

# Installation/Owner's Manual **1802 1808 1810 Access Plus**

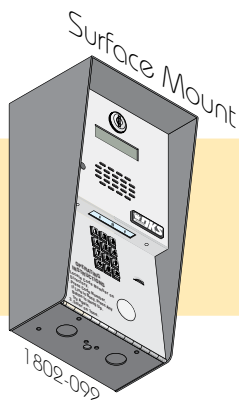
PC Programmable Telephone Entry/Access Control System

Use this manual for circuit board 1970-010 Revision U or higher.

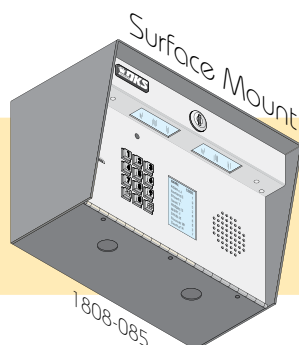
1810-162-A-6-16

Control a main door, gate and six additional RS-485 entry points.

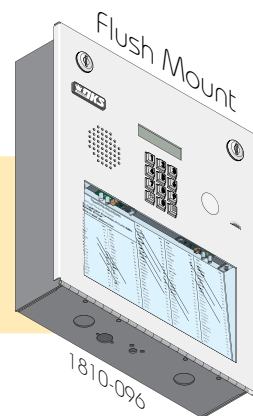
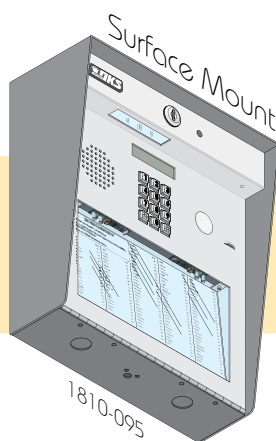
**1802**  
**Access Plus**



**1808**  
**Access Plus**



**1810**  
**Access Plus**



Date Installed: \_\_\_\_\_

Installer/Company Name: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Circuit Board  
Serial Number  
and Revision Letter: \_\_\_\_\_

**Leave Manual with Owner**

Copyright 2016 DoorKing, Inc. All rights reserved.



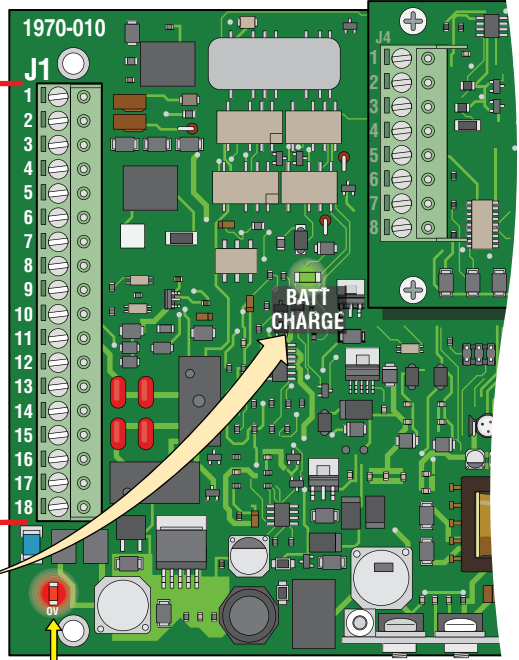
# QUICK GUIDE: Terminals & LED Descriptions

- OR **Phone In (Twisted Pair)** 1. Phone In (Negative - Ring)  
**Wireless Adapter** 2. Phone In (Positive - Tip)  
 3. Ground (Required)
- Phone Out (Twisted Pair)** 4. Phone Out (Positive - Tip)  
 5. Phone Out (Negative - Ring)  
 6. Not Used.
- Emergency and/or Postal Entry Switch** 7. Switch Input Relay 1. A switch closure across terminals 7 & 9 will activate relay 1 for its programmed strike time.  
 8. Switch Input Relay 2. A switch closure across terminals 8 & 9 will activate relay 2 for its programmed strike time.
- Back-Up Battery Power** 9. - 12 VDC Battery Negative. Also **Common** for terminals 7 & 8.  
 10. + 12 VDC Battery Positive.
- Relay 1 (Access Control Device)** 11. Relay 1 Normally Open  
 12. Relay 1 Normally Closed  
 13. Relay 1 **Common**
- Relay 2 (Access Control Device)** 14. Relay 2 Normally Open  
 15. Relay 2 Normally Closed  
 16. Relay 2 **Common**
- Input Power (Transformer)** 17. 16.5 VAC Input Power  
 18. 16.5 VAC Input Power  
**DO NOT use 24V.**

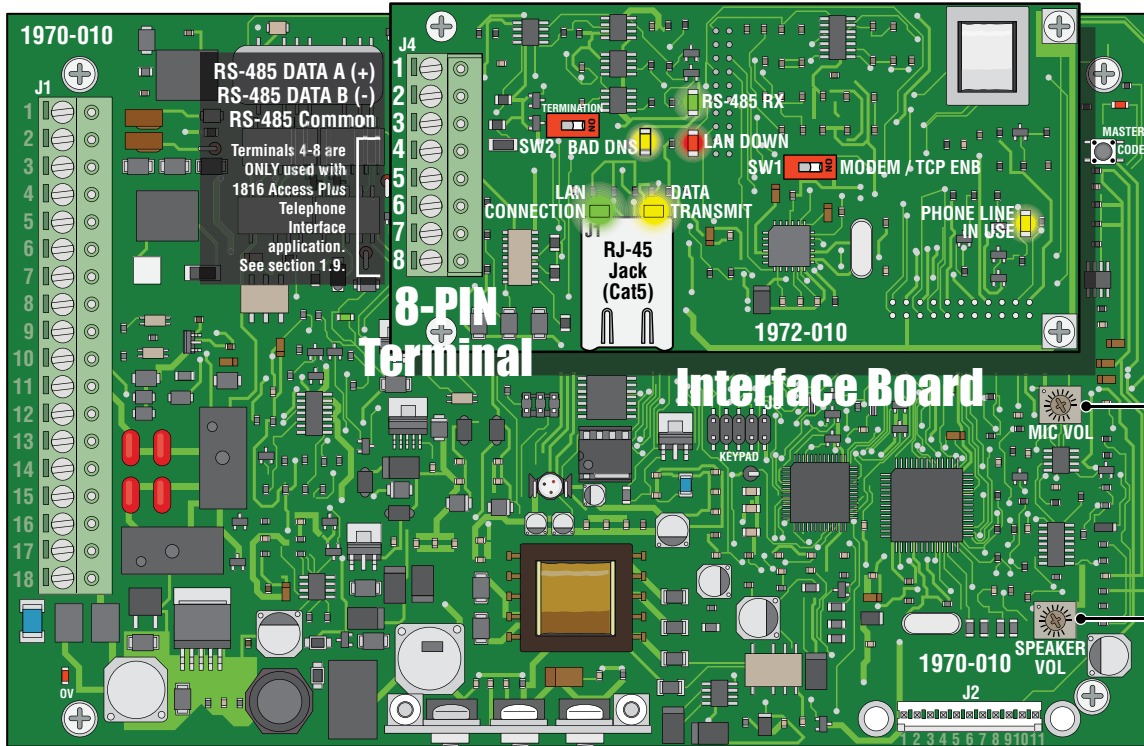
## 18-PIN Terminal

**WARNING** Maximum input voltage to terminals 9 and 10 is 14.5 Volts DC.

**BATT CHARGE LED:** When battery is connected to 9 and 10, Green LED will light when charging and turn OFF when charged.



**Over Voltage Power Note:** OV LED will light up if too much power is applied to circuit board.



Microphone Gain Adjust

Speaker Volume Adjust

- RS-485 RX** - Green LED indicates that the system is on-line and scanning the RS-485 devices.
- BAD DNS** - Yellow LED indicates an email server problem, rejecting the mail server.
- LAN DOWN** - Red LED indicates a problem with the LAN. IP or Gateway (router) down or wrong gateway IP address.
- PHONE LINE IN USE** - Yellow LED indicates that the phone line is being used (dial-out, call forwarding, etc.).
- LAN CONNECTION** - Green LED indicates that the wire connection from the unit to the computer or router is good.
- DATA TRANSMIT** - Yellow LED indicates that the TCP / IP connection is transmitting data or sending an email.
- SW1 - Modem/TCP Enable** - Turning SW1 Off disables the modem and TCP / IP, but will speed up programming from the keypad.
- SW2 - Termination Switch** - Only used when RS-485 access control devices are being used (See section 1.11.1).

# Quick Reference Table

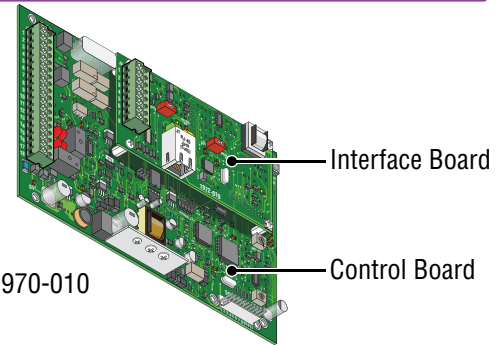
NOT Programmable from Software Program from System Keypad ONLY.

	Page #	Section	Command	Factory Settings
<b>Section 2.1 Programming Master Code</b>				
Program a Master Code	32	2.1	Press Master Code Button	NO Master Code Programmed
<b>Section 2.3 Programming Network Setup for a Computer</b>				
Enable / Disable TCP / IP Support - System Reboot	34	2.3.1	* 5 0	0
Set the Unit's IP Address (reboot required)	34	2.3.2	* 5 1	192.168.001.030
Sub-Net Mask (reboot required)	35	2.3.3	* 5 2	255.255.255.000
Set the Gateway (Router) IP Address (reboot required)	35	2.3.4	* 5 3	192.168.001.001
Set the Port Number (reboot required)	35	2.3.5	* 5 6	01030
<b>Section 2.4 System Parameters Programming</b>				
Single or Multiple Systems	37	2.4.2	* 6 1	1 (Single System)
Single or Double Ring (1816 Interface ONLY)	37	2.4.4	* 6 3	1 (Double Ring)
Number of Resident Rings Before Unit Hangs Up (1816 Interface ONLY)	37	2.4.5	* 6 4	05 (5 Rings)
Talk Time	38	2.4.6	* 0 8	060 (60 Sec.)
Relay Strike Time	38	2.4.7	* 0 3	1 Sec
Tone Open Numbers	38	2.4.8	* 0 5	Relay 1: 9 8 7 6 Relay 2: 5 4 3 2 Relays 3-8 Not Set
Answer Incoming Call on X Rings	39	2.4.9	* 1 8	06 (6 Rings)
Call Waiting ON / OFF (1816 Interface ONLY)	39	2.4.11	* 2 0	1 (ON)
Turn Speaker On / Control Relay from Phone Call	39	2.4.12	* 1 6	N / A
Set Call Forward Microphone Gain & Speaker Volume	40	2.4.13	* 1 1	7 (Mic) 1 (Speaker)
Hang-Up Tone	40	2.4.14	* 1 7	0
<b>Section 2.5 Directory Codes</b>				
Directory Codes 1 – 23 Pre-Set (1816 Interface ONLY)	40	2.5.0	* 4 0	Empty
Directory Codes 24 – 50 "Dial Phone Number"	40	2.5.1	* 4 1	Empty
Delete a Phone Number from Directory Codes 24 – 50	41	2.5.2	* 4 2	N / A
Delete All Phone Numbers from Directory Codes 24 – 50	41	2.5.3	* 4 3	N / A
<b>Section 2.6 Access Codes for Access Control Devices</b>				
"Simple" Access Code Programming (Relays 1&2: 24/7 Operation)	41	2.6.1	* 0 2	Empty
Number of RS-485 Devices	41	2.6.2	* 0 9	0
Additional Relay Off-Line Function	42	2.6.3	* 0 7	0
"Time Zone Restricted" Device Access Code Programming	42	2.6.4	* 7 0	Empty
Delete an Access Code (Simple or Time Zone Restricted)	42	2.6.5	* 7 1	N / A
Delete All Access Codes for the Same Type of Device (Simple or TZR)	42	2.6.6	* 7 2	N / A
Program Temporary Access Codes (Up to 10)	43	2.6.7	* 7 3	Empty
Delete Temporary Access Code	43	2.6.8	* 7 4	N / A
Delete All 10 Temporary Access Codes	43	2.6.9	* 7 5	N / A
<b>Section 2.7 Time Functions</b>				
Time and Date Calendar Chip Programming	44	2.7.1	* 3 3	Empty
Automatic Relay Activation Time Zone Programming (Up to 4 zones)	44	2.7.5	* 3 5	Empty
Access Code Time Zone Programming (Up to 4 zones)	45	2.7.6	* 3 6	Empty
<b>Section 2.8 Miscellaneous</b>				
Restore Factory Settings	45	2.8.1	* 9 0	N / A
Erase Transaction Log	45	2.8.2	* 9 1	N / A

**Note:** Program section numbers have been intentionally skipped that **DO NOT** apply to these Access Plus systems in this manual. This allows **ALL** of the Access Plus manuals to remain in sync with each other when referencing programming numbers.

# SPECIFICATIONS

For 1802/1808/1810 Access Plus with circuit board  
1970-010 Rev U or higher ONLY.

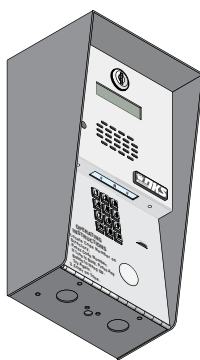


Both Boards Together - 1970-010

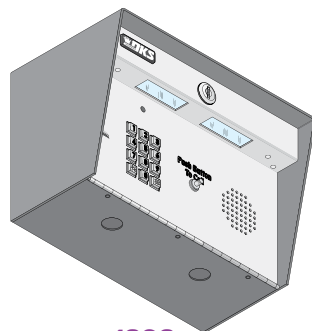
## Features

- IP Addressable – program from your PC using the DoorKing programming software via a LAN or WAN connection, or via a built-in modem.
- When internet connection is provided, system can send e-mail notification on 58 selectable events and 20 access codes.
- Two internal relays allow the system to control a main entry gate plus a pedestrian access gate.
- Control up to six (6) additional entry points with card readers, keypads or wireless RF via RS-485 connection.
- 100 card / transmitter / keypad codes when programming from the software application.
- Holiday schedule.
- 500 event transaction buffer.
- Unique distinctive ring (when interfaced with the 1816 Access Plus telephone interface).
- Unit connects directly to the tenant's existing telephone line. No additional monthly expense for a second telephone line (when interfaced with the 1816 Access Plus telephone interface).
- Built in call waiting assures that incoming calls or guest calls are not missed (when interfaced with the 1816 Access Plus telephone interface).
- Up to 27 preprogrammed dial-out telephone numbers + 23 pre-set phone interface lines (when using the 1816 Access Plus telephone interface).
- Built-in clock / calendar.
- Four hold-open time zones.
- Entry code time zones.
- 10 temporary access codes.
- Unit can be programmed to work with PBX and KSU phone systems.
- Optional secondary keypad can be added for remote entry code activation of door or gate. Order part number 1812-082.

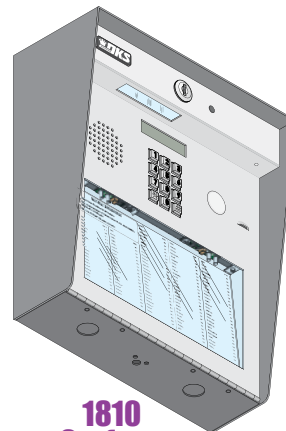
**Included with the system is an extra random keyed cabinet lock. If desired, for added security against unauthorized entry into the system, the standard lock may be replaced with the random lock.  
Note: DoorKing cannot replace this specific lock or keys if lost.**



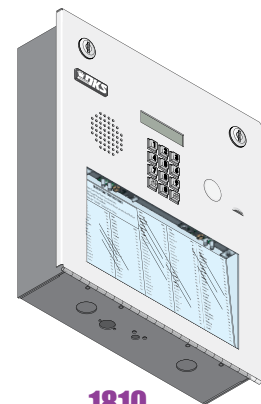
1802



1808



1810  
Surface



1810  
Flush

DoorKing, Inc. reserves the right to make changes in the products described in this manual without notice and without obligation of DoorKing, Inc. to notify any persons of any such revisions or changes. Additionally, DoorKing, Inc. makes no representations or warranties with respect to this manual. This manual is copyrighted, all rights reserved. No portion of this manual may be copied, reproduced, translated, or reduced to any electronic medium without prior written consent from DoorKing, Inc.



# TABLE OF CONTENTS

<b>Quick Guide: Terminals and LED Descriptions</b>	<b>Quick Guide - 1</b>
<b>Quick Reference Table</b>	<b>Quick Guide - 2</b>
<b>SPECIFICATIONS</b>	<b>Previous Page</b>
<b>Important Notices</b> FCC - United States, DOC - Canada	<b>3</b>
<b>General Information</b> Installation Guidelines and Safety Information	<b>4</b>
<b>SECTION 1 - INSTALLATION</b>	<b>5</b>
<b>1.1 Mount the Access Plus System</b>	<b>5</b>
1.1.1 1802 Access Plus	6
1.1.2 1808 Access Plus	7-8
1.1.3 1810 Access Plus Surface Mount	9-11
1.1.4 1810 Access Plus Flush Mount	12-15
<b>1.2 Postal Lock Installation</b>	<b>16</b>
<b>1.3 Telephone Line Wire</b>	<b>17</b>
<b>1.4 16.5 VAC Power Wiring ONLY!</b>	<b>18</b>
<b>1.5 Grounding and Surge Suppression</b>	<b>18</b>
<b>1.6 Wire ONE Unit to a Telco Line - Auto-Dialer</b>	<b>19</b>
<b>1.7 Wire ONE Unit to the Internet - Auto-Dialer</b>	<b>20</b>
<b>1.8 Wire Multiple Units - Auto-Dialer: Telco/Internet</b>	<b>21</b>
<b>1.9 1816 Access Plus Telephone Interface Wiring</b>	<b>22-23</b>
<b>1.10 Main Terminal Description</b>	<b>24</b>
<b>1.11 Access Plus System Interface Board</b>	<b>24</b>
1.11.1 RS-485 8-Pin Connector Description	25
RS-485 Daisy Chain Wiring	26
RS-485 Configurations, Sample of Multiple Unit Configuration Connection (Auto-Dialer ONLY)	27
1.11.2 Network Connections	28-29
1.11.3 Phone Modem Connection	30
<b>SECTION 2 - PROGRAMMING</b>	<b>31</b>
<b>2.1 Programming the Master Code</b>	<b>31</b>
<b>2.2 Programming Methods</b>	<b>32</b>
<b>2.3 Programming the Network Setup for a Computer</b>	<b>33</b>
2.3.1 Enable / Disable TCP / IP Support - <b>System Reboot</b>	33
2.3.2 Set the Access Plus System IP Address (reboot required)	33
2.3.3 Sub-Net Mask (reboot required)	34
2.3.4 Set the Gateway (Router) IP Address (reboot required)	34
2.3.5 Set the Port Number (reboot required)	34
<b>2.4 System Parameters Programming</b>	<b>35</b>
Programming from the System Keypad	35
Programming from a Touch-Tone Telephone	35
<b>Quick Reference Table</b>	<b>36</b>
2.4.2 Single or Multiple Systems	37
2.4.4 Single or Double Ring	37
2.4.5 Number of Resident Phone Rings Before Unit Hangs Up	37
2.4.6 Talk Time	38
2.4.7 Relay Strike Time	38
2.4.8 Tone Open Numbers	38
2.4.9 Answer Incoming Call on X Rings	39
2.4.11 Call Waiting ON/OFF	39
2.4.12 Turn Speaker On / Control Relay from Phone Call	39
2.4.13 Set Call Forward Microphone Gain and Speaker Volume	40
2.4.14 Hang-Up Tone Number	40

# TABLE OF CONTENTS

<b>2.5 Directory Codes</b>	<b>40</b>
2.5.0 Directory Codes 01 – 23 PRE-SET (1816 Access Plus Telephone Interface ONLY)	40
2.5.1 Directory Codes 24 – 50 Programming “Dial Phone Number”	40
2.5.2 Delete a Phone Number from Directory Codes 24 – 50	41
2.5.3 Delete ALL Phone Numbers from Directory Codes 24 – 50	41
<b>2.6 Access Codes to Operate Access Control Devices</b>	<b>41</b>
2.6.1 “Simple” Access Code Programming (Relays 1&2: 24/7 Operation)	41
2.6.2 Number of RS-485 Devices	41
2.6.3 Additional Off-Line Relay Function	42
2.6.4 “Time Zone Restricted” Access Code Programming	42
2.6.5 Delete an Access Code (Simple and Time Zone Restricted)	42
2.6.6 Delete All Access Codes for the Same Type of Device (Simple and Time Zone Restricted)	42
2.6.7 Temporary Device Access Code Programming	43
2.6.8 Delete a Temporary Device Access Code	43
2.6.9 Delete ALL Temporary Device Access Codes	43
<b>2.7 Time Functions</b>	<b>44</b>
2.7.1 Time and Date Calendar Chip Programming	44
2.7.5 Automatic Relay Activation Time Zone Programming (Up to 4)	44
2.7.6 Access Code Time Zone Programming (Up to 4)	45
<b>2.8 Miscellaneous</b>	<b>45</b>
2.8.1 Restore Factory Settings	45
2.8.2 Erase Transaction Log	45
<b>SECTION 3 - ADJUSTMENTS</b>	<b>46</b>
<b>Speaker Volume</b>	<b>46</b>
<b>Microphone Gain</b>	<b>46</b>
<b>Interface Board LED Status</b>	<b>46</b>
<b>System Keypad</b>	<b>46</b>
<b>SECTION 4 - USER INSTRUCTIONS</b>	<b>47</b>
<b>4.1 Resident Operating Instructions</b>	<b>47</b>
4.1.1 Granting or Denying a Guest Access	47
4.1.2 Call Waiting (1816 Access Plus Telephone Interface ONLY)	47
4.1.3 Dial-Out Phone Numbers	47
4.1.4 Access Codes	47
<b>4.2 Remote Operation</b>	<b>48</b>
4.2.1 Remote Programming (Touch-Tone Phone)	48
4.2.2 Remote Relay Activation (Touch-Tone Phone)	48
4.2.4 Remote Relay Activation Check (Touch-Tone Phone)	48
<b>SECTION 5 - MAINTENANCE</b>	<b>49</b>
<b>5.1 Troubleshooting</b>	<b>49</b>
<b>5.2 Phone Line Polarity</b>	<b>50</b>
<b>5.3 Troubleshooting Table</b>	<b>51</b>
<b>5.4 Access Plus Wiring Schematic</b>	<b>52</b>
<b>5.5 Accessories</b>	<b>53</b>
<b>5.6 Programmed Information Log Sheets</b>	<b>54-61</b>
Master Code, Relays, Access Codes and Time Zone Log Sheets; Directory Code / Dial-Out Phone Numbers Log Sheet; Access Code Log Sheets (50 with phone numbers, 50 as access only), 1-10 Temporary Access Codes Log Sheet when using software ONLY.	

