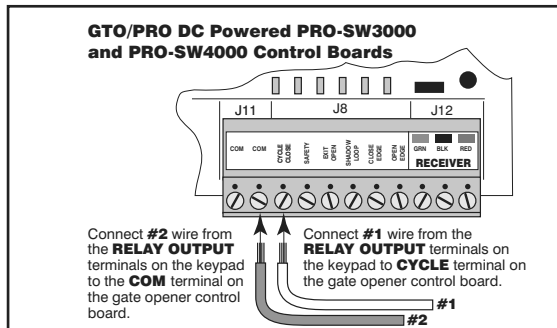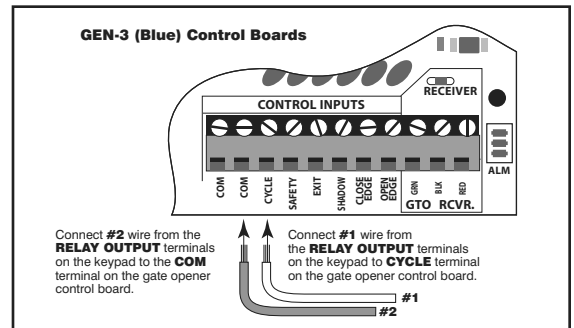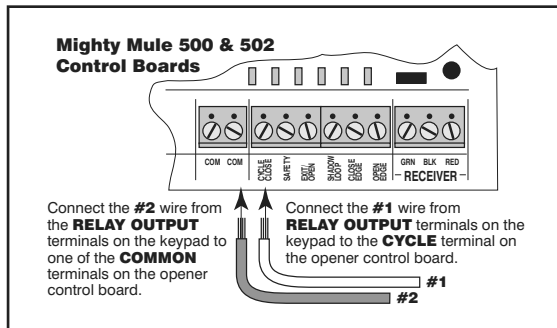**Step 4:** Connect the jumper between the two terminals on the keypad control board (ON) as shown.
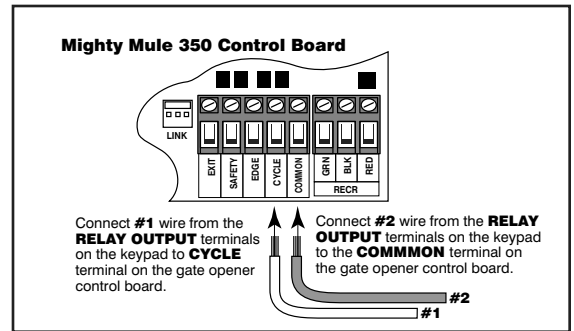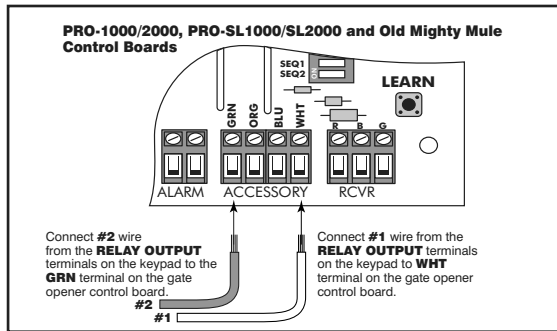
Step 5: Slide the keypad into the housing and secure with the small screws provided.

Step 6: Replace the control board cover and turn the power switch ON.

Jumper OFF wireless mode

Jumper ON wired mode

RELAY OUTPUT

AC/DC POWER IN

#1 #2

Power Supply from Opener Battery

Hard-wire from Gate Opener

Control Board Connections

If your control board doesn't look like any of these diagrams, please refer to your gate opener installation manual or call GTO Technical Service at 1-800-543-1236 or 850-575-4144.

PRO-1000/2000, PRO-SL1000/SL2000 and Old Mighty Mule Control Boards

SEQ1 SEQ2

LEARN

GRN ORG BLU WHT

R B G

ALARM   ACCESSORY   RCVR

Connect **#2** wire from the **RELAY OUTPUT** terminals on the keypad to the **GRN** terminal on the gate opener control board.

Connect **#1** wire from the **RELAY OUTPUT** terminals on the keypad to **WHT** terminal on the gate opener control board.