# Important Notices

## FCC – United States

This equipment has been tested and found to comply with the limits for a class A digital device, pursuant to Part 15 of the FCC Rules and Regulations. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

FCC Registration Number: **DUF6VT-12874-0T-T**

## DOC - Canada

The Canadian Department of Communications label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational, and safety requirements. The Department does not guarantee the equipment will operate to the users satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable means of connection. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be made by an authorized Canadian maintenance facility designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure, for their own protection, that the electrical ground connections of the power utility, telephone lines, and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

**CAUTION:** Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

DOC Registration Number: **1736 4507 A**

## Notice:

The Load Number (LN) assigned to each terminal device denotes the percentage of the total load to be connected to a telephone loop which is used by the device, to prevent overloading. The termination on a loop may consist of any combination of devices subject only to the requirement that the sum of the load numbers of all the devices does not exceed 100.

## Notice:

DoorKing does not provide a power transformer on units sold into Canada. Use only transformers that are CSA listed to power the telephone entry system. The Access Plus system requires a 16.5-volt, 20 VA transformer.

# General Information

- Prior to beginning the installation of the telephone entry system, we suggest that you become familiar with the instructions, illustrations, and wiring guidelines in this manual. This will help insure that you installation is performed in an efficient and professional manner.
- The proper installation of the telephone entry panel is an extremely important and integral part of the overall access control system. Check all local building ordinances and building codes prior to installing this system. Be sure your installation is in compliance with local codes.
- When used to control a door or pedestrian gate, try to locate the telephone entry system as near as possible to the entry point. The unit should be mounted on a rigid wall to prevent excessive shock and vibration from closing doors or gates. Continuous vibration and shock from slamming doors or spring-loaded pedestrian gates will damage the circuit board.  
**Under no circumstances should the unit be mounted directly to a moving door or gate.**
- **ADA mounting requirements for door control.** The requirements below apply only when the telephone entry system is being used to control entry through a public door only. If this system is used to control entry through a vehicular gate or private entrance, the dimensions noted below do not apply.
  1. If the clear floor space allows only forward approach to the system, the maximum high forward reach allowed is 48 inches above grade to the top of the keypad.
  2. If the high forward reach to the system is over an obstruction of greater than 20 inches but less than 25 inches, the maximum high forward reach allowed is 44 inches above grade to the top of the keypad.
  3. If the clear floor space allows parallel approach by a person in a wheelchair, the maximum high side reach shall be 54 inches above grade to the top of the keypad.
  4. If the high side reach is over an obstruction of 24 inches or less, the maximum high side reach allowed is 46 inches above grade to the top of the keypad.
- **When used to control a vehicular gate with an automatic gate operator, the telephone entry system must be mounted a minimum of ten (10) feet away from the gate and gate operator, or in such a way that a person cannot operate the entry system and/or touch the gate or gate operator at the same time.**
- Be sure that the system is installed so that it is not directly in the traffic lane. Goose neck mounting post and kiosks work well for these type systems. When planning where to locate the system, take into consideration traffic lane layouts, turn around lanes for rejected access, conduit runs, power availability, etc.
- Environmental factors must also be taken into account. Surface mount units are designed for direct outdoor installations, however it is preferable to protect them from direct exposure to driven rain or snow whenever possible. Flush mount units must be protected from direct exposure to the elements.
- This telephone entry system contains a number of static sensitive components that can be damaged or destroyed by static discharges during installation or use. Discharge any static prior to removing the circuit board from the lobby panel by touching a proper ground device.
- **Instruct the end user to read and follow these instructions. Instruct the end user to never let children play with or operate any access control device. This Owner's Manual is the property of the end user and must be left with them when installation is complete.**

# SECTION 1 - INSTALLATION

Installation of the Access Plus Telephone Entry System involves the installation of the hardware and the wiring of these components. Be sure that all dirt, metal or wood debris is removed from inside after mounting it. Any debris inside could damage the control board and cause the Access Plus system to malfunction during operation.

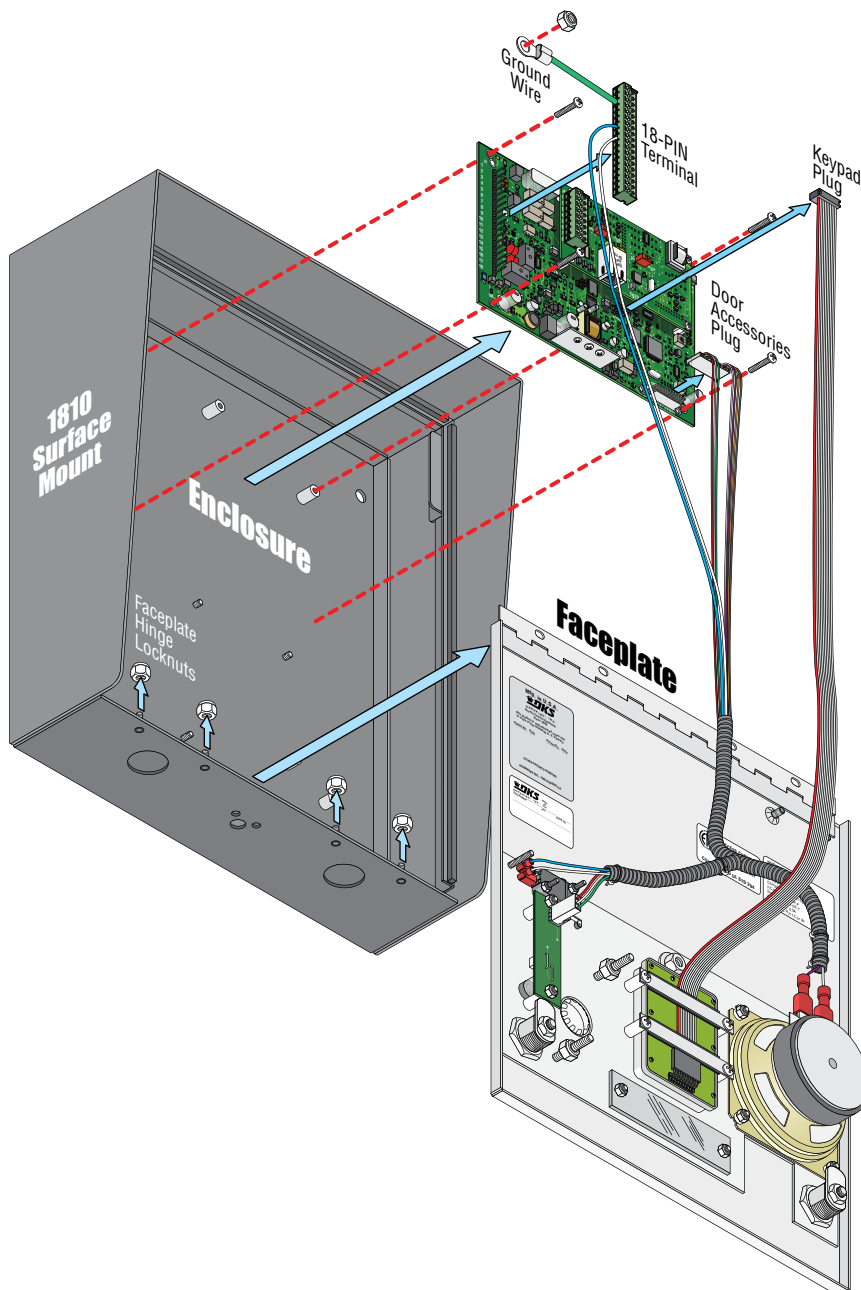


When the Access Plus system is used to control a vehicular gate with an automatic gate operator, it must be mounted a minimum of ten (10) feet away from the gate and gate operator, or in such a way that a person cannot operate the Access Plus system and/or touch the gate or gate operator at the same time.

**WARNING**

Included with the system is an extra random keyed cabinet lock. If desired, for added security against unauthorized entry into the system, the standard lock may be replaced with the random lock. Note: DoorKing cannot replace this specific lock or keys if lost.

## 1.1 Mount the Access Plus System



### Remove the Control Board and Faceplate

The control board removal is the same for all access plus systems.

**CAUTION** The control board contains static sensitive components. Discharge any static electricity from your hands by touching a proper ground device **before** removing the control board.

1. Unlock and open the door.
2. Disconnect the keypad plug and door accessories plug from the control board.
3. Remove green ground wire.
4. Remove 18-PIN terminal from circuit board. Not necessary for 1808.
5. Remove the 4 screws from board.  
**Carefully remove control board.**

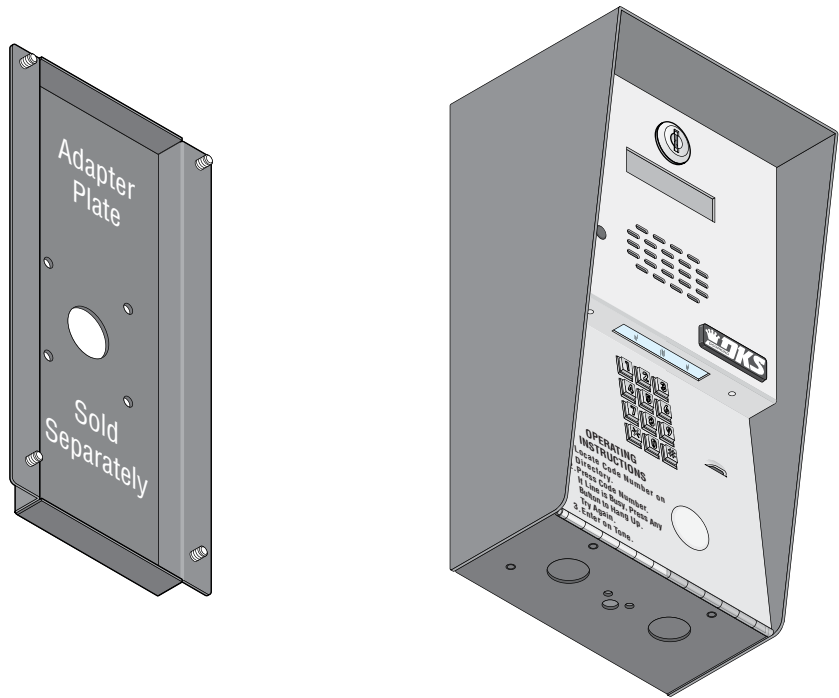
**Keep the control board in a protected area during the mounting installation.**

6. Remove faceplate from the housing.
7. Mount enclosure, see following pages for specific mounting of your chosen access plus system.

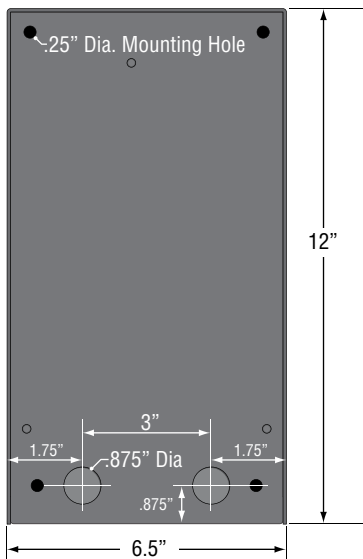


# 1.1.1 1802 Access Plus

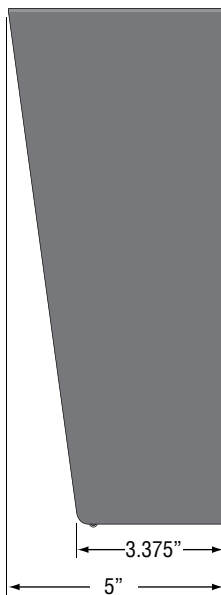
Surface mount units can be mounted directly to a wall, pilaster, post mounted using a DoorKing Adapter Plate (P/N 1802-111) with DoorKing mounting posts (P/N 1200-036, 1200-045, 1200-0046 and 1200-049). See next page. Be sure the unit is mounted securely and is not subject to vibration from closing doors or gates.



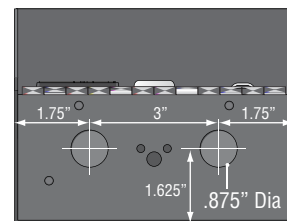
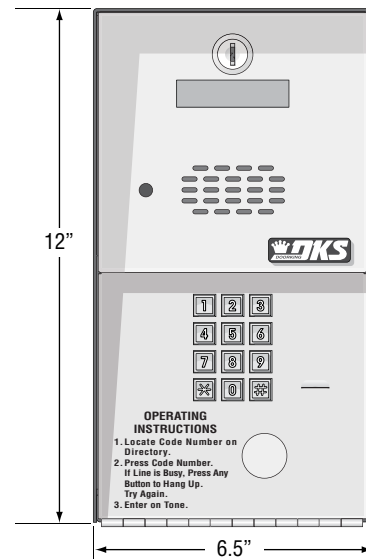
**Back View**



**Side View**



**Front View**



**Bottom View**

**WARNING!** If this entry system is used to control a vehicular gate with an automatic gate operator, the entry system must be mounted a minimum of ten (10) feet away from the gate and gate operator, or in such a way that a person cannot operate the entry system and touch the gate or gate operator at the same time.

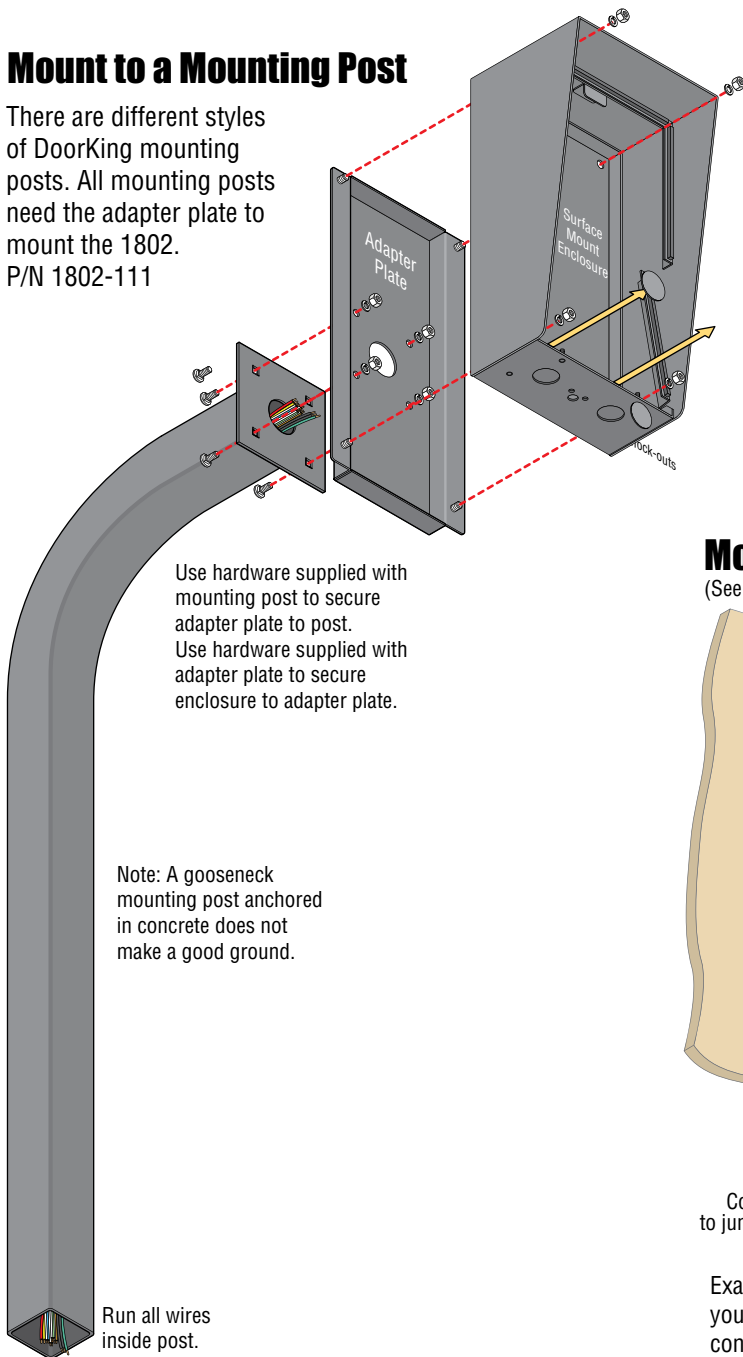
# 1.1.1 1802 Access Plus Continued

The illustrations below show typical installations but specific installations can vary from this.

1. Mount the enclosure using the mounting holes provided in the corners (see sections 1.2 and 1.3 for your chosen model dimensions). Be sure that mounting screws or nuts (Not supplied) do not protrude into the enclosure where they could cause a short on the back of the circuit board. Make any necessary conduit connections through the back or bottom of the enclosure using the existing conduit knock-outs. **DO NOT** make any new conduit holes in the enclosure.
2. Route all wiring through conduit or mounting post (not supplied) into enclosure.
3. Clean out the enclosure. Make sure that all dirt, metal and/or wood debris is removed.
4. Re-install components back into the enclosure (Reverse section 1.1). Use the wiring schematics in the back of this manual to help re-install the components if necessary. **DO NOT** apply any power at this time.

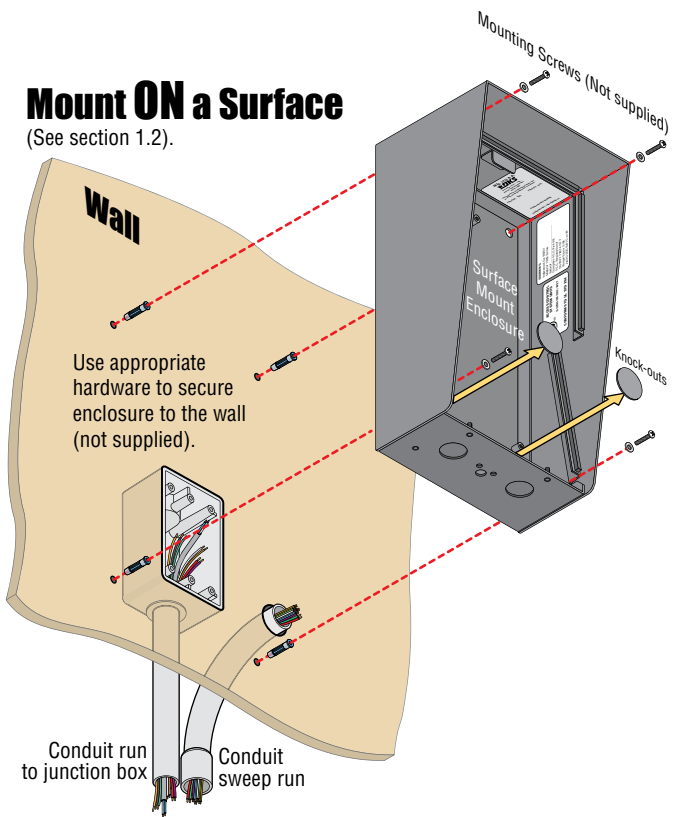
## Mount to a Mounting Post

There are different styles of DoorKing mounting posts. All mounting posts need the adapter plate to mount the 1802.  
P/N 1802-111



## Mount ON a Surface

(See section 1.2).

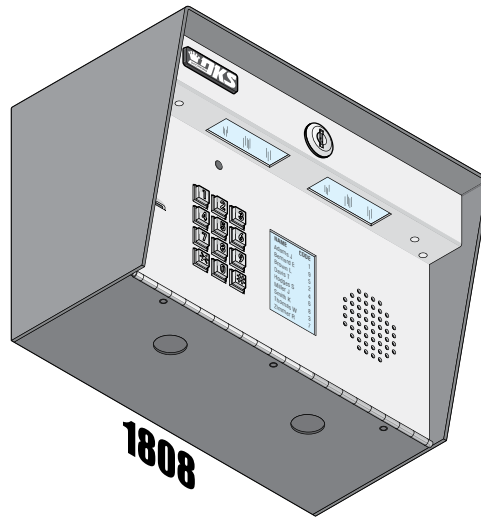


Examples of conduit runs that may be used, depending on how you choose to run the wiring. Some installations will allow the conduit to be run outside the wall and connect to the bottom of the enclosure but this is generally NOT recommended.

# 1.1.2 1808 Access Plus

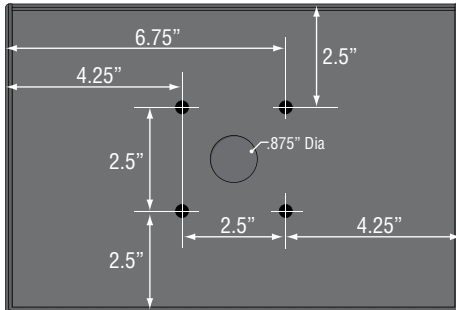
1808 units can be mounted directly to a wall, pilaster, post mounted using a DoorKing mounting post (P/N 1200-045 or 1200-046). Be sure the unit is mounted securely and is not subject to vibration from closing doors or gates.

**Creating Printed Directories for 1808 unit:**  
The Access Plus Account Manager software will print a directory for the 1808 Access Plus. The directory can then be easily inserted into the unit's directory slot.

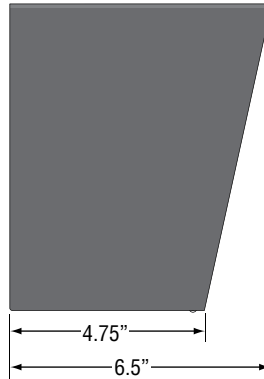


**WARNING!** If this entry system is used to control a vehicular gate with an automatic gate operator, the entry system must be mounted a minimum of ten (10) feet away from the gate and gate operator, or in such a way that a person cannot operate the entry system and touch the gate or gate operator at the same time.

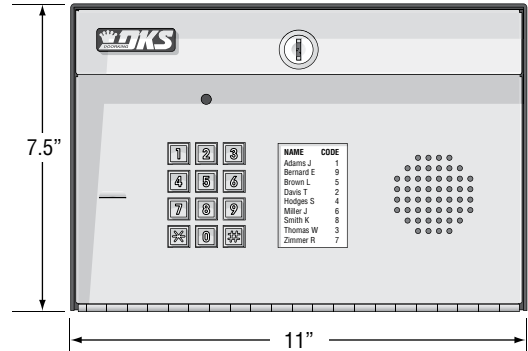
**Back View**



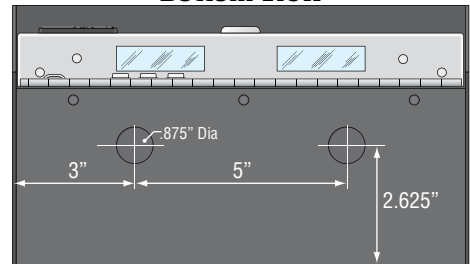
**Side View**



**Front View**



**Bottom View**



## Mount to a Mounting Post

Use existing 4 holes in cabinet box to bolt the surface or wall mount models on a DoorKing mounting post. Use the hardware that is supplied with the mounting post.

Note: A gooseneck mounting post anchored in concrete does not make a good ground.

## Mount Directly to a Wall or Pilaster

Use the 4 existing holes in the cabinet box. Run conduit inside or outside of wall or pilaster if desired. Use appropriate hardware to mount the cabinet (Not supplied). Be sure that the mounting hardware does not protrude into the cabinet where it could cause a short.

Plastic screw anchors for masonry if required. (Not supplied)

Conduit shown inside wall

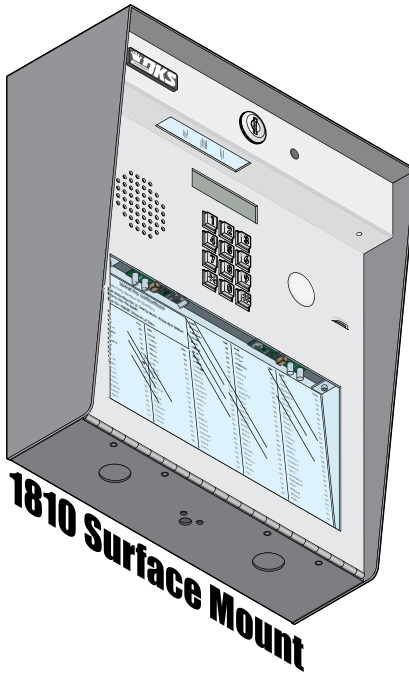
## Installation

1. Route all wiring through conduit or mounting post (not supplied).
2. Clean out the enclosure. Make sure that all dirt, metal and/or wood debris is removed.
4. Re-install components back into the enclosure (Reverse section 1.1). Use the wiring schematics in the back of this manual to help re-install the components if needed. **DO NOT** apply any power at this time.

# 1.1.3 1810 Access Plus Surface Mount

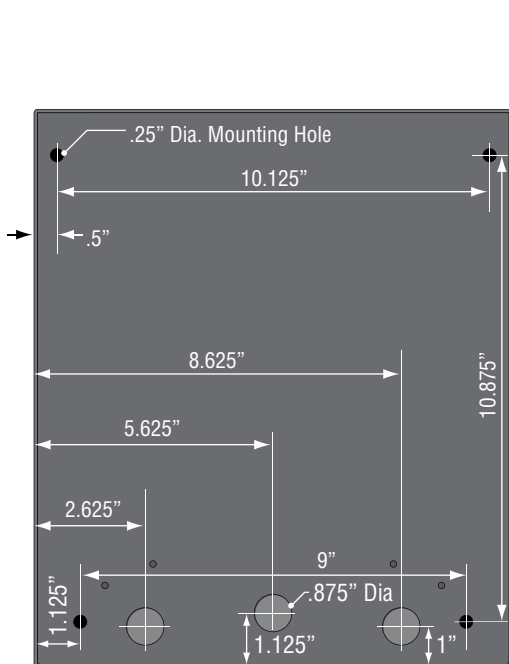
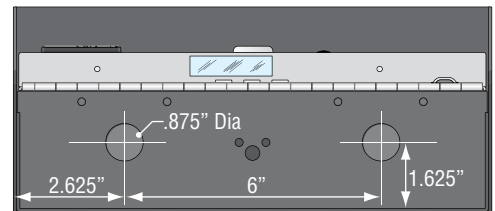
Surface mount units can be mounted directly to a wall, pilaster, post mounted using a DoorKing architectural style mounting post (P/N 1200-037 and 1200-038) or recessed in a wall with the surface mount recess kit (P/N 1803-150). Be sure the unit is mounted securely and is not subject to vibration from closing doors or gates.

**Creating Printed Directories for 1810 unit:**  
The Access Plus Account Manager software will print a directory for the 1810 Access Plus. The directory can then be easily inserted into the unit's directory slot.

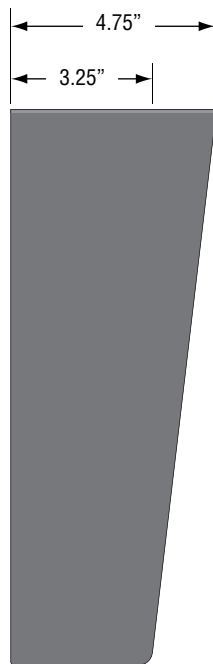


**WARNING!** If this entry system is used to control a vehicular gate with an automatic gate operator, the entry system must be mounted a minimum of ten (10) feet away from the gate and gate operator, or in such a way that a person cannot operate the entry system and touch the gate or gate operator at the same time.

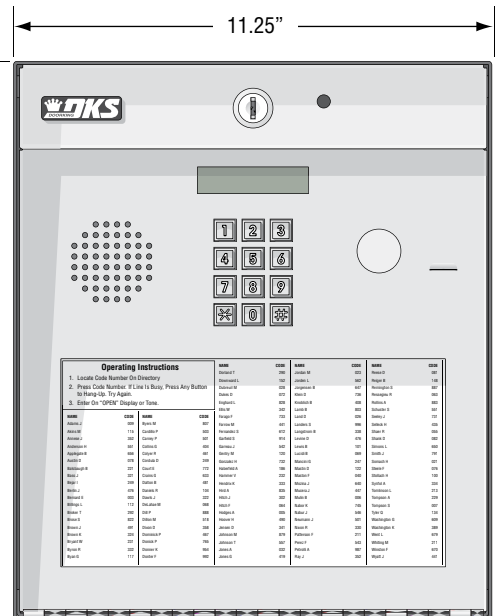
**Bottom View**



**Back View**



**Side View**



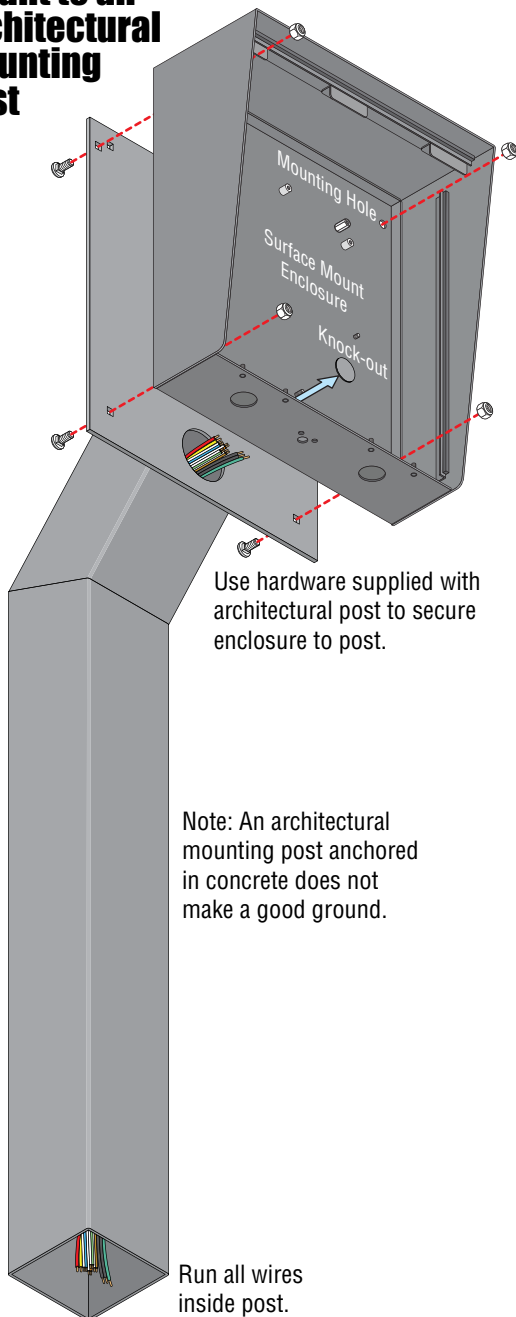
**Front View**

## 1.1.3 1810 Access Plus Surface Mount Continued

The illustrations below show typical surface mount installations but specific installations can vary from this.

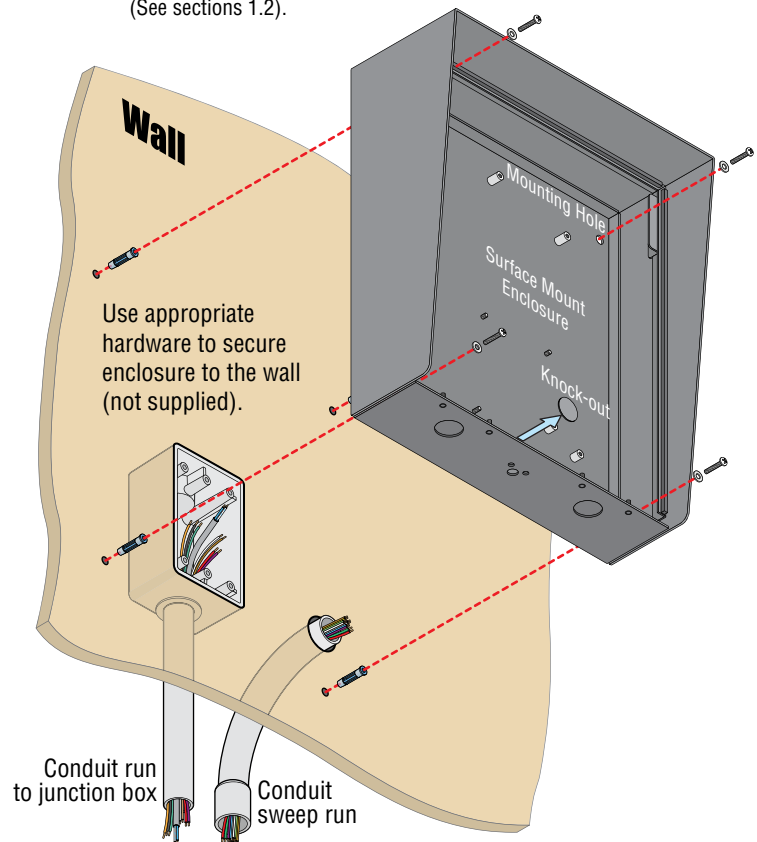
1. Mount the enclosure using the mounting holes provided in the corners. Be sure that mounting screws (Not supplied) do not protrude into the enclosure where they could cause a short on the back of the circuit board. Make any necessary conduit connections through the back or bottom of the enclosure using the existing conduit knock-outs. **DO NOT** make any new conduit holes in the enclosure.
2. Route all wiring through conduit or architectural post (not supplied) into enclosure.
3. Clean out the enclosure. Make sure that all dirt, metal and/or wood debris is removed.
4. Re-install components back into the enclosure (Reverse section 1.1). Use the wiring schematics in the back of this manual to help re-install the components if necessary. **DO NOT** apply any power at this time.

### Mount to an Architectural Mounting Post



### Mount ON a Surface

(See sections 1.2).



Examples of conduit runs that may be used, depending on how you choose to run the wiring. Some installations will allow the conduit to be run outside the wall and connect to the bottom of the enclosure but this is generally NOT recommended.

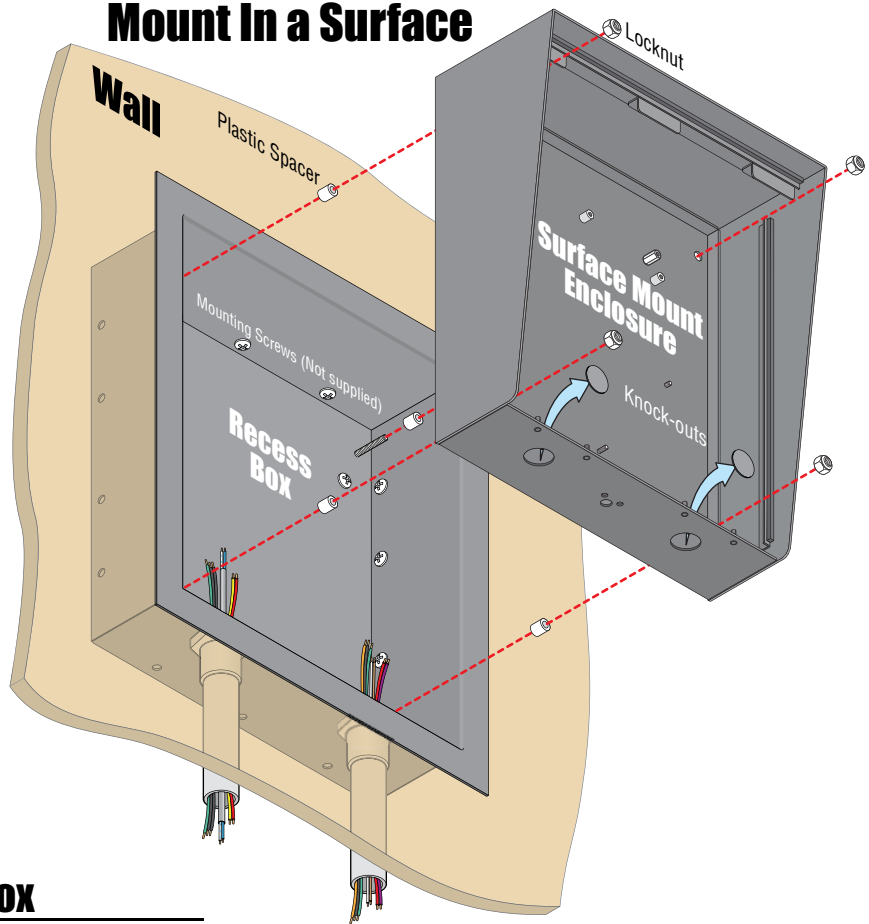


# 1.1.3 1810 Surface Mount Recess Kit

1810 surface mount unit can be recessed into a wall or pilaster by using the optional surface mount recess kit if desired (P/N 1803-150). This allows a recessed 1810 telephone entry system to have a lighted keypad which the flush mount unit **DOES NOT** have. The recess box gets installed in the wall. Use appropriate hardware (not included) to secure the box in the wall. Run all necessary conduit (not included) to the recess box. Slide the enclosure in the recess box and secure it with the hardware included in the kit. Be sure the unit is mounted securely and is not subject to vibration from closing doors or gates.

**WARNING!** If this entry system is used to control a vehicular gate with an automatic gate operator, the entry system must be mounted a minimum of ten (10) feet away from the gate and gate operator, or in such a way that a person cannot operate the entry system and touch the gate or gate operator at the same time.

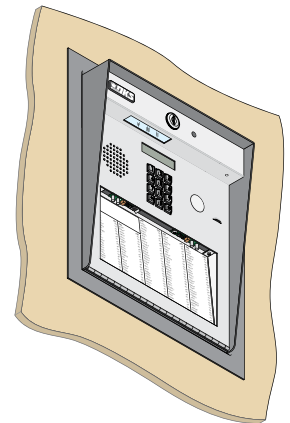
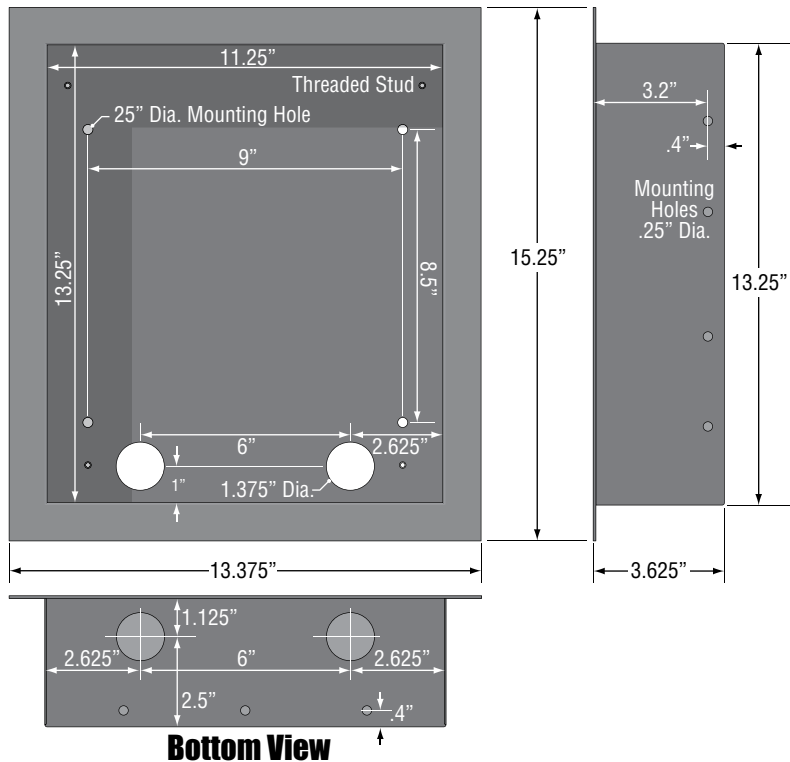
## Mount In a Surface



## Recess Box

Front View

Side View



# 1.1.4 1810 Access Plus Flush Mount

Flush mount 1810 is installed with a flush mount kit P/N 1814-165 (stainless) or 1814-166 (gold). Flush mount kits are **NOT INCLUDED** with the flush mount entry system (See next page for flush mount kit installation).

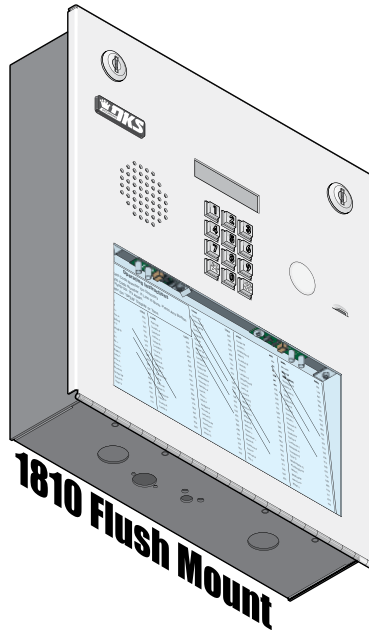
The flush mount units may also be installed **ON** the surface of a wall with a flush mount surface mounting kit if desired P/N 1814-152 (silver only). Flush mount surface mounting kits are **NOT INCLUDED** with the flush mount entry system (See page 14 for flush mount surface mounting kit installation).

DoorKing offers a self-standing lighted kiosk for the flush mount unit ideal for walk-up pedestrian applications P/N 1200-170 (See page 15 for self-standing kiosk installation).

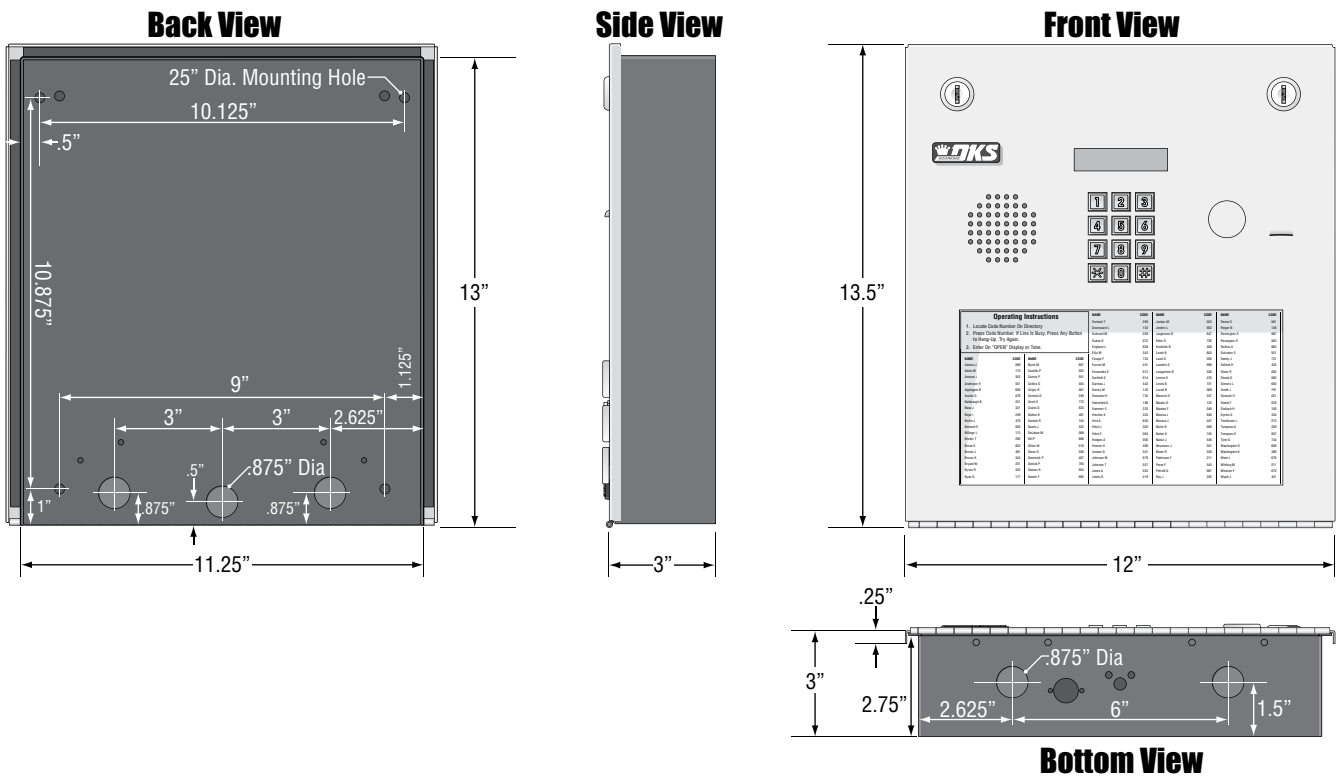
Flush mount 1810 is installed into a wall/kiosk and can be mounted outside, exposed to the weather. It is preferred that they have limited direct exposure to the weather. We suggest that when they are mounted outdoors, it is in a covered protected area. Be sure the unit is mounted securely and is not subject to vibration from closing doors or gates.