#2
#1

Mighty Mule 350 Control Board

LINK

EXIT SAFETY EDGE CYCLE COMMON   GRN BLK RED
RECR

Connect **#1** wire from the **RELAY OUTPUT** terminals on the keypad to **CYCLE** terminal on the gate opener control board.

Connect **#2** wire from the **RELAY OUTPUT** terminals on the keypad to the **COMMMON** terminal on the gate opener control board.

#2
#1

Mighty Mule 500 & 502 Control Boards

COM COM CLOSE EDGE SAFETY EXIT/OPEN SHADOW LOOP CLOSE EDGE OPEN EDGE   GRN BLK RED
RECEIVER

Connect the **#2** wire from the **RELAY OUTPUT** terminals on the keypad to one of the **COMMON** terminals on the opener control board.

Connect the **#1** wire from the **RELAY OUTPUT** terminals on the keypad to the **CYCLE** terminal on the opener control board.

#1
#2

GEN-3 (Blue) Control Boards

RECEIVER

CONTROL INPUTS

COM COM CYCLE SAFETY EXIT SHADOW CLOSE EDGE OPEN EDGE   GRN BLK RED
GTO   RCVR.   ALM

Connect **#2** wire from the **RELAY OUTPUT** terminals on the keypad to the **COM** terminal on the gate opener control board.

Connect **#1** wire from the **RELAY OUTPUT** terminals on the keypad to **CYCLE** terminal on the gate opener control board.

#1
#2

GTO/PRO DC Powered PRO-SW3000 and PRO-SW4000 Control Boards

J11   J8   J12

COM COM CYCLE CLOSE SAFETY EXIT OPEN SHADOW LOOP CLOSE EDGE OPEN EDGE   GRN BLK RED
RECEIVER

Connect **#2** wire from the **RELAY OUTPUT** terminals on the keypad to the **COM** terminal on the gate opener control board.

Connect **#1** wire from the **RELAY OUTPUT** terminals on the keypad to **CYCLE** terminal on the gate opener control board.

#1
#2

GTO/PRO GP-SL100 and GP-SW100 Control Boards

CYCLE SAFETY SHADOW LOOP OPEN EDGE RUN2 OPEN CLOSE STOP COM COM COM COM
GTO Inc. SX4000 L

Connect **#1** wire from the **RELAY OUTPUT** terminals on the keypad to **CYCLE** terminal on the gate opener control board.

Connect **#2** wire from the **RELAY OUTPUT** terminals on the keypad to the **COM** terminal on the gate opener control board.

#1
#2

3. Test Keypad

Turn the gate opener power switch to ON. Test the keypad by entering "1234."
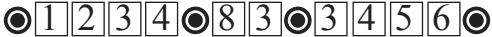
4. Program the Keypad

Programming Interface/Keypad Operation:

- **In these instructions, the symbol for the Programming Button is:** ◉
- All codes are four (4) digits in length.
- Entry Code is a four (4) digit code needed to activate the gate.
- Master Code is needed to add, remove or reset Entry Codes.
- Master Code also functions as an Entry Code.
- Factory default Master Code is "1234."
- STATUS light should blink and keypad should beep (once) whenever any button is pressed.
- If more than 10 seconds elapse between key presses, the keypad returns to idle mode.
- Keypad can only enter program mode from idle mode.
- Keypad will beep three times before going into idle mode.
- When a programmed Entry Code is used, the keypad STATUS light will blink twice and the keypad will beep twice to confirm that a matched code is entered.
- No more than 20 key presses are allowed to obtain a 4-digit Entry Code. For example, "1234" is one of the programmed Entry Codes. The user can enter "x1234" or "xxxxxxxxxxxxxxx1234" (with "x" being any key) and the gate will be activated. If more than 20 key presses are entered without matching one of the Entry Codes, then the STATUS light will flash rapidly and the keypad will go into "lock-down" mode for 40 seconds. The user must not enter any code for at least 40 seconds before the unit returns to idle mode.