The flush mount unit **DOES NOT** have a lighted keypad.

**Creating Printed Directories for 1810 unit:**  
The Access Plus Account Manager software will print a directory for the 1810 Access Plus. The directory can then be easily inserted into the unit's directory slot.



**WARNING!** If this entry system is used to control a vehicular gate with an automatic gate operator, the entry system must be mounted a minimum of ten (10) feet away from the gate and gate operator, or in such a way that a person cannot operate the entry system and touch the gate or gate operator at the same time.

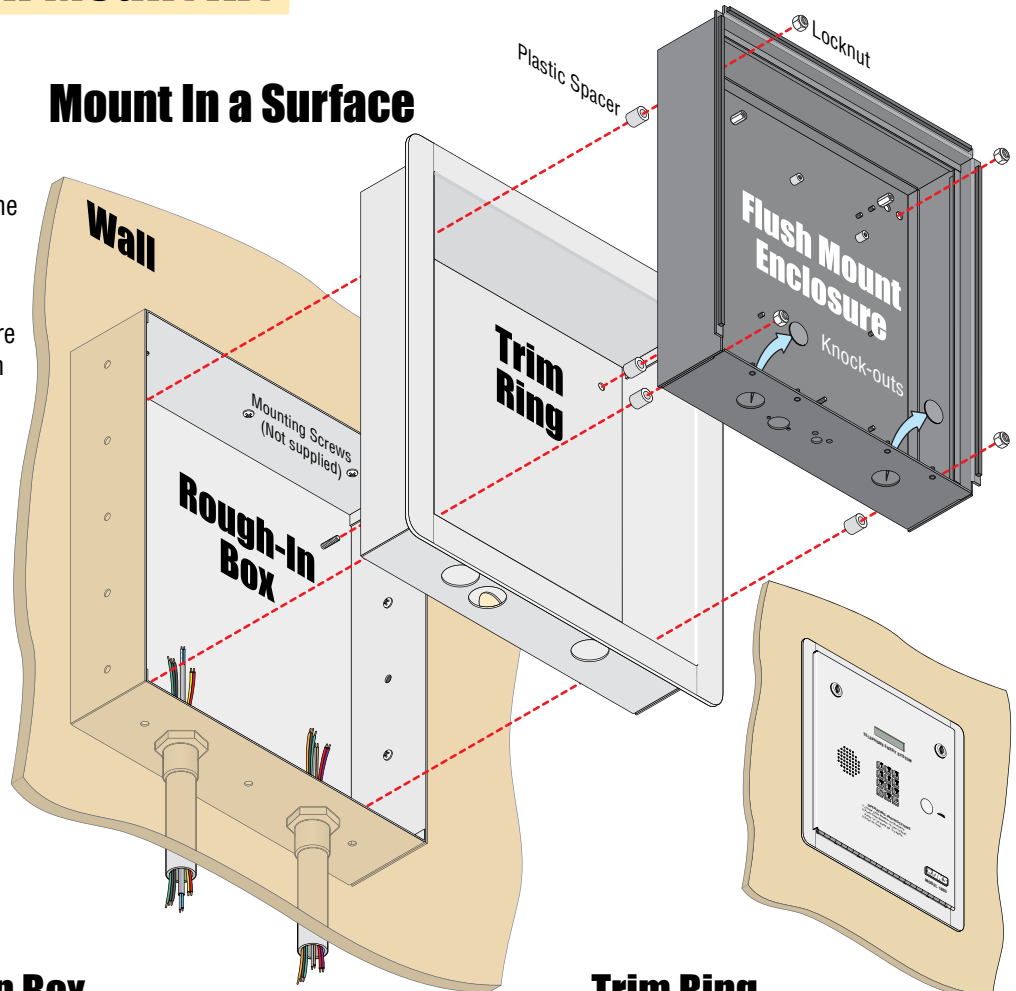


# 1.1.4 1810 Flush Mount Kit

The flush mount kit has two parts; the rough-in box and the trim ring. The rough-in box is installed in the wall first. Use appropriate hardware (not included) to secure the box in the wall. Run all necessary conduit (not included) to rough-in box. Slide the trim ring into the rough-in box. Slide the enclosure in the trim ring and secure them all together with the hardware included in the kit. Be sure the unit is mounted securely and is not subject to vibration from closing doors or gates. See previous page for flush mount enclosure dimensions.

**WARNING!** If this entry system is used to control a vehicular gate with an automatic gate operator, the entry system must be mounted a minimum of ten (10) feet away from the gate and gate operator, or in such a way that a person cannot operate the entry system and touch the gate or gate operator at the same time.

## Mount In a Surface

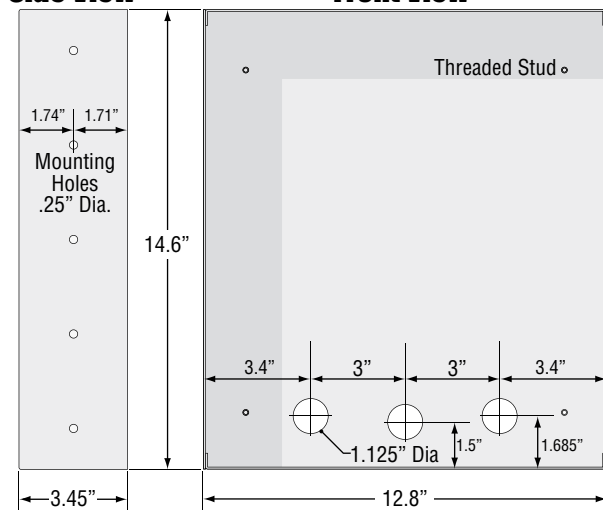


**Rough-In Box**

**Trim Ring**

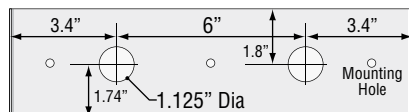
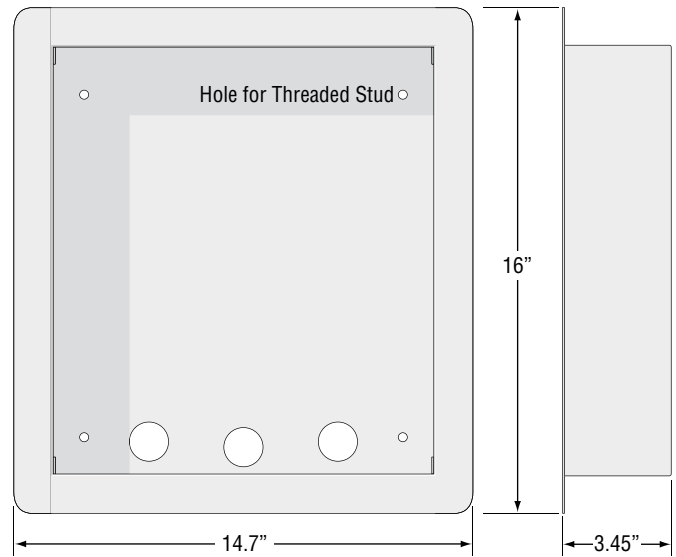
**Side View**

**Front View**



**Front View**

**Side View**



**Bottom View**

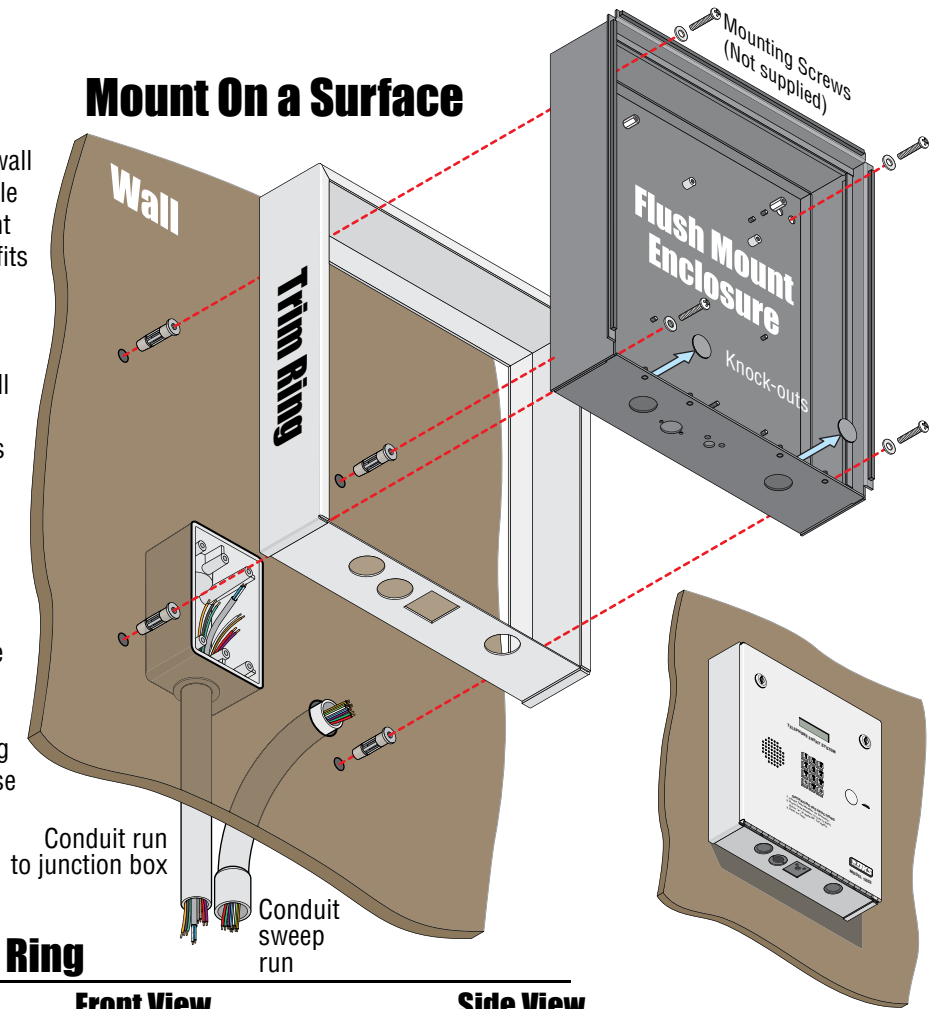
**Bottom View**

# 1.1.4 1810 Flush Mount Surface Mounting Kit

Flush mount unit can be mounted **ON** a wall or pilaster and **NOT IN** the wall by using the optional flush mount surface mounting kit (P/N 1814-152). This is useful when cutting a large hole into a wall or pilaster would be very difficult (marble or granite for example). The flush mount surface mounting kit is a trim ring that fits around the flush mount enclosure. The enclosure and trim ring get installed directly on the wall using appropriate hardware (not included) after running all necessary conduit to the enclosure. Be sure the unit is mounted securely and is not subject to vibration from closing doors or gates.

The flush mount unit **DOES NOT** have a lighted keypad.

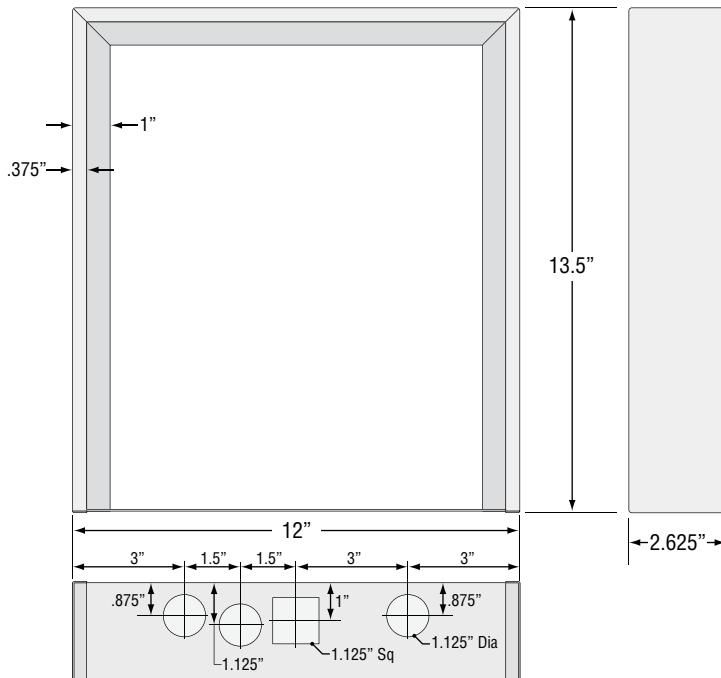
Examples of some small holes in the wall that may be needed, depending on how you choose to run the wiring.



## Trim Ring

Front View

Side View



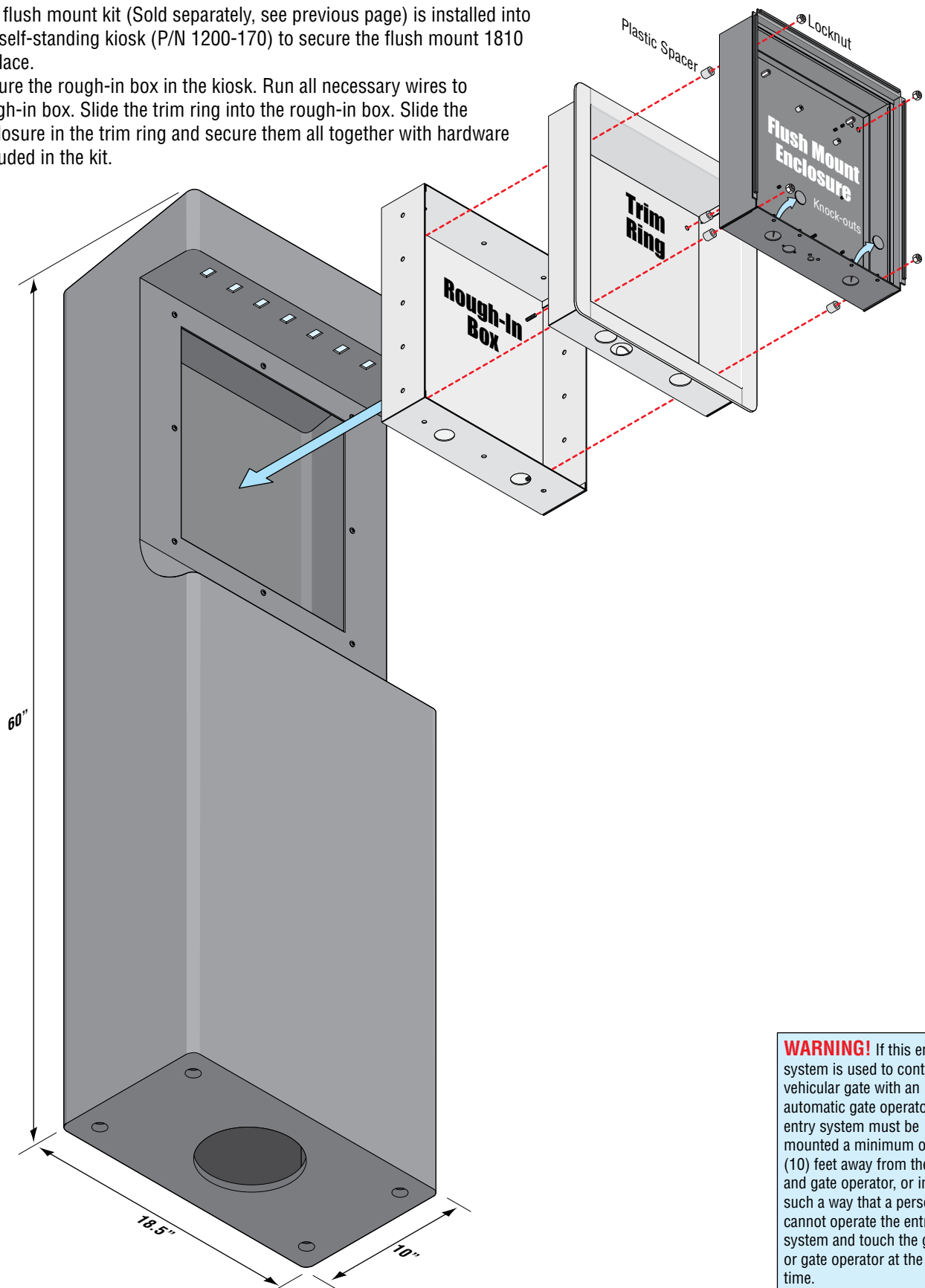
Bottom View

**WARNING!** If this entry system is used to control a vehicular gate with an automatic gate operator, the entry system must be mounted a minimum of ten (10) feet away from the gate and gate operator, or in such a way that a person cannot operate the entry system and touch the gate or gate operator at the same time.

## 1.1.4 1810 Self-Standing Lighted Kiosk

The flush mount kit (Sold separately, see previous page) is installed into the self-standing kiosk (P/N 1200-170) to secure the flush mount 1810 in place.

Secure the rough-in box in the kiosk. Run all necessary wires to rough-in box. Slide the trim ring into the rough-in box. Slide the enclosure in the trim ring and secure them all together with hardware included in the kit.



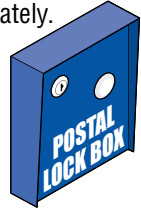
**WARNING!** If this entry system is used to control a vehicular gate with an automatic gate operator, the entry system must be mounted a minimum of ten (10) feet away from the gate and gate operator, or in such a way that a person cannot operate the entry system and touch the gate or gate operator at the same time.



## 1.2 Postal Lock Installation

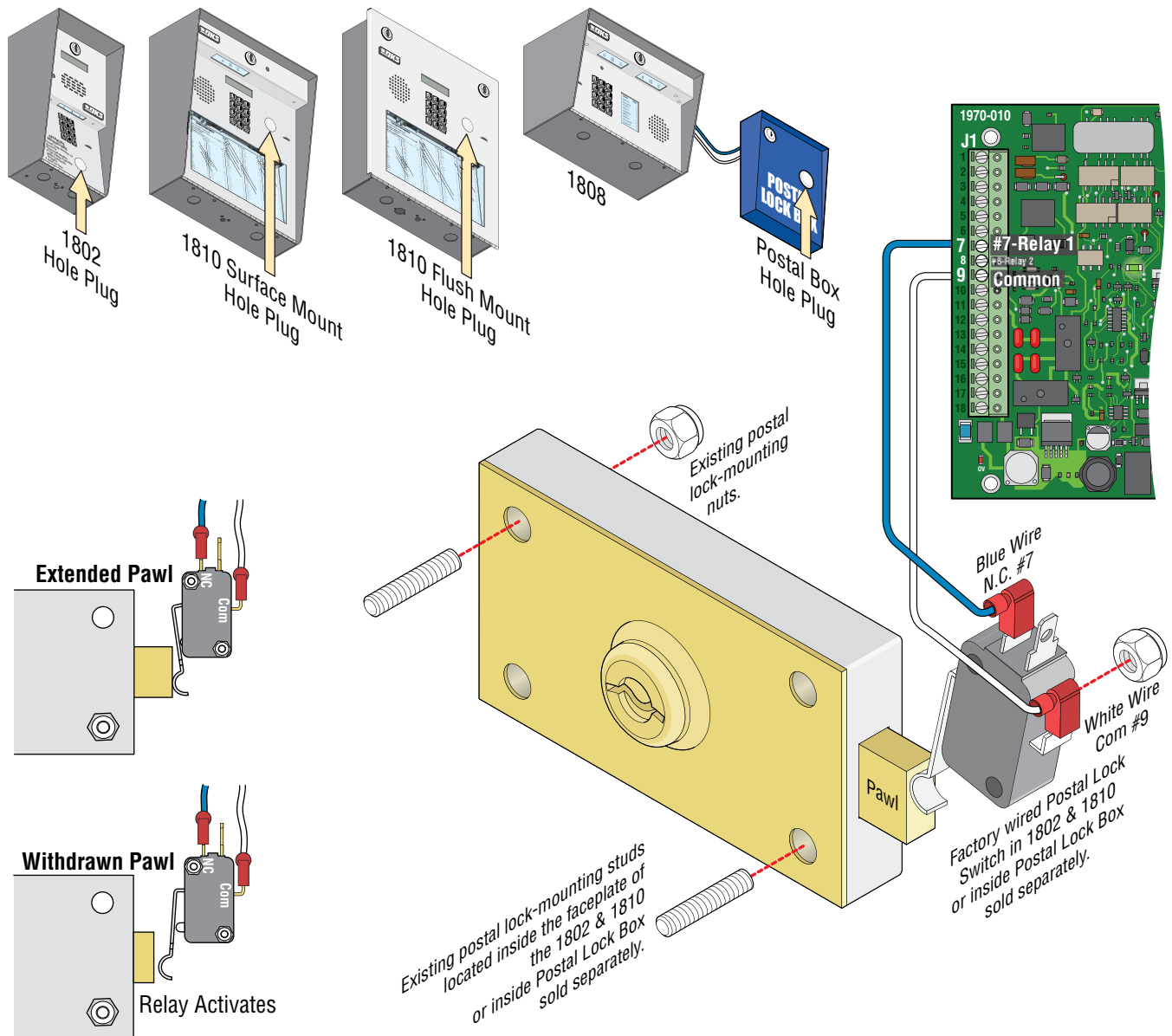
At some locations, such as gated communities, it will be necessary to **provide access to the mail carrier** so that they can deliver the mail. Mail carrier access will be provided by the installation of an **Arrow Postal Lock**. This is the same lock that the Post Office uses for gang mailboxes. **These locks are not available to the public.** The installer or the building owner/manager will have to call the Post Office and arrange for the installation of this lock into the access plus system. DoorKing 1802 & 1810 access plus systems are designed to accept installation of the postal lock. If you are using the 1808 and need postal service access, use the DoorKing Postal Lock Box wired to #7 & #9 shown below, P/N 1402-080 postal box sold separately.

Prior to installation of the postal lock, be sure power to the access plus system is **turned OFF**.



1. Remove the hole plug on the faceplate of the telephone entry system.
2. Cut the wire tie wrapped around the switch **ONLY** when installing postal lock.
3. Remove the two hex nuts from the postal lock-mounting studs. Mount postal lock on the studs and secure with the hex nuts.

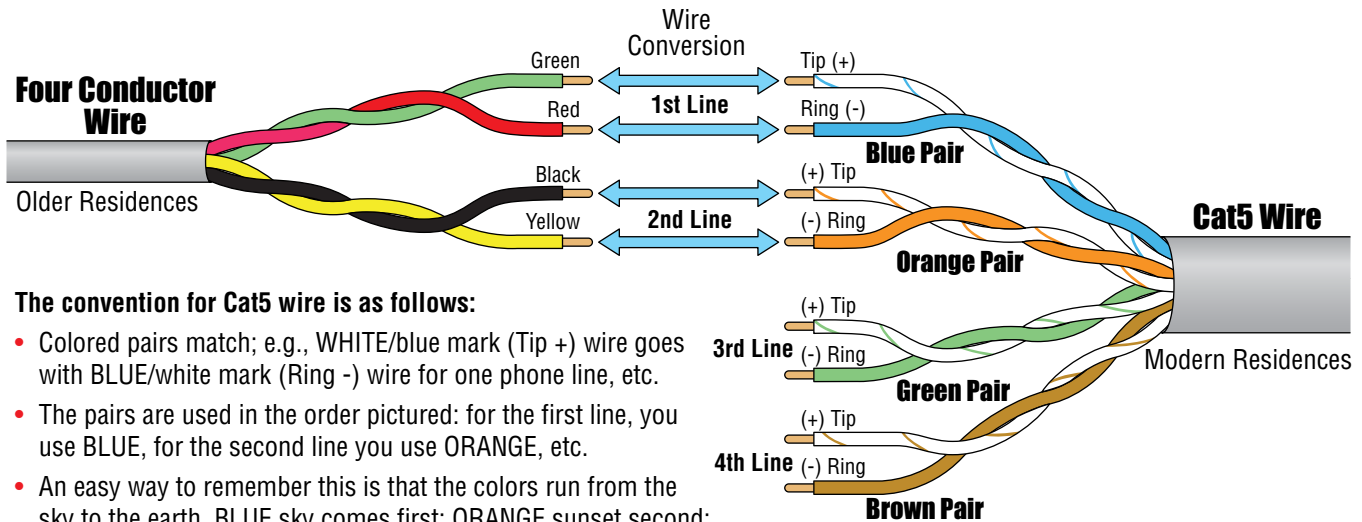
When the lock is installed, the pawl of the lock, in the **extended position** is **depressing the switch**. When the mail carrier inserts his key and turns the postal lock, the pawl is **withdrawn into the lock** and the switch will activate **Relay 1** for the programmed strike time. **Note:** Postal switch can activate **Relay 2** when connected to #8 & #9 if desired.



# 1.3 Telephone Line Wire

Be sure to observe electrical safety when working with phone lines. Phone lines carry electricity and the ring voltage can deliver a substantial jolt.

In most residences, the phone cable contains four wires; green, red, black, yellow. The green and red are twisted to make one pair and the black and yellow are twisted to make another pair (This allowed for the addition of a second phone line since telephones use only two wires). Most phone lines installed in the U.S. in the second half of the 20th Century have this type of wire. This type of wire is now obsolete. All new telephone projects are using Cat5 wire. If you have Cat5 wiring in your residence, the conversion is simple:



**The convention for Cat5 wire is as follows:**

- Colored pairs match; e.g., WHITE/blue mark (Tip +) wire goes with BLUE/white mark (Ring -) wire for one phone line, etc.
- The pairs are used in the order pictured: for the first line, you use BLUE, for the second line you use ORANGE, etc.
- An easy way to remember this is that the colors run from the sky to the earth. BLUE sky comes first; ORANGE sunset second; GREEN grass third; BROWN earth last.

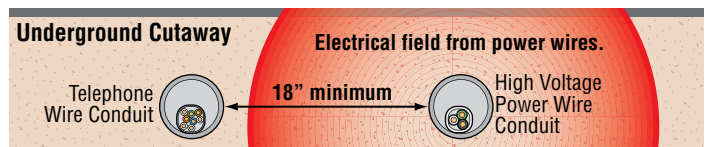
**“Tip” and “Ring” Definition.** Common terms in the telephone service industry referring to the two wires or sides of an ordinary telephone line. Tip is the ground side (positive) and Ring is the battery (negative) side of a phone circuit. The ground side is common with the central office of the telephone company (telco); the battery side carries -48 volts of DC voltage when in an “Idle” or “On Hook” state.

**Phone Line Polarity.** Tip and ring reversal is mostly immaterial, except for special circuits including DID (Direct Inward Dialing) trunks, T-1 lines, and ground start lines where the field side (“terminal”) equipment (a company’s PBX switch, for example) can only function correctly with correct tip and ring polarity.

**Wire Type.** It is extremely important to use the correct type of wire in telephone applications. Since the Access Plus system requires phone lines to be run outdoors or in an underground environment, **we recommend that you use only wire that is rated for direct underground burial.** For example, use **Cat5e Gel Filled (flooded) UV Resistant Direct Burial Cable run in conduit for your Access Plus system phone line requirements.** Do not use thinly insulated brown-jacketed telephone wire (the type found in the walls of a structure) for outdoor or underground phone line wiring. Using **improper wire can cause noise and hum** on the phone line. Be sure that phone wire pairs are twisted.

**Wire Size and Distance.** Phone lines can be run up to 3600 feet, provided that the proper wire size is used.

Wire Size	Max Distance
24 AWG	800 ft
22 AWG	1600 ft
20 AWG	2200 ft
18 AWG	3600 ft



**Note:** Do not run telephone wires and high voltage power wires in the same conduit. Separate the high voltage conduit and the telephone conduit by at least 18 inches to prevent any electrical field interference that could occur.

# 1.4 16.5 VAC Power Wiring ONLY!

The Access Plus system operates **ONLY** on 16.5 VAC. **DO NOT** power the unit with 24 volt AC power. Use the supplied power transformer, 16 VAC, 20 VA (or U.L. listed equivalent) to power the telephone entry system. **DO NOT** power any other devices (electric strikes, magnetic locks, etc.) from the unit's power transformer. See table below for wire run distances.

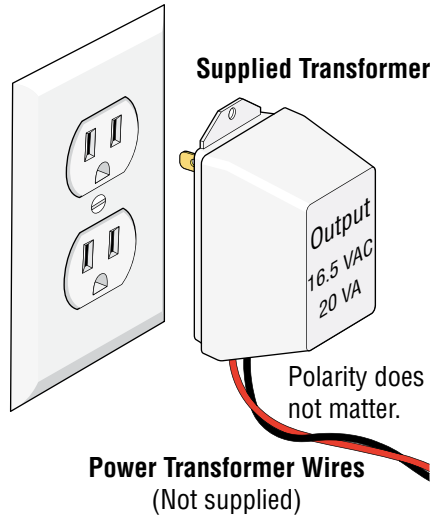
Power Transformer Wire Run Table

Wire Size	Max Distance
18 AWG	100 ft
16 AWG	200 ft

## CAUTION

**DO NOT** power the unit from a 24-Volt source (Such as a gate operator). **Damage will occur to the unit** that is **NOT** covered under DoorKing's warranty.

**Over Voltage Power Note:** LED located on bottom left corner of board will light up if too much power is applied to circuit board.



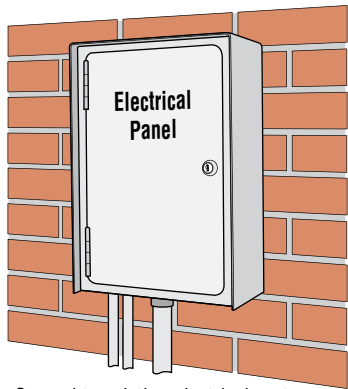
**Power Interruption Note:** The Time and Date calendar chip (Section 2, 2.7.1) in the Access Plus system will keep time for approximately 48 hours if power to the system is lost or removed. If power is off **longer** than this, **the Time and Date will need to be reprogrammed into the system.** All other specific programming that has been done will remain intact after power has been restored.

DoorKing offers a **12 volt .8 amp hour gel cell battery** that can connect to the main terminals 9 and 10 to provide back-up power during power interruptions. (DoorKing P/N 1801-008)

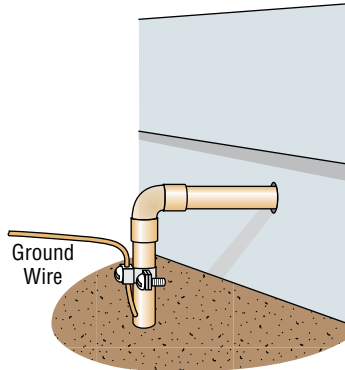
# 1.5 Grounding and Surge Suppression

Proper Grounding and the use of surge suppressors can significantly reduce the chance of component failure because of static charges or surges. To be effective, ground connections should be made with a minimum 12 AWG wire to a ground point within 10 feet of the device being protected. The ground point can be at an electrical panel, a metallic cold water pipe that runs in the earth or a grounding rod driven at least 10 feet into the soil. **A gooseneck mounting post anchored in concrete does NOT make a good ground.**

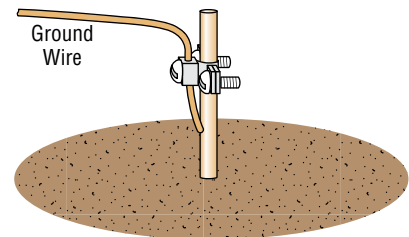
## Some Acceptable Ground Sources



Ground to existing electrical system.



Ground to metallic cold water pipe.

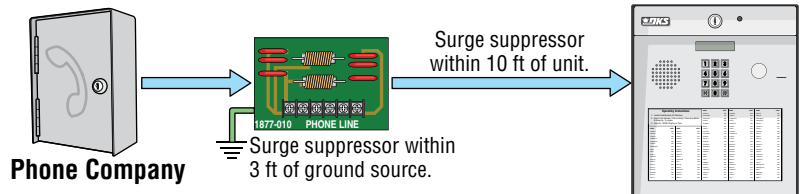


Grounding rod 10 feet in soil.

**IMPORTANT:** Ground wire shown without safety protection for clarity. Make sure ground wire is protected from being touched or electrical shock could occur!

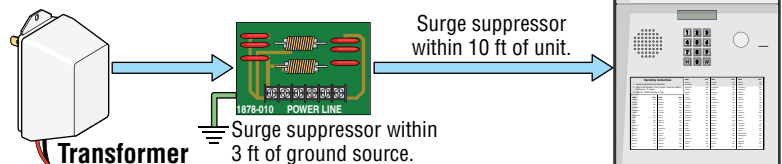
## Telephone Line Surge Suppressor

It is highly recommended that telephone line surge suppressor (DoorKing P/N 1877-010) be installed to help protect the system from phone line power surges. Surge suppressor must be positioned 3 ft or less from the ground source, 12 AWG min.



## Low Voltage Surge Suppressor

It is highly recommended that a low voltage surge suppressor (DoorKing P/N 1878-010) be installed to help protect the telephone entry system from power surges. Surge suppressor must be positioned 3 ft or less from the ground source, 12 AWG min.



# 1.6 Wire ONE Unit to a Telco Line - Auto-Dialer

## ⚠️ Connect to Incoming Telephone Company's Phone Line

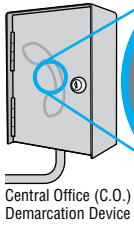
Locate the telephone company demarcation device.

**IMPORTANT** Identify the telephone line that will connect to the Access Plus unit and wire as shown.

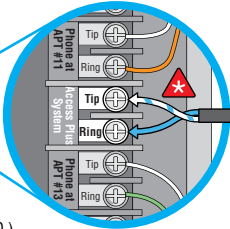
Use only twisted pair telephone wire that is rated for direct underground burial. **DO NOT** use wire that is intended for indoor applications.

Recommend Cat5e Gel Filled (flooded) UV Resistant Direct Burial Cable in conduit. **DO NOT** run telephone wires and high voltage wires in the same conduit. For complete info, see section 1.3.

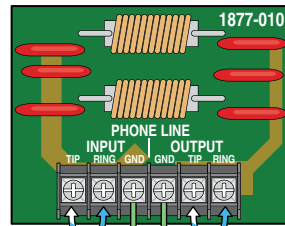
### Telephone Company Demarcation Point



Locate unit's Phone Line Inside Device



**TIP (+):** White/blue mark  
**RING (-):** Blue/white mark



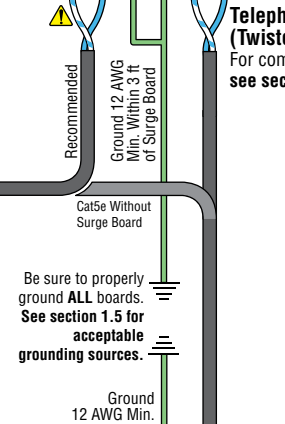
### Optional Phone Line Surge Suppressor

DoorKing Surge Suppressor P/N 1877-010 (or equivalent) is optional but highly recommended.

For best protection, surge suppressor ground wire **MUST** be 3-ft. or less in length. Use minimum 12 AWG wire. Refer to instruction sheet included with surge board and section 1.5 for complete information.

### Telephone Line (Twisted Pair)

For complete info, see section 1.3.



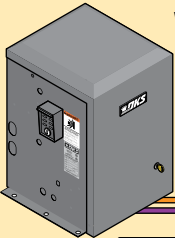
Be sure to properly ground ALL boards. See section 1.5 for acceptable grounding sources.

### ⚠️ Check Polarity of Telephone Line

Check for polarity on the phone "IN" wires, terminals 1 and 2. Terminal 2 must be positive with respect to terminal 1. Set a VOM meter to measure DC volts. Place the positive lead on terminal 2 and the negative lead on terminal 1. If the meter shows a positive voltage - OK. If the meter shows a negative voltage (needle moves off scale to the left), reverse the wires on terminals 1 and 2.

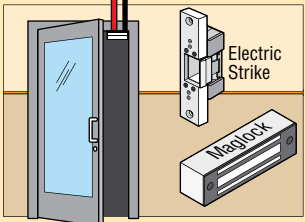
## Access Control Devices

### "Normally Open" Vehicular Gate Operator



Use minimum 18 AWG wire for runs up to 100 feet. 16 AWG wire for runs up to 200 feet. (Term. 11 and 13)

### Pedestrian Gate/Door



### "Normally Close" with Maglock

(Terminal 15 and 16)

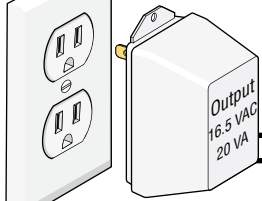
### "Normally Open" with Electric Strike

(Terminal 14 and 16)

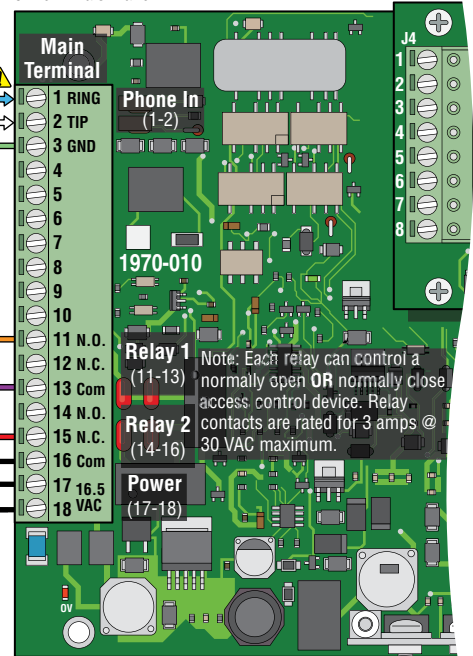
Magnetic locks or electric strikes must be powered from a separate UL Listed power transformer. **DO NOT** power strikes or magnetic locks from the unit's power transformer. Use minimum 18 AWG wire for runs up to 100 feet; 16 AWG wire for runs up to 200 feet. It is recommended to keep power wire runs as short as possible.

### Supplied Transformer

Polarity does not matter.



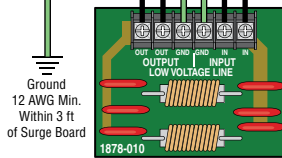
The Access Plus system operates **ONLY** on 16.5 VAC. **DO NOT** power the unit with 24 Volt transformer or source voltage. Use the supplied power transformer, 16.5 VAC, 20 VA (or UL listed equivalent) to power the telephone entry system. **DO NOT** power any other devices (electric strikes, magnetic locks, additional units etc.) from the unit's power transformer. See section 1.4 for wire size and run distances.



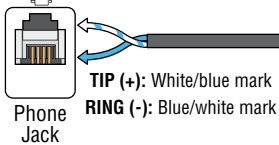
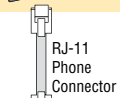
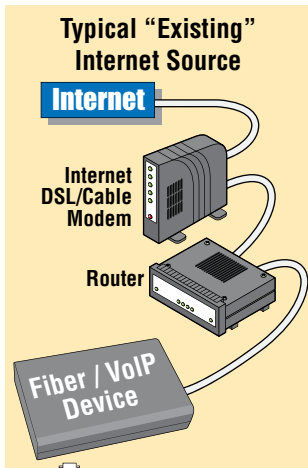
### Access Plus System Circuit Board

### Optional Low Voltage Surge Suppressor

DoorKing Surge Suppressor P/N 1878-010 (or equivalent) is optional but highly recommended. For best protection, surge suppressor ground wire **MUST** be 3-ft. or less in length. Use minimum 12 AWG wire. Refer to instruction sheet included with surge board for complete information.



# 1.7 Wire ONE Unit to the Internet - Auto-Dialer



**Telephone Line (Cat5e)**  
For complete information, see section 1.3.

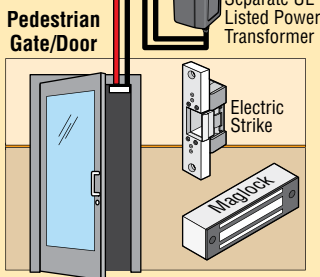
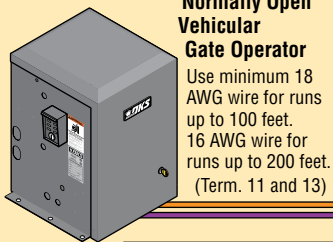
Be sure to properly ground ALL boards. See section 1.5 for acceptable grounding sources.

Ground 12 AWG Min.

### ⚠ Check Polarity of Telephone Line

Check for polarity on the phone "IN" wires, terminals 1 and 2. Terminal 2 must be positive with respect to terminal 1. Set a VOM meter to measure DC volts. Place the positive lead on terminal 2 and the negative lead on terminal 1. If the meter shows a positive voltage - OK. If the meter shows a negative voltage (needle moves off scale to the left), reverse the wires on terminals 1 and 2.

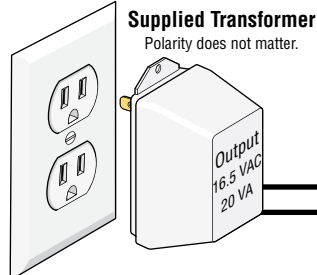
### Access Control Devices



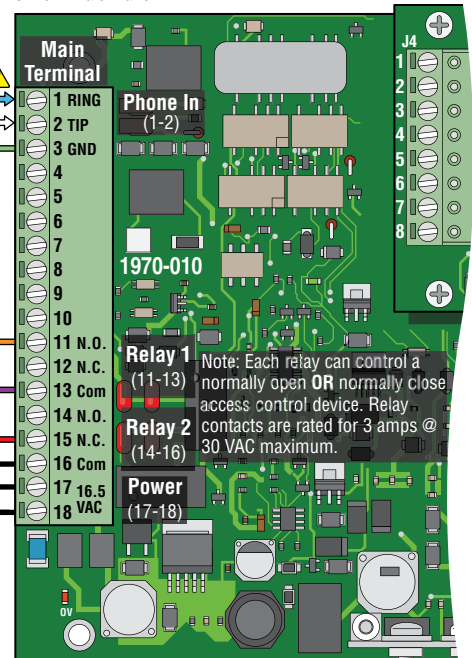
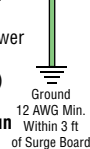
**"Normally Close" with Maglock**  
(Terminal 15 and 16)

**"Normally Open" with Electric Strike**  
(Terminal 14 and 16)

Magnetic locks or electric strikes must be powered from a separate UL Listed power transformer. **DO NOT** power strikes or magnetic locks from the unit's power transformer. Use minimum 18 AWG wire for runs up to 100 feet; 16 AWG wire for runs up to 200 feet. It is recommended to keep power wire runs as short as possible.



The Access Plus system operates **ONLY** on 16.5 VAC. **DO NOT** power the unit with 24 Volt transformer or source voltage. Use the supplied power transformer, 16.5 VAC, 20 VA (or UL listed equivalent) to power the telephone entry system. **DO NOT** power any other devices (electric strikes, magnetic locks, additional units etc.) from the unit's power transformer. **See section 1.4 for wire size and run distances.**

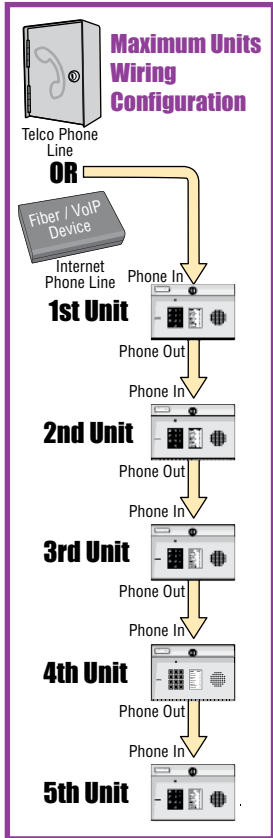


### Low Voltage Surge Suppressor

DoorKing Surge Suppressor P/N 1878-010 (or equivalent) is optional but highly recommended. For best protection, surge suppressor ground wire **MUST** be 3-ft. or less in length. Use minimum 12 AWG wire. Refer to instruction sheet included with surge board for complete information.



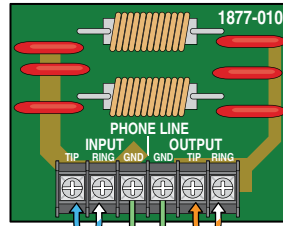
# 1.8 Wire Multiple Units - Auto-Dialer: Telco/Internet



Up to five (5) Units may be wired in series to ONE phone line:  
 1st unit's PHONE OUT to 2nd unit's PHONE IN;  
 2nd unit's PHONE OUT to 3rd unit's PHONE IN, etc.

When connecting multiple (more than 1) Access Plus units, the 1816 Access Plus telephone interface feature CANNOT be used.