Add Temporary Entry Code:
1. Press and release PROGRAM button.
2. Enter the Master Code then press and release PROGRAM button.
3. Enter "8" and any number between 1 thru 7 then press and release the PROGRAM button. The second number (1 thru 7) indicates the number of days after which the code will be automatically removed from memory.*
4. Enter the new Entry Code then press and release PROGRAM button. The keypad will beep 3 times to confirm that the new Entry Code is accepted.**

Example: Key press sequence to add "3456" as a temporary Entry Code that will remain valid for only three days ("1234" is the Master Code).

◉ 1 2 3 4 ◉ 8 3 ◉ 3 4 5 6 ◉

> ***NOTE:** If memory is full (there are already 25 programmed Entry Codes) the STATUS light will flash rapidly and the Keypad will beep for 2 seconds before returning to idle mode without saving.*
>
> ****NOTE:** If the code is NOT 4-digits in length or an error has occurred, the STATUS light will flash rapidly and the keypad will beep for 2 seconds before returning to idle mode without saving.*

Program New Master Code:
1. Press and release PROGRAM button.
2. Enter the old Master Code, then press and release PROGRAM button.
3. Enter "06" then press and release PROGRAM button.
4. Enter the new Master Code, then press and release PROGRAM button.
5. Enter the new Master Code again for confirmation, then press and release PROGRAM button.
6. Keypad beeps 3 times to confirm that the new Master Code is accepted. *NOTE: If the new Master Code is not a matched pair or an error occurs (e.g., if the entry code is NOT a 4-digit code), the STATUS light will flash rapidly and the keypad will beep for 2 seconds before returning to idle mode with old Master Code.*
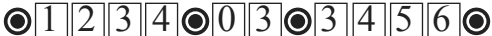
Example: Key press sequence to change Master Code from "1234" to "3121."

◉ 1 2 3 4 ◉ 0 6 ◉ 3 1 2 1 ◉ 3 1 2 1 ◉

Delete An Entry Code:
1. Press and release PROGRAM button.
2. Enter the Master Code then press and release PROGRAM button.
3. Enter "03" then press and release PROGRAM button.
5. Enter the Entry Code to be deleted, then press and release PROGRAM button. The keypad will beep 3 times to confirm that the Entry Code is deleted. *NOTE: If no matching code is found or the code is NOT 4-digit in length, then an error has occurred. The STATUS light will flash rapidly and the keypad will beep for 2 seconds before returning to idle without saving.*

Example: Key press sequence to delete entry code "3456" from memory ("1234" is the Master Code).

◉ 1 2 3 4 ◉ 0 3 ◉ 3 4 5 6 ◉

Add New Entry Code:
1. Press and release PROGRAM button.
2. Enter the Master Code, then press and release PROGRAM button.
3. Enter "02" then press and release PROGRAM button.*
4. Enter the new Entry Code, then press and release PROGRAM button. The keypad will beep 3 times to confirm that the new Entry Code is accepted. **
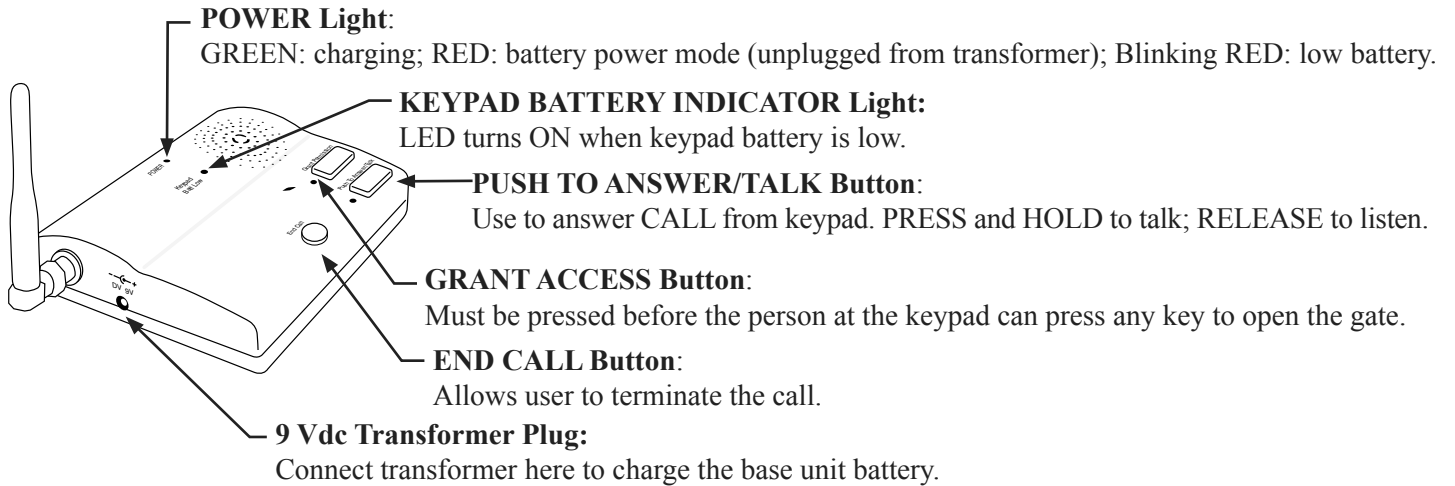
Example: Key press sequence to add "3456" as a new entry code ("1234" is the Master Code).

◉ 1 2 3 4 ◉ 0 2 ◉ 3 4 5 6 ◉

Delete ALL Entry Codes:
1. Press and release PROGRAM button.
2. Enter the Master Code then press and release PROGRAM button.
3. Enter "07" then press and release PROGRAM button. The keypad will beep 3 times to confirm that all Entry Codes are deleted.

Example: Key press sequence to delete all entry codes from memory ("1234" is the Master Code).
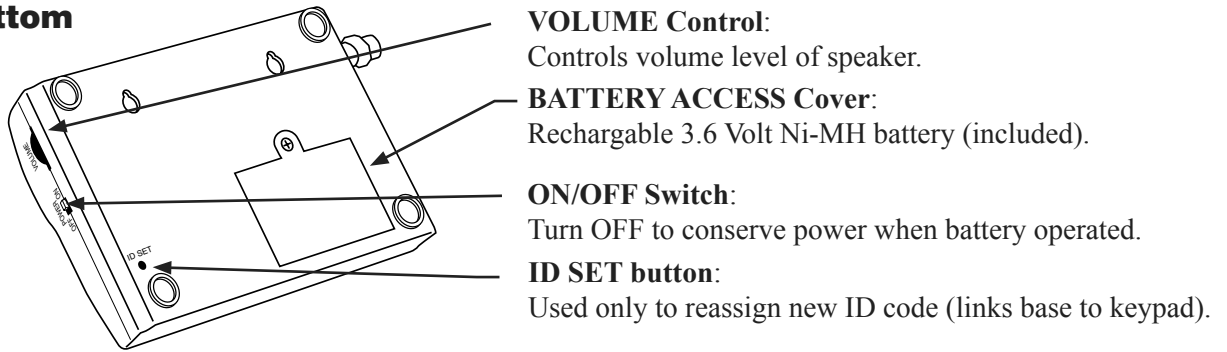
◉ 1 2 3 4 ◉ 0 7 ◉

Base Unit Description

Base Unit Face

POWER Light:
GREEN: charging; RED: battery power mode (unplugged from transformer); Blinking RED: low battery.

KEYPAD BATTERY INDICATOR Light:
LED turns ON when keypad battery is low.

PUSH TO ANSWER/TALK Button:
Use to answer CALL from keypad. PRESS and HOLD to talk; RELEASE to listen.

GRANT ACCESS Button:
Must be pressed before the person at the keypad can press any key to open the gate.

END CALL Button:
Allows user to terminate the call.

9 Vdc Transformer Plug:
Connect transformer here to charge the base unit battery.

Base Unit Bottom

VOLUME Control:
Controls volume level of speaker.

BATTERY ACCESS Cover:
Rechargable 3.6 Volt Ni-MH battery (included).

ON/OFF Switch:
Turn OFF to conserve power when battery operated.

ID SET button:
Used only to reassign new ID code (links base to keypad).

5. Install Base Unit Battery

Step 1: Remove the battery access cover using a small phillips head screwdriver.

Step 2: Plug the rechargeable Ni-MH battery into the receptacle inside the battery compartment.