The master code number is used to distinguish each unit when multiple units are connected together. They CAN NOT function together with duplicate master codes.



## Optional Phone Line Surge Suppressor

DoorKing Surge Suppressor P/N 1877-010 (or equivalent) is optional but highly recommended for Telco line. For best protection, surge suppressor ground wire **MUST** be 3-ft. or less in length. Use minimum 12 AWG wire. Refer to instruction sheet included with surge board and section 1.5 for complete information.

## Check Polarity of Telephone Line

Check for polarity on the phone "IN" wires, terminals 1 and 2. Terminal 2 must be positive with respect to terminal 1. Set a VOM meter to measure DC volts. Place the positive lead on terminal 2 and the negative lead on terminal 1. If the meter shows a positive voltage - OK. If the meter shows a negative voltage (needle moves off scale to the left), reverse the wires on terminals 1 and 2.

See previous 2 pages for more information about Telco OR Internet wiring.

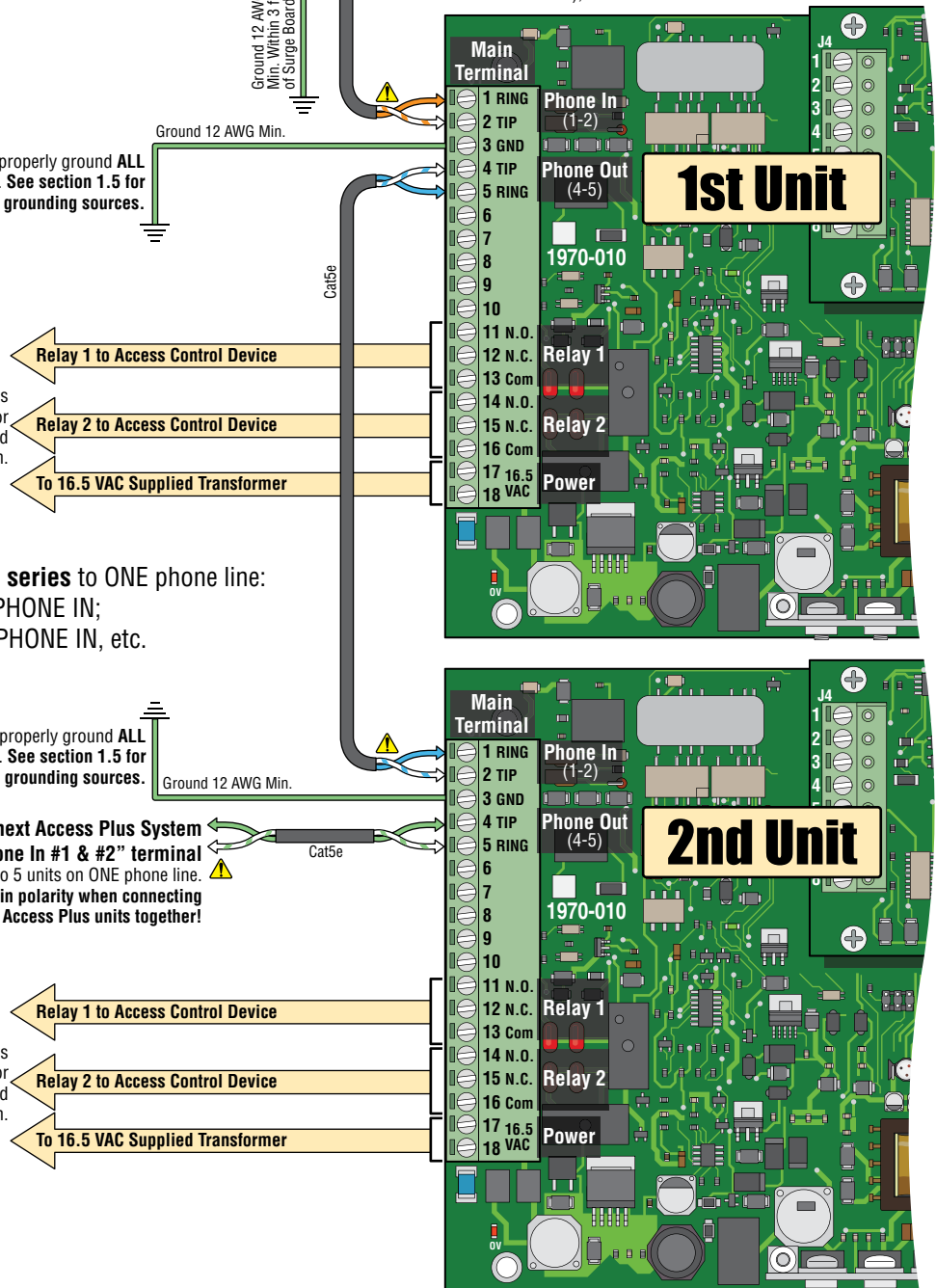
Be sure to properly ground ALL units. See section 1.5 for acceptable grounding sources.

See previous 2 pages for wiring and information.

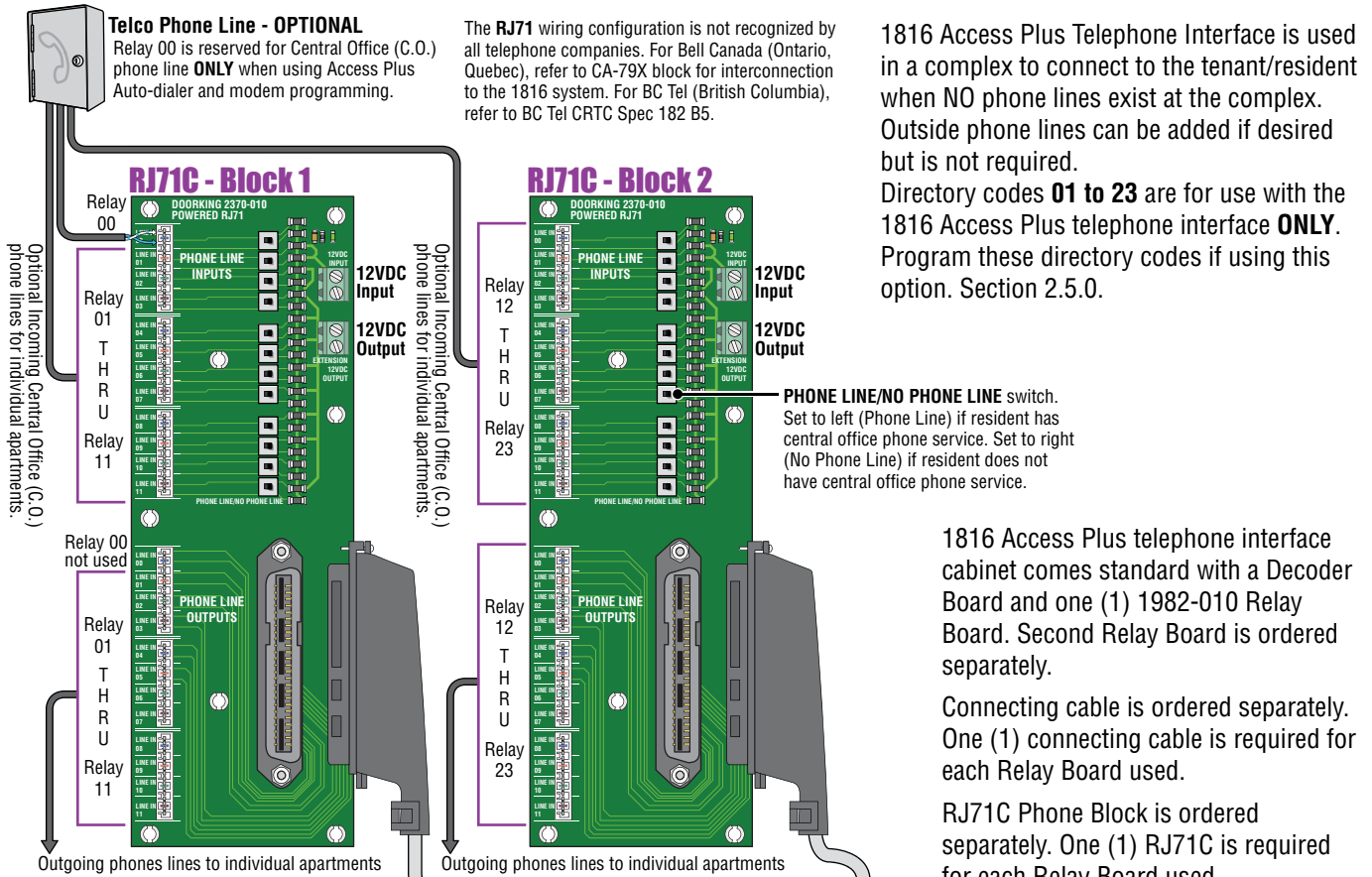
Be sure to properly ground ALL units. See section 1.5 for acceptable grounding sources.

To next Access Plus System "Phone In #1 & #2" terminal  
 Connect up to 5 units on ONE phone line.  
 Maintain polarity when connecting multiple Access Plus units together!

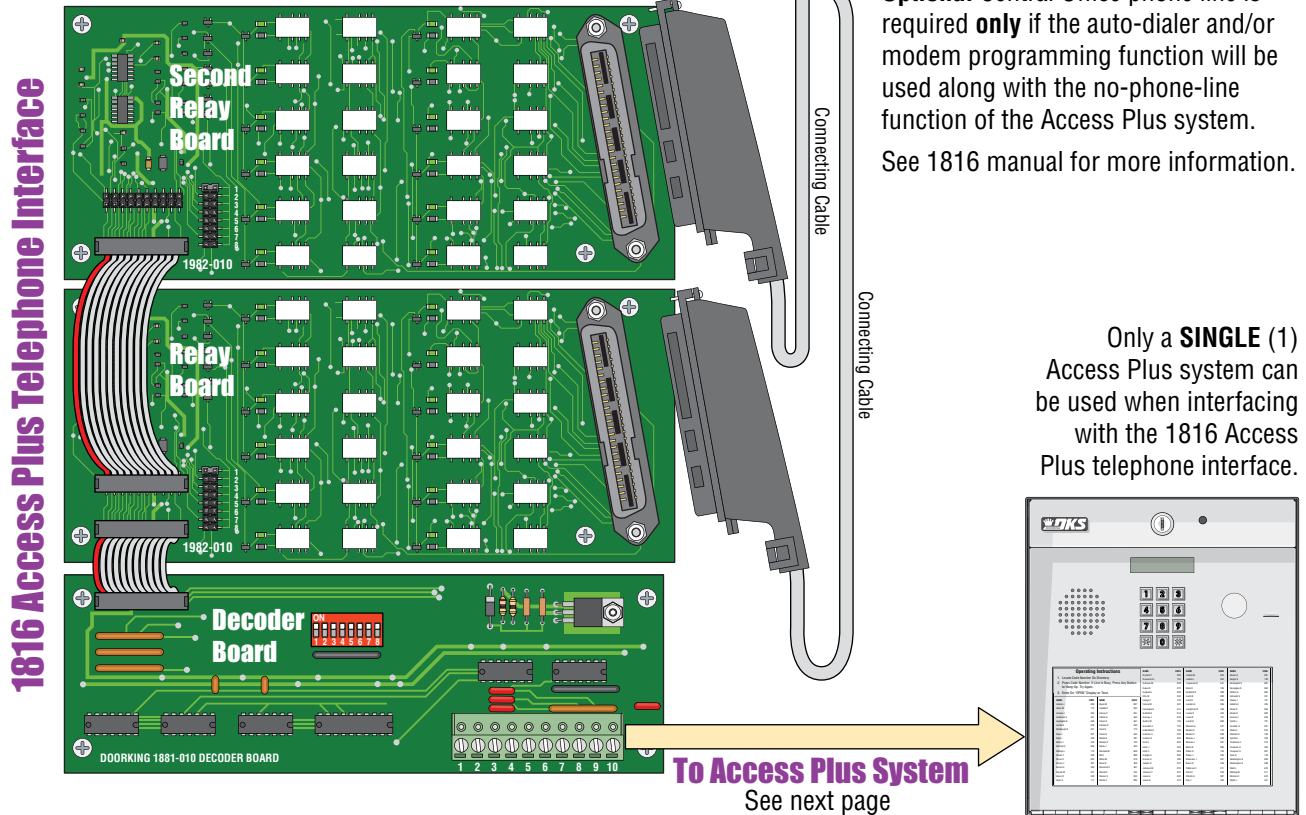
See previous 2 pages for wiring and information.



# 1.9 1816 Access Plus Telephone Interface Wiring

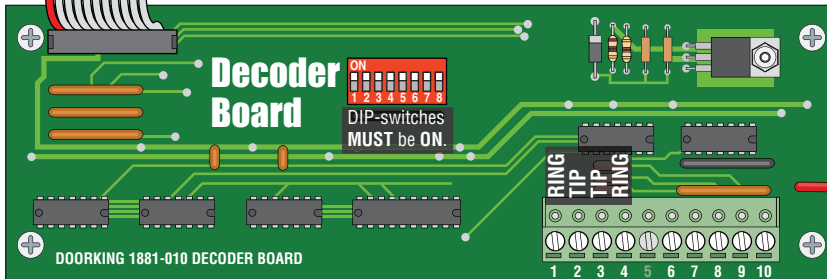


Use only twisted pair telephone wire, **see section 1.3.**



# 1.9 Continued

## 1816 Access Plus Telephone Interface

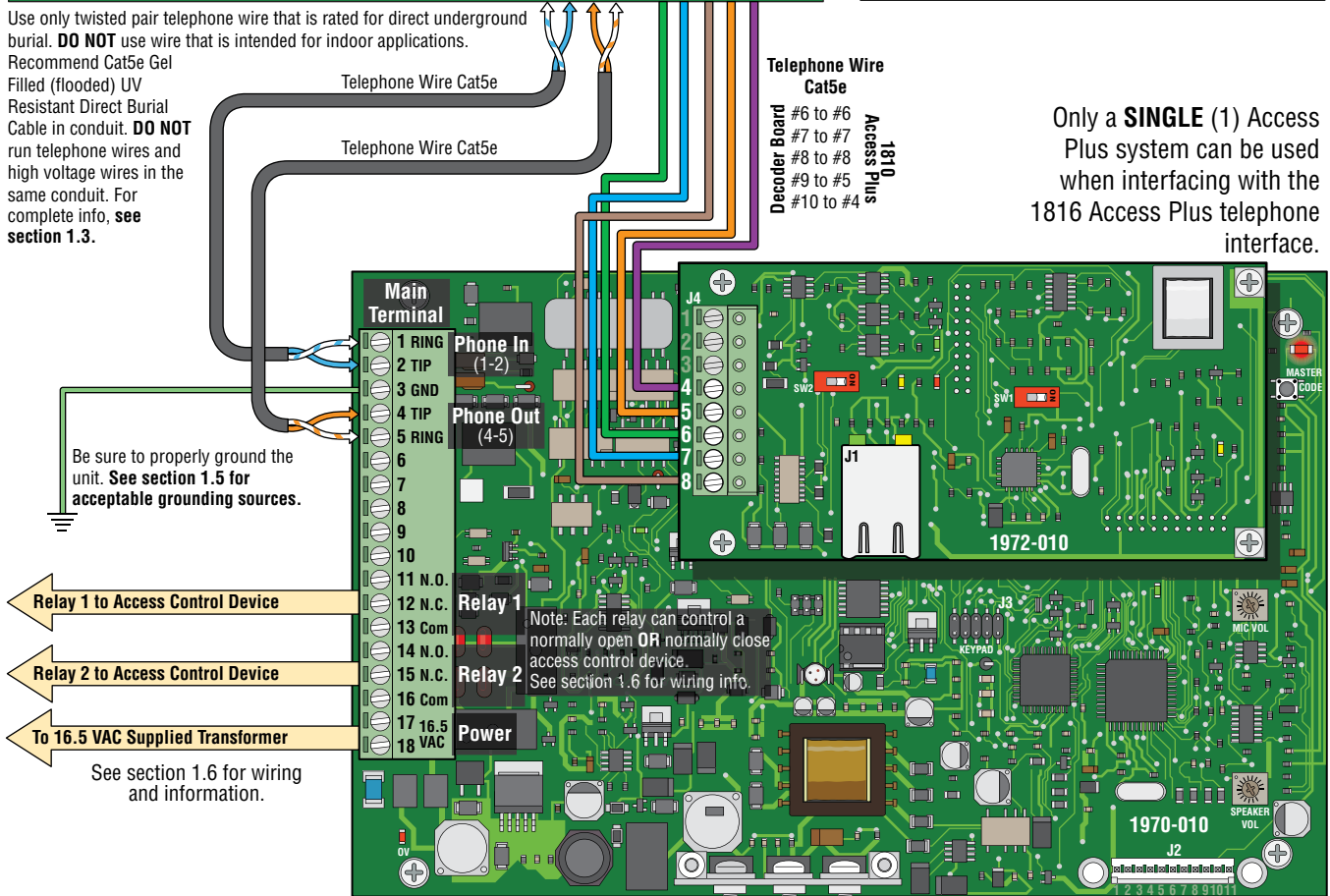


Wire Size	Max Distance
24 AWG	800 ft
22 AWG	1600 ft
20 AWG	2200 ft
18 AWG	3600 ft

Use only twisted pair telephone wire that is rated for direct underground burial. **DO NOT** use wire that is intended for indoor applications. Recommend Cat5e Gel Filled (flooded) UV Resistant Direct Burial Cable in conduit. **DO NOT** run telephone wires and high voltage wires in the same conduit. For complete info, see section 1.3.

Telephone Wire Cat5e  
#6 to #6  
#7 to #7  
#8 to #8  
#9 to #5  
#10 to #4  
Decoder Board  
1810  
Access Plus

Only a **SINGLE** (1) Access Plus system can be used when interfacing with the 1816 Access Plus telephone interface.



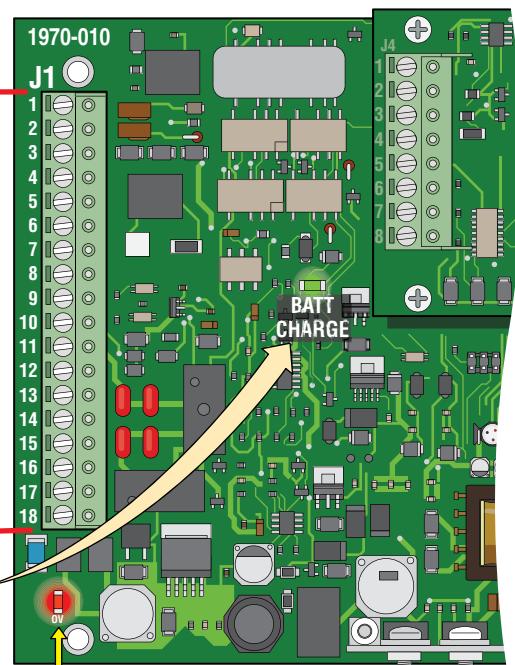
## 1810 Access Plus System

# 1.10 Main Terminal Description

- OR **Phone In (Twisted Pair) / Wireless Adapter**
    - 1. Phone In (Negative - Ring)
    - 2. Phone In (Positive - Tip)
    - 3. Ground (Required)
  - Phone Out (Twisted Pair)**
    - 4. Phone Out (Positive - Tip)
    - 5. Phone Out (Negative - Ring)
    - 6. Not Used.
  - Emergency and/or Postal Entry Switch**
    - 7. Switch Input Relay 1. A switch closure across terminals 7 & 9 will activate relay 1 for its programmed strike time.
    - 8. Switch Input Relay 2. A switch closure across terminals 8 & 9 will activate relay 2 for its programmed strike time.
  - Back-Up Battery Power**
    - 9. - 12 VDC Battery Negative. Also **Common** for terminals 7 & 8.
    - 10. + 12 VDC Battery Positive.
  - Relay 1 (Access Control Device)**
    - 11. Relay 1 Normally Open
    - 12. Relay 1 Normally Closed
    - 13. Relay 1 **Common**
  - Relay 2 (Access Control Device)**
    - 14. Relay 2 Normally Open
    - 15. Relay 2 Normally Closed
    - 16. Relay 2 **Common**
  - Input Power (Transformer)**
    - 17. 16.5 VAC Input Power
    - 18. 16.5 VAC Input Power
- DO NOT use 24V.**

**WARNING** Maximum input voltage to terminals 9 and 10 is 14.5 Volts DC.

**BATT CHARGE LED:** When battery is connected to 9 and 10, Green LED will light when charging and turn OFF when charged.



**Over Voltage Power Note:** OV LED will light up if too much power is applied to circuit board.

# 1.11 Access Plus System Interface Board

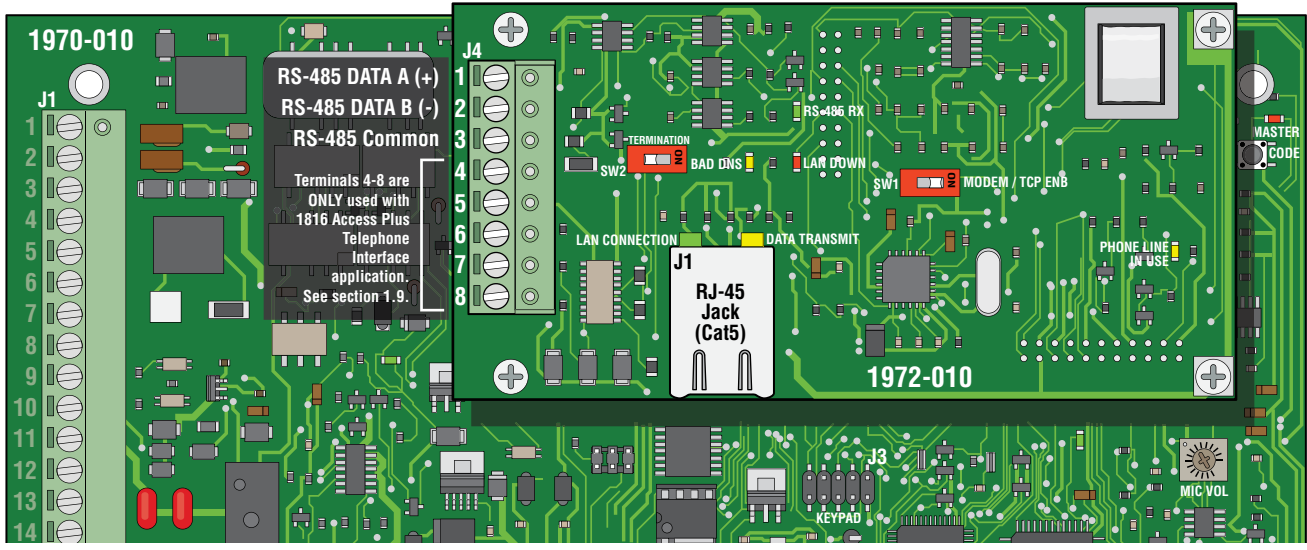
The Access Plus interface board (1972-010) is piggybacked onto the main unit's Plus circuit board (1970-010). The interface board provides additional connections to the unit for keypads, card readers and/or RF receivers using RS-485 communication protocol.

The Access Plus system can be programmed via a PC using a network or modem connection. An RJ-45 jack (Cat5) is provided on the interface board for network connections.

## 1.11.1 RS-485 8-Pin Connector Description

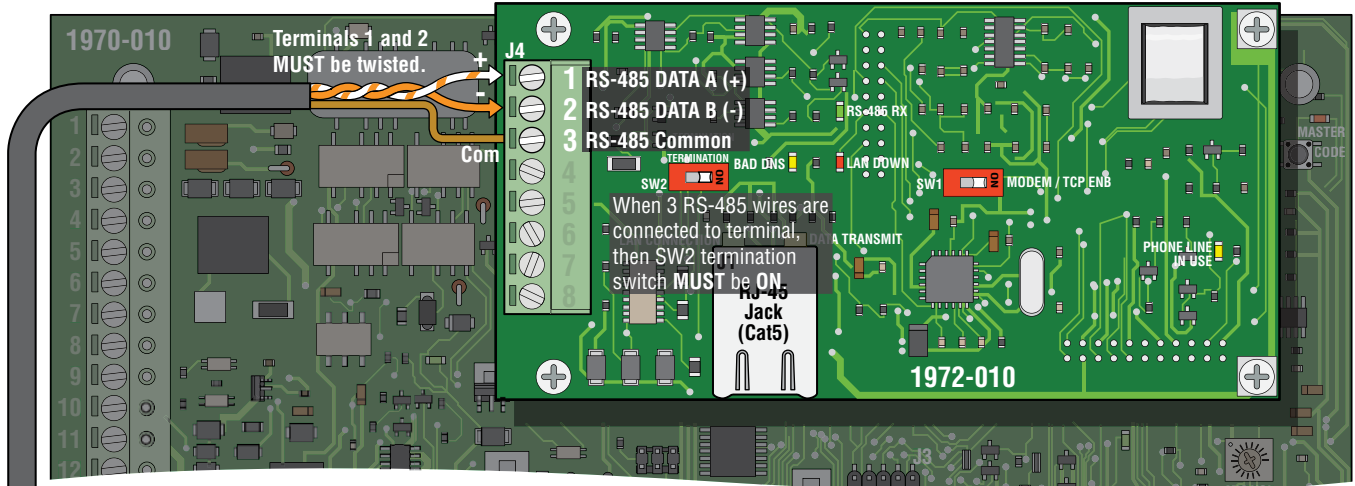
Use the RS-485 terminals to add up to six (6) card readers, keypads and/or RF receivers to the Access Plus system. These devices must be wired in a daisy-chain format with a maximum wire run distance of 4000 feet. We recommend that you use Cat5e wire for all RS-485 wire runs.

**DO NOT power RS-485 devices from the Access Plus system. These devices must be supplied with their own power source.** Refer to the individual device wiring instructions for connection information and wiring guidelines for these products.



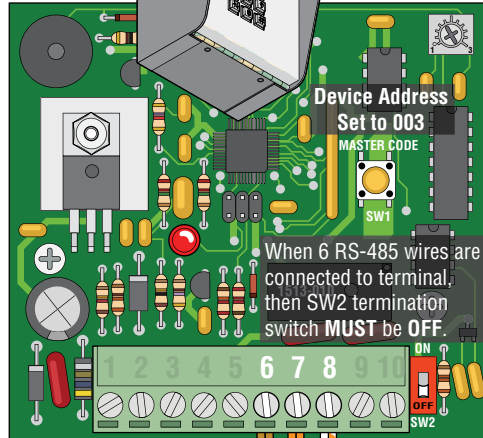


# RS-485 Daisy Chain Wiring



The wires connecting terminals 1 & 2 from the Access Plus system to terminals 8 & 7 on the DoorKing RS-485 boards MUST be twisted. We recommend that you use Cat5e cable for all the RS-485 connections (See section 1.3 for wire size and run distances table). Use one twisted pair to connect these terminals (terminal 1 connects to terminal 8; terminal 2 connects to terminal 7) and then one wire from another twisted pair to connect the common terminal (terminal 3 from the Access Plus system to terminal 6 on the RS-485 board).

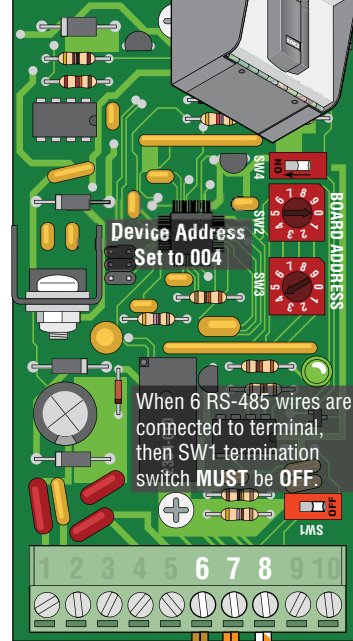
## RS-485 Keypad



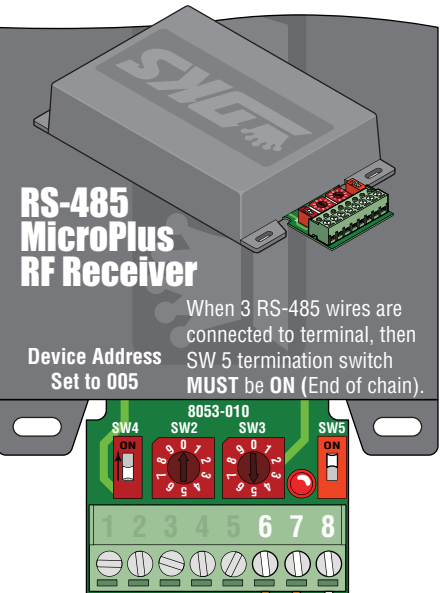
If wiring will be outdoors or underground, use Cat5e Gel Filled (flooded) UV Resistant Direct Burial Cable.

Any RS-485 Keypad, Cardreader and MicroPlus RF Receiver sequence allowed. Maximum distance from end to end is 4000 feet in a Daisy Chain format as shown, see next page for different RS-485 wiring configurations.

## RS-485 Cardreader



Terminals 7 and 8 MUST be twisted.



Terminals 7 and 8 MUST be twisted.

Setting the device address switches are different for each RS-485 device. Refer to the individual RS-485 instruction sheet to set the addresses for these products and see the next page for more information about address restrictions.

**Do Not** power RS-485 devices from the access plus system. RS-485 devices must be powered from their own power source. Refer to the individual device wiring instructions for connection information and wiring guidelines for these products.

# RS-485 Configurations

## Device Address

Every RS-485 device (keypad, card reader, MicroPlus RF receiver) must have a unique address assigned to it, starting with 003. The address selector switches are located on the RS-485 circuit board (see instruction sheets that come with each RS-485 device). The address order of the devices connected to the access plus system does not matter. What is important is that the addresses must be numbered in sequence. **Do not skip a number in the address sequence and start the sequence with 003**

(e.g. If three (3) RS-485 devices are daisy chain wired to the access plus system and their addresses are 003, 004 and 006, this is wrong. They must be addressed 003, 004 and 005).

The 2 internal relays on the access plus system circuit board are 001 and 002. **Valid RS-485 external device addresses for use with the Access Plus system are 003, 004, 005, 006, 007 and 008.**

**Important Note:** The device address is referred to as a "Relay Number" in the programming software.

## Device Termination Switch

A termination switch is located on every RS-485 circuit board. The termination switch must be turned **OFF** for every device wired in a daisy chain except for the last device. It must have its termination switch turned **ON**.

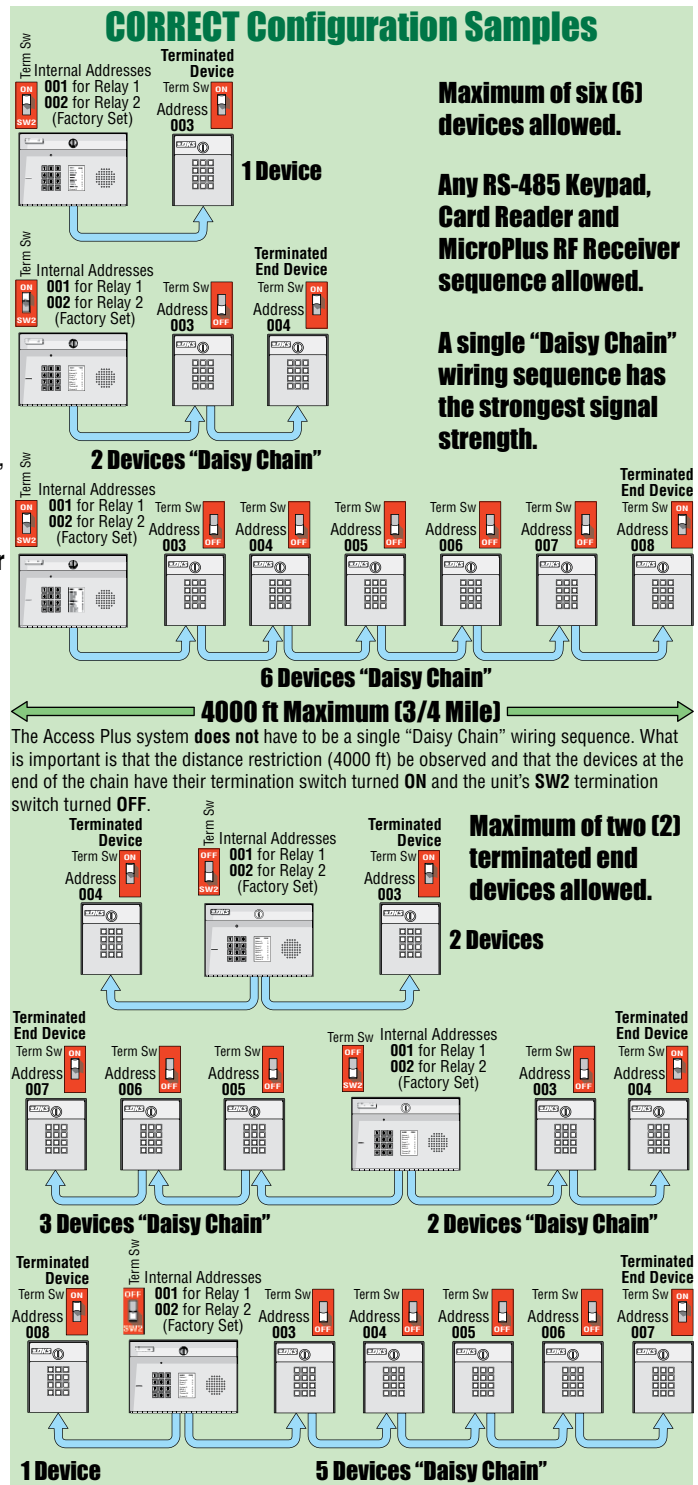
A single RS-485 device wired to the access plus system must have its termination switch turned **ON**. A maximum of 2 devices or 2 daisy chains can be **individually** wired to a single unit (Only 2 terminated devices allowed).

## Access Plus System SW2 Termination Switch

Single run (Daisy chain) of RS-485 devices. SW2 **ON**.  
Runs in two different directions of RS-485 devices. SW2 **OFF**.

### Some Configuration Problems to Avoid:

- 1 The total distance for the complete wire run is greater than 4000 ft.
- 2 There are more than 6 RS-485 devices.
- 3 There are more than 2 wire runs coming out of the access plus system.
- 4 There are more than 2 end devices terminated and/or incorrect end device terminations (Not turned **ON**).
- 5 There are more than 6 addresses and/or duplicate or skipped addresses.
- 6 An RS-485 device can not have 2 RS-485 devices separately continued from it.
- 7 The access plus system must have its SW2 termination switch turned **OFF** when 2 terminated end devices are being used.



Maximum of six (6) devices allowed.

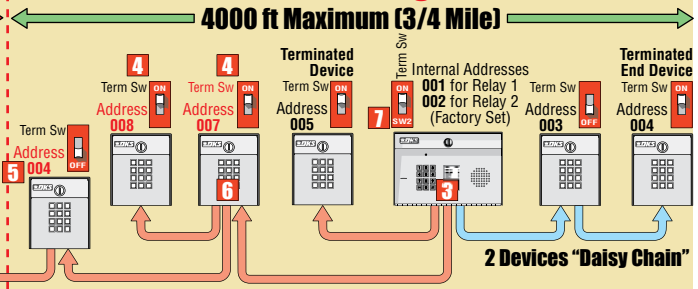
Any RS-485 Keypad, Card Reader and MicroPlus RF Receiver sequence allowed.

A single "Daisy Chain" wiring sequence has the strongest signal strength.

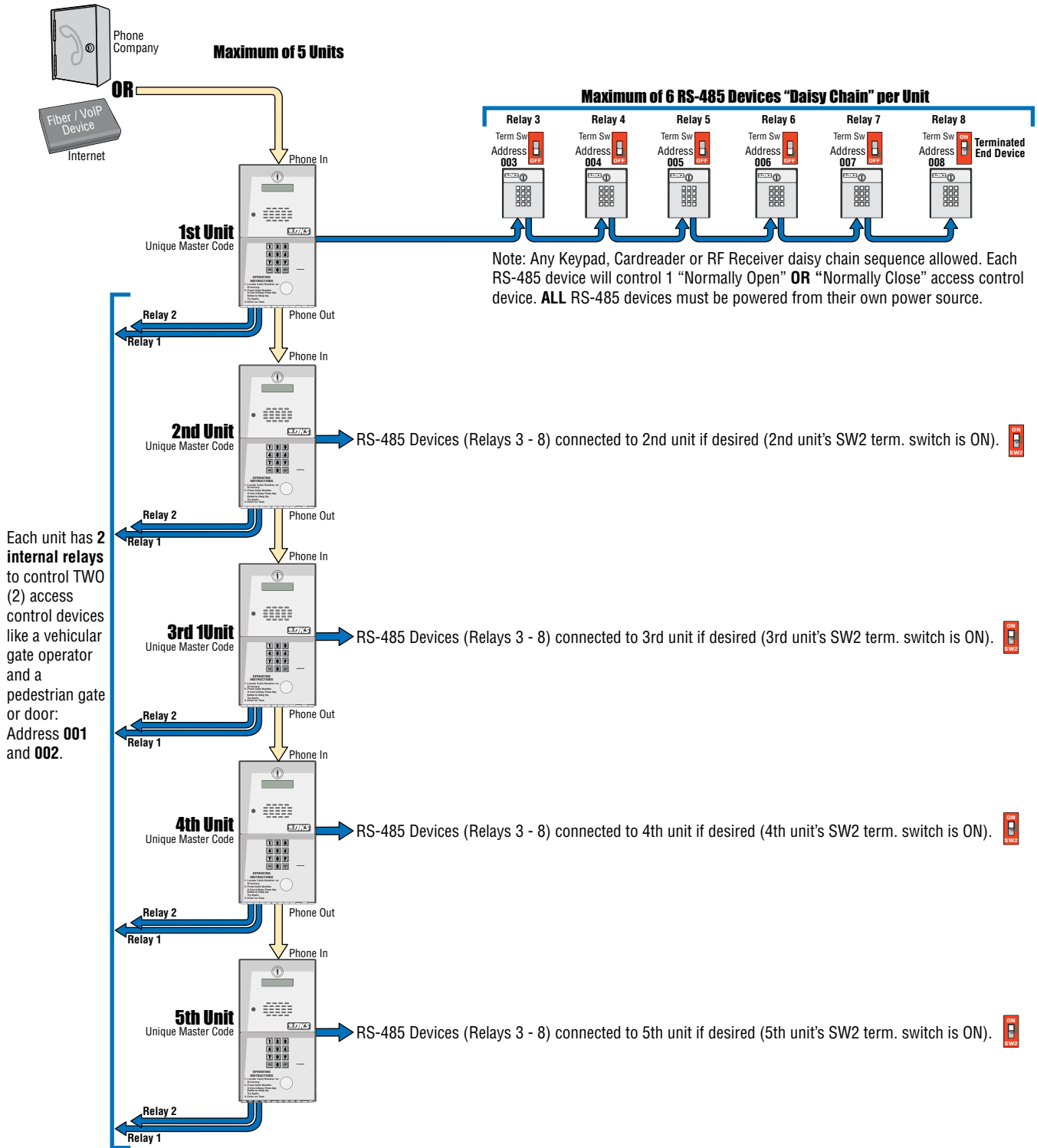
Maximum of two (2) terminated end devices allowed.

2 Devices

## INCORRECT Configuration



# Auto-Dialer ONLY - Sample of Multiple Units Configuration Connection



Units MUST be programmed for MULTIPLE UNITS, see section 2.4.2.



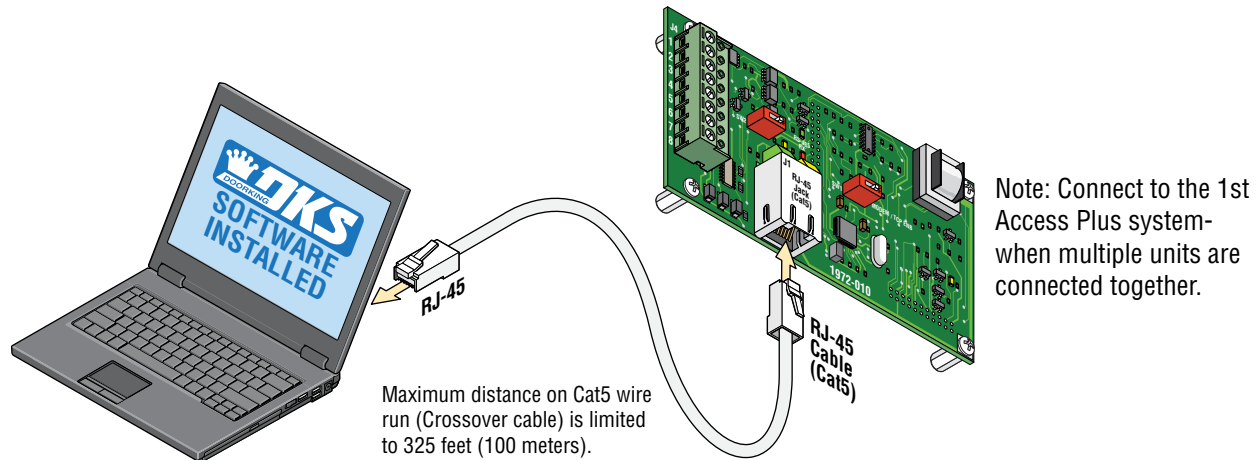
## 1.11.2 Network Connections

There are a number of ways to communicate with the Access Plus system via a network connection. Before any programming can be attempted, you need to install the Access Plus programming software on the computer you want to use for this purpose. The computer must have a network card installed. Follow the instructions in the Access Plus programming software help guide and refer to section 2.3 for setup information.

Using a network connection, you can connect to the Access Plus system in different ways:

### Direct Connection Using a Crossover Cable

Locally with a direct connection from the computer to the Access Plus system using a commercially available crossover cable.

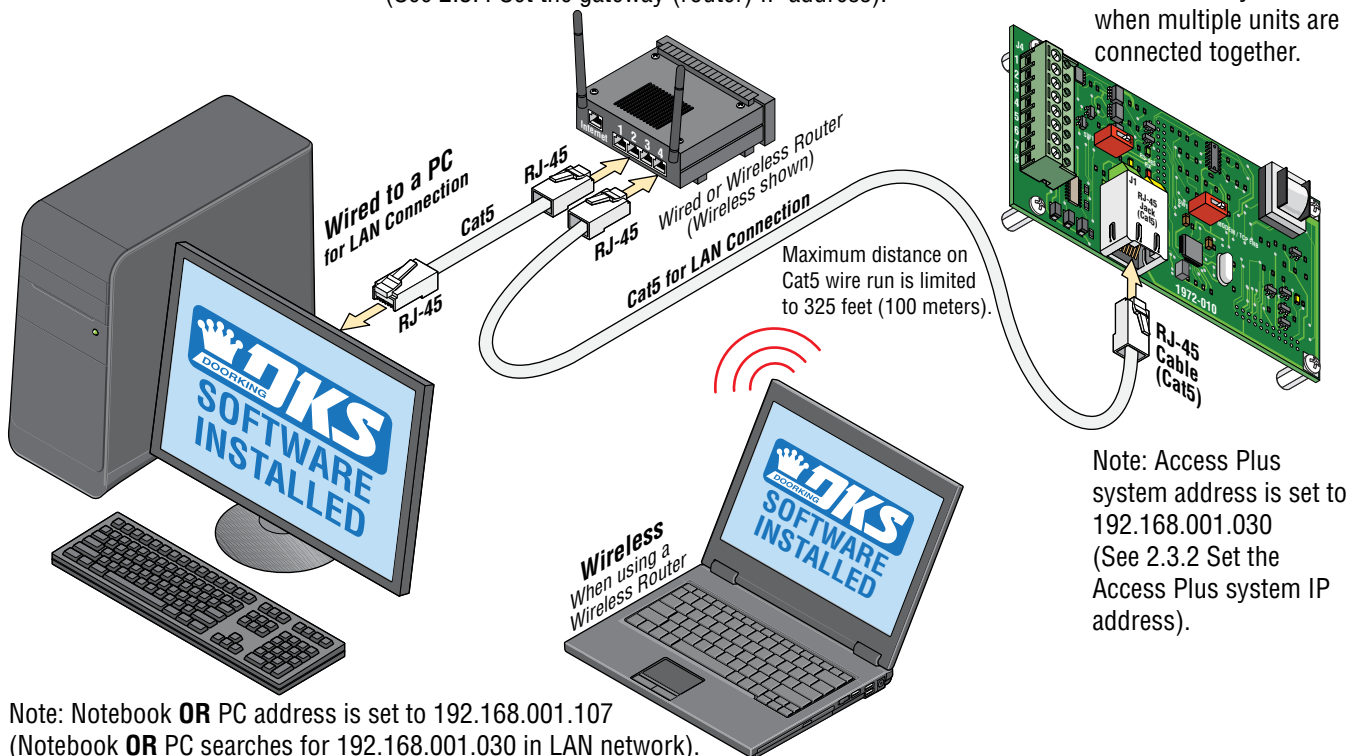


### Direct Connection Using a Router (LAN)

Locally by connecting the computer to the Access Plus system through a router. This is a Local Area Network (LAN) connection.