Step 3: Replace the battery access cover.

Battery Plug

Battery
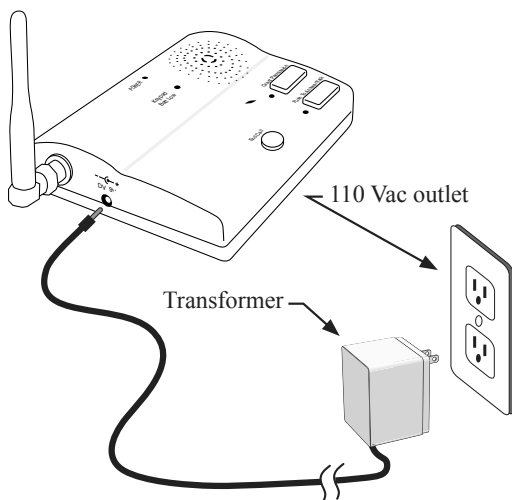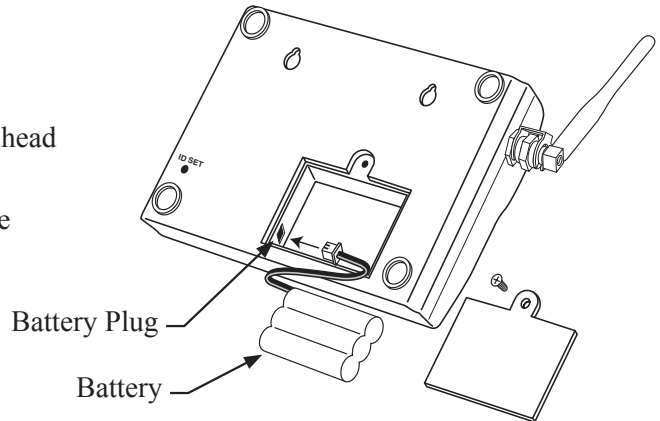
6. Connect the Transformer

Step 1: Find a convenient location near an outlet to mount or place the base unit. If you are mounting the base unit on the wall, use the template (page 6) to place screws.

Step 2: Plug the transformer into the AC outlet and connect it to the base unit's power jack marked DC 9V.

110 Vac outlet

Transformer

IMPORTANT: Allow the base unit's battery to charge for 12 hours before using the system for the first time.

The base unit can be disconnected from the transformer for use in another location. The battery will last approximately four (4) hours when unplugged from the transformer. **IMPORTANT: You can turn the base unit OFF to conserve battery power, however it will not receive a signal when OFF.**

7. Add Additional Base Units (optional)

Intercom ID Codes
The keypad and base unit are programmed at the factory to communicate with each other, and do not need the ID Codes programmed. This base unit is the MASTER or #1 unit.

If you have purchased additional base units (F3101MBC) to enhance your system, each additional unit's ID Code must be programmed into the keypad so they can communicate.

Step 1: Install the battery and turn the base unit ON.

Step 2: Press and release the "ID SET" button on the keypad.

Step 3: Press the number on the keypad that corresponds to the base unit you are adding. You will hear a number of beeps corresponding to the number you pressed. For Example: if you are adding a second base unit to the system, PRESS "2," the keypad will beep TWO times.

Step 4: Press the "ID SET" button on the base unit for approximately two seconds then release. You will hear TWO beeps from the base unit and TWO beeps from the keypad, which means the ID Code is set.

IMPORTANT: Base units need to be placed at least 10 feet apart to prevent interference.

Keypad - Inside   **Keypad - Front**
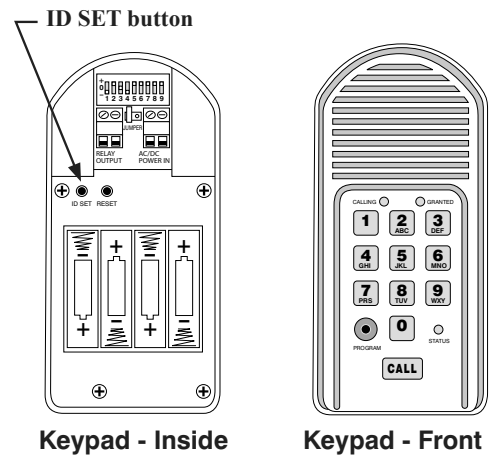
8. Test the System

IMPORTANT: The base unit and the keypad cannot be within 30 feet of each other when operating. If units are closer than 30 feet the signal will be inconsistent and emit speaker feedback. Also, multiple base units must be no closer than 10 feet from each other to prevent interference.

Have someone press the CALL button on the keypad at the gate. When the base unit inside the house rings, press the ANSWER button and talk to the person at the gate to check the connection and range. Then press the GRANT PERMISSION button and have the person at the gate press any key on the keypad to activate the gate.


Base Unit – Bottom
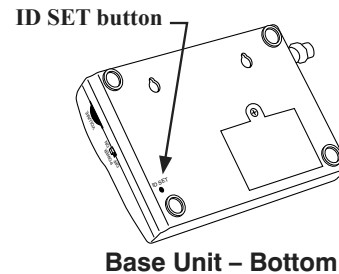
Troubleshooting

Make sure all connections are secure and correct, batteries installed, and base unit is ON. If you have multiple base units, they should be at least 10 feet apart to prevent interference.

In rare cases, other devices operating in the same frequency band may cause interference with the intercom signal. If the system does not communicate at all, reassign the base unit/keypad ID code as follows (this will require two people):

1. Open the keypad and locate the "ID SET" button above the batteries. Locate the "ID SET" button on the bottom of the intercom base unit.

2. Make sure the "antenna-to-antenna" distance between the keypad and the

Base unit (bottom)

Keypad (inside)
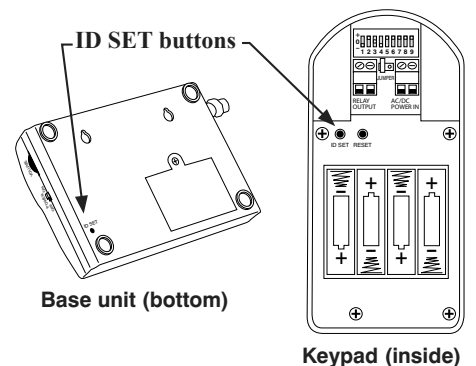
base unit is at least 30 feet.

3. Press the "ID SET" button on the keypad until you hear a beep, then release. This erases all stored ID Codes.

4. Press the "ID SET" button on the MASTER base unit for approximately 2 seconds then release. You will hear ONE beep from the base unit and TWO from the keypad, which means the ID Codes are reassigned.

5. Test the system by pressing the CALL button on the keypad to see if the base unit receives the signal. Once the system is working, you will need to reset additional base stations (see page 5).

If all connections are correct and the ID SET change didn't solve the communication problem, please call our Technical Service Department at 1-800-543-1236, Monday–Friday, 8:00 am to 7:00 p.m. (ET).

INTERCOM/KEYPAD SPECIFICATIONS	
Frequency	318 MHz from keypad to gate opener 900 MHz from keypad to base station
Memory – Keypad	Stores up to 25 four-digit entry codes
Power Consumption – Keypad	60 mA when relay is closed
Power Supply – Keypad	8-24 Vdc or four AA batteries
Power Supply – Base Unit	9 Vdc 300 ma transformer; 3.6V Ni-MH 800 mA rechargeable battery pack
Range from Keypad to Base Unit	500' wireless
Range from Reypad to Gate Opener	50' wireless 100' wired using 16 AWG wire
Relay Output – Keypad	Momentary, normally open dry contact closes for 2 seconds upon activation
Relay Output Rating – Keypad	12 or 24 Vdc 100 mA
Wiring – Keypad Power & Relay Output	16 AWG stranded low voltage direct burial wire

If you have any questions or concerns, please contact our Technical Service Department Monday thru Friday 8:00 a.m. to 7:00 p.m. (ET) at 1-800-543-1236 or 850-575-4144

GTO–Gates That Open, LLC • 3121 Hartsfield Road • Tallahassee, Florida 32303
Telephone (850) 575-0176 • Fax (850) 575-8912 • www.gtoinc.com

Hole Template for Mounting the Base Unit