Note: Router address is set to 192.168.001.001  
(See 2.3.4 Set the gateway (router) IP address).

Note: Connect to the 1st Access Plus system when multiple units are connected together.

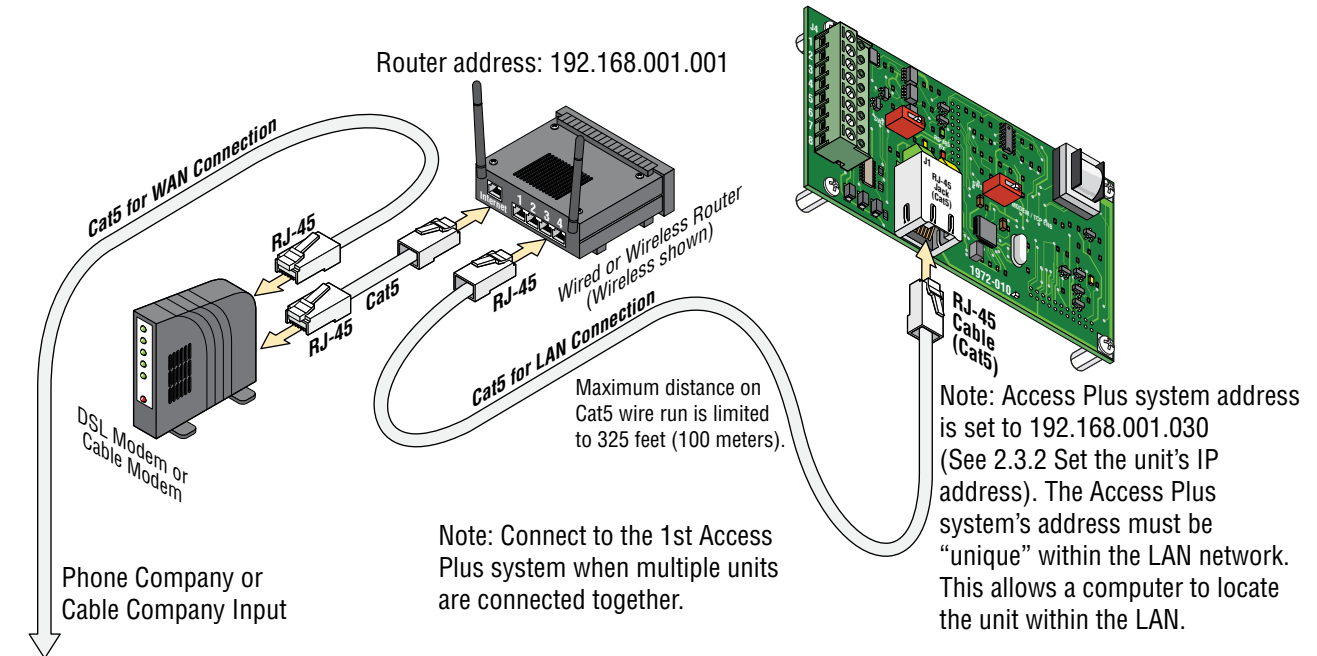


Note: Notebook **OR** PC address is set to 192.168.001.107  
(Notebook **OR** PC searches for 192.168.001.030 in LAN network).

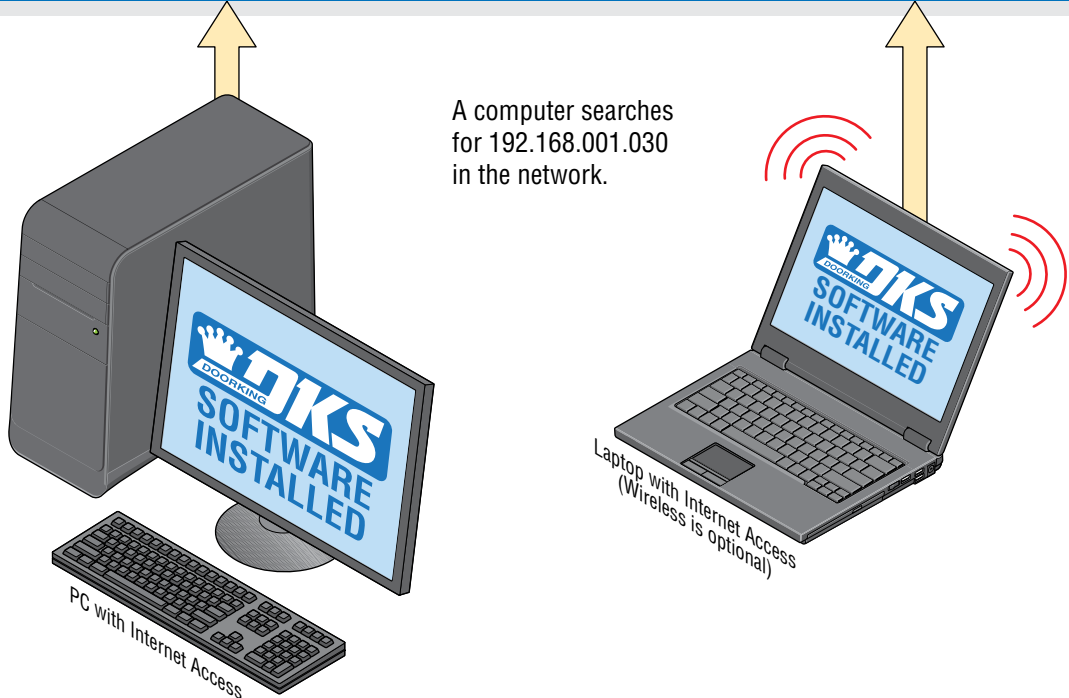
## Through the Internet (WAN)

- Through the internet with a **static IP address**. This is a Wide Area Network (WAN) connection and will require a router and a DSL or cable modem with an internet connection.
- Through the internet with a **dynamic IP address**. This is a Wide Area Network (WAN) connection and will require a router and a DSL or cable modem with an internet connection. You will also need a registered DDNS host name.

Note: The gateway address must be set into the Access Plus system. This allows the unit to “register” with the LAN 192.168.001.001 (See 2.3.4 Set the gateway (router) IP address).



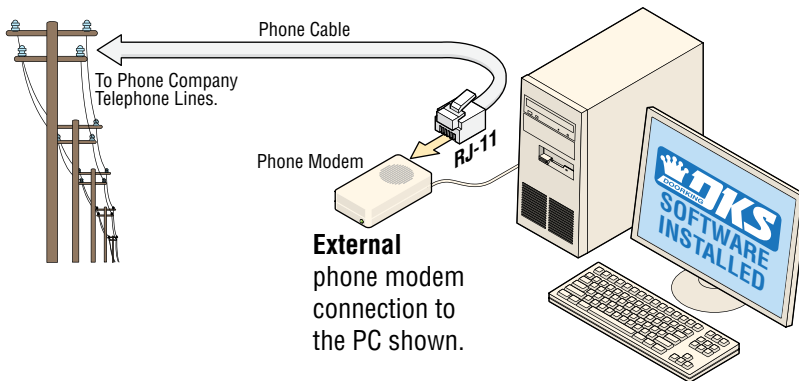
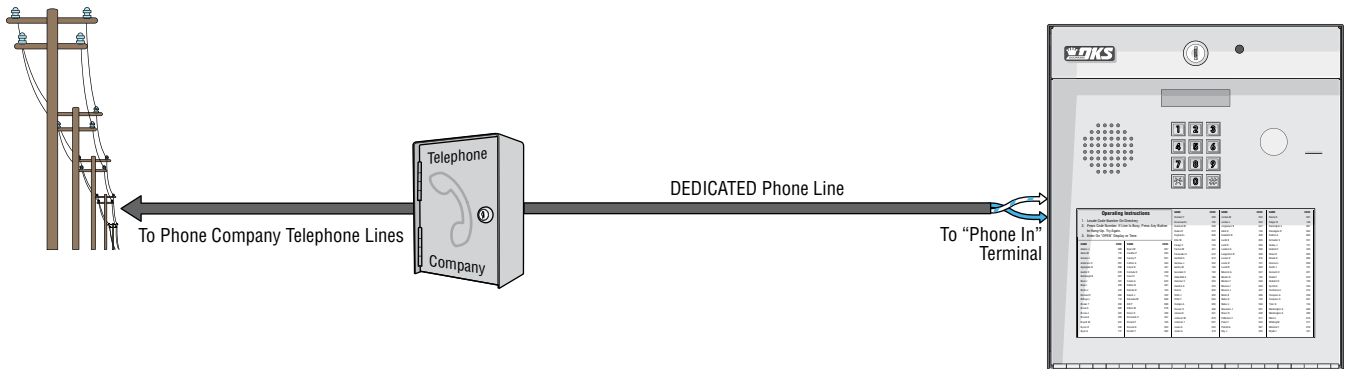
## Internet



# 1.11.3 Phone Modem Connection

The Access Plus system has a dedicated phone line. A PC MUST be connected to a **separate** phone line to program the Access Plus system.

## Phone Modem Connection: Access Plus system and PC connected on **DIFFERENT** phone lines.



# SECTION 2 - PROGRAMMING

**Before You Start Programming: IMPORTANT!** Make sure the Access Plus system has power and we strongly suggest that you become familiar with these programming instructions before beginning any programming of the Access Plus system.

The unit has been programmed at the factory with many of the programming parameters already set (default setting) for a typical residential application with a single unit. There is no need to reprogram these parameters unless you want to change them. For easy reference, refer to the chart on page 36 that list the various programming functions and their default settings.

## 2.1 Programming the Master Code

This programming step sets the system MASTER CODE. The master code is the four-digit number **required to gain access to the system memory**.

The unit comes from the factory **WITHOUT** a master code programmed into it. **You MUST program a MASTER CODE.**

The Master Code can **ONLY** be programmed from the system keypad.



System Keypad

**Step 1.** Open the cabinet of the unit and press the master code button (See below). The **Blinking** LED right above the button will remain **ON**.

Note: After you press the master code push button, the blinking LED will stay **ON** indicating that you are in the master code programming sequence. If a master code is not entered within **10 seconds**, the master code program sequence will automatically end and the LED will return to a **blinking** state indicating that you have exited the master code programming sequence.

**Step 2.** Enter a four-digit master code then press \*.



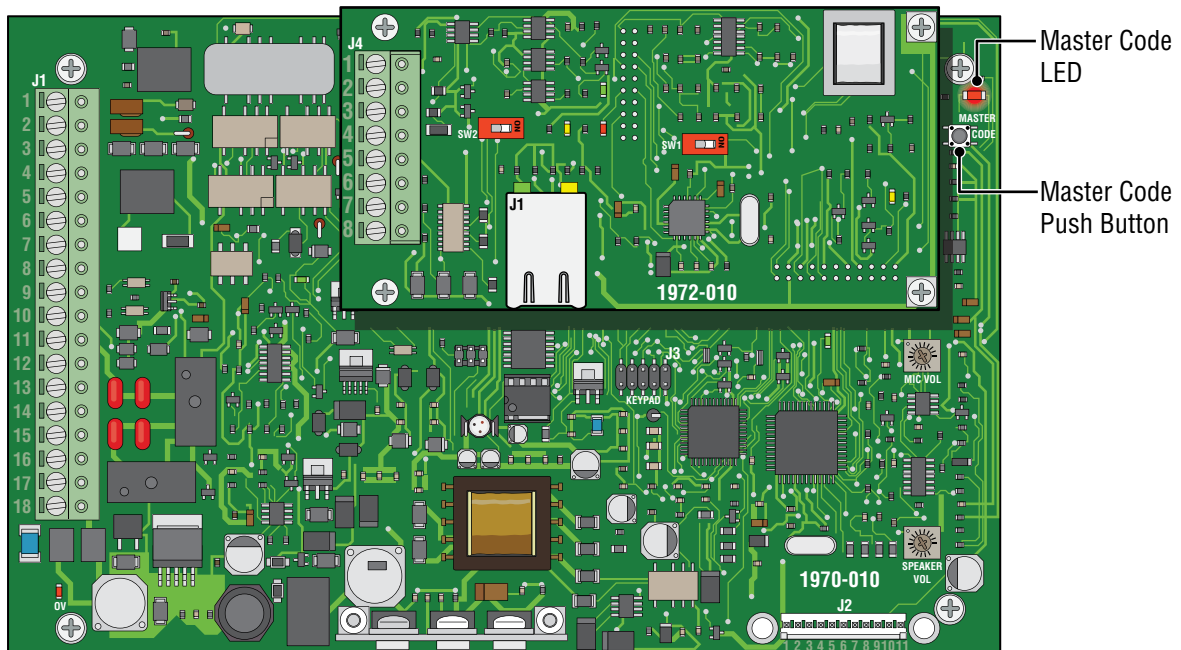
System Keypad

Actual keystrokes used on system keypad: any four numbers [ ? ] [ ? ] [ ? ] [ ? ] Then [ \* ] **"BEEP"**

Same keystrokes as written in this manual: [ \_ \_ \_ \_ \* (beep) ]

Multiple units Master Codes Note: The master code number is used to distinguish each unit when multiple units are connected together. They **CAN NOT** function together with duplicate master codes.

**Step 3.** The LED will revert to **Blinking**. Close the cabinet. **You should write down your master code, see note below.**



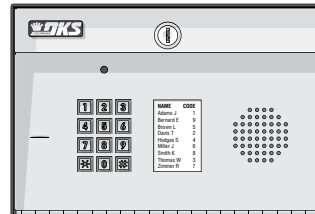
**Programming Documentation Note:** There are programming log sheets in the back of this manual to document your specific master code, and keep track of all other programming that is preformed to this Access Plus system. Keep this with all other system documentation for future reference. **There is no way of retrieving the master code after it has been programmed in.** If you forget it, you will have to program in a new one but all other previously programmed information will remain intact.

## 2.2 Programming Methods

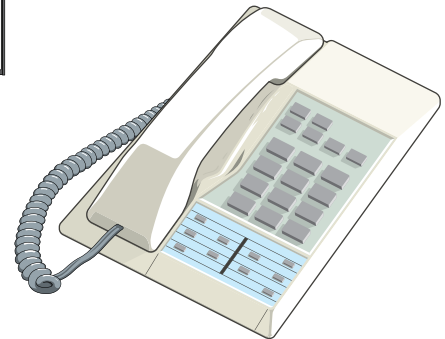
The Access Plus system can be programmed from a computer, the system keypad (Keypad on the unit) or from a touch-tone telephone.



Computer connected directly to the Access Plus unit or the internet.



Direct "System Keypad"



Touch-Tone Telephone.

We highly recommend programming the Access Plus system from a computer using the DoorKing Access Plus Management software as this greatly simplifies the programming task (See section 2.3 for more information). There are also several features in the Access Plus system that **MUST** be setup using a computer.

The following features and programming parameters can only be programmed from a computer:

**Strike Out:** This feature can be turned ON or OFF and will set the number of invalid access codes allowed before the system shuts down for a period of time. The default is OFF.

**Holiday Schedules:** Program up to 31 different Holiday schedules. This feature can be turned ON or OFF. The default is OFF.

**Email Notification:** Set the Access Plus system to send emails to a specified email address on events of your choice. Requires an Internet connection. This feature can be turned ON or OFF. It comes from the factory with this feature turned OFF (factory setting OFF). Note: When the mail server uses SSL (Secure link), the unit cannot send e-mails.

**Transaction Log:** Download and view the system transaction log.

### Computer - PC's only, NOT for use with MACs

- This is the **preferred method of programming the Access Plus system as it will simplify all of the programming steps** and allow you to enjoy all of the features and benefits available with this system. The Access Plus Management software must be installed on your computer and the unit must be connected to the computer via one of the methods shown in section 1.11.2 or 1.11.3. Refer to the Access Plus software help screens for more information.

### System Keypad

- We strongly recommend that you become familiar with the entire programming sequence before attempting to program some of the more complex features of this system using the system keypad. **If you make a single error in the programming steps, you will have to re-do the sequence from step 1.**

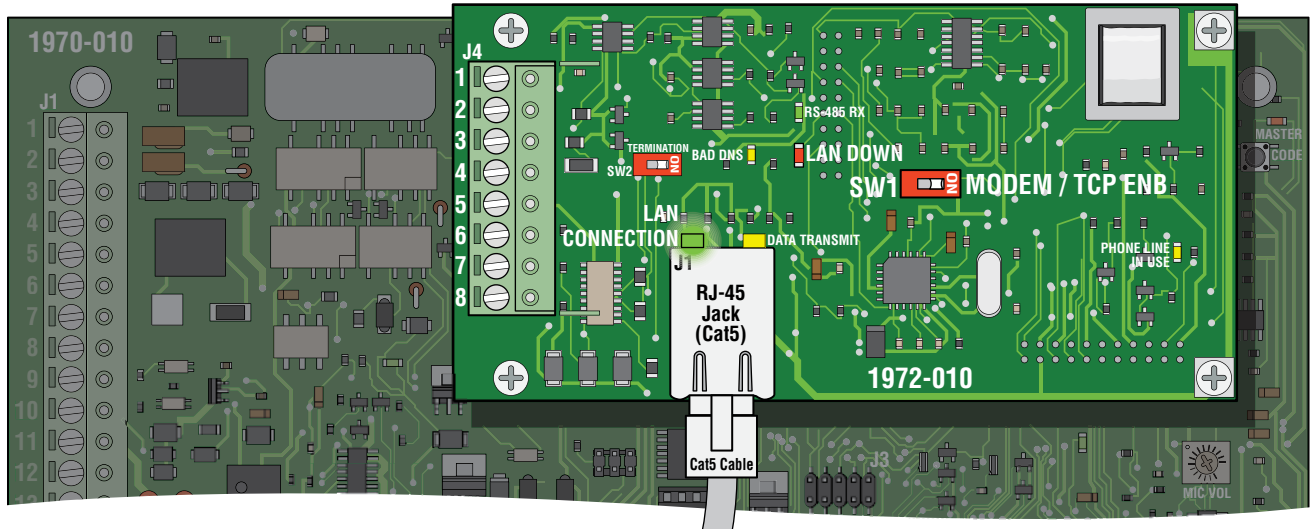
### Touch-Tone Telephone

- The programmable features that can be programmed using the system keypad can also be programmed using a touch-tone telephone from any outside phone line by calling into the Access Plus unit. This method of programming is useful for programming simple steps or for turning certain features ON or OFF, but **is not recommended for complex programming steps.**

## 2.3 Programming the Network Setup for a Computer

Before proceeding with any of the programming steps in this section, **install the Access Plus Management software on the computer (PC ONLY) that will be used** for this purpose. Be sure that the computer has a network card installed, or a modem installed in it (or connected to it) depending on which connection method will be used. Once the software is installed and the unit is connected, refer to the software programming steps and help screen instructions to proceed with the programming steps in this section. The system keypad may be used to program the computer's network setup in this section but can be a little tedious to use.

**Be sure that SW1 is in the ON position (MODEM/TCP ENB) on the Access Plus Interface Board.**



**Reboot Note:** If a programming step calls for a reboot, follow the programming steps in 2.3.1. If you are performing several programming steps that call for a reboot, complete **ALL** of those steps first, then perform the reboot sequence in 2.3.1.

**Important Note:** The unit will prompt you with short tones (**beep**) when each programming step has been correctly keyed in and with a long tone (**beeeeeep**) when all of the programming steps have been successfully completed in the sequence.

### 2.3.1 Enable / Disable TCP / IP Support - System Reboot

**Factory setting is: 0 (TCP / IP Disabled)**

This programming sequence enables or disables the support for TCP / IP. It will also cause an automatic reboot of the unit two seconds after the programming sequence is completed. For this reason, perform this step after all other network setup programming sequences have been completed (sections 2.3.2 through 2.3.5) or whenever an individual network programming step is performed.



System Keypad

1. Press \* 5 0 and enter the MASTER CODE. [**\* 5 0** \_ \_ \_ \_ (**beep**)]
2. Press 0 \* to disable TCP / IP **OR** press 1 \* to enable TCP / IP. [ \_ \* (**beep**)]
3. **The system will reboot automatically.**

Once the unit is connected, the green LED on the RJ-45 jack on the interface board should light indicating that a good wire connection has been made (See illustration above). The LAN DOWN LED should go off after a few seconds if all previous programming steps have been completed and programmed successfully.

### 2.3.2 Set the Access Plus System IP Address (*reboot required*)

**Factory setting is: 192.168.001.030**

This must be set to the same address that was programmed in the software. A valid value for any of the three digit fields in this sequence is 000 to 255. (See section 1.11.2 for network configurations and addresses)

All 3 digits **MUST** be entered in each field between dots, for example: 192.168.1.30 must be entered as 192.168.001.030



System Keypad

1. Press \* 5 1 and enter the MASTER CODE. [**\* 5 1** \_ \_ \_ \_ (**beep**)]
2. Enter the IP address. Use the \* key to enter the "dot".  
[ \_ \_ \_ \* (**beep**) \_ \_ \_ \* (**beep**) \_ \_ \_ \* (**beep**) \_ \_ \_ \* (**beep**)]
3. Press 0 # TOGETHER to end. [**0 #** (**beeeeeep**)]



## 2.3.3 Sub-Net Mask *(reboot required)*

Factory setting is: 255.255.255.000

All sub-net mask should be set to 255.255.255.000. This rarely needs to be changed, consult with your network expert first. Valid values for any of the three digit numbers is 000 to 255.



System Keypad

1. Press \* 5 2 and enter the MASTER CODE. [**\* 5 2** \_\_\_\_ (beep)]
2. Enter the sub-net mask number. Use the \* key to enter the “dot”.  
[ \_\_\_\_ \*(beep) \_\_\_\_ \*(beep) \_\_\_\_ \*(beep) \_\_\_\_ \*(beep)]
3. Press 0 # TOGETHER to end. [**0 #** (beeeeeep)]

## 2.3.4 Set the Gateway (Router) IP Address *(reboot required)*

Factory setting is: 192.168.001.001

If the unit is connected directly to the computer with a crossover cable, then this address must be set to 000.000.000.000. If the unit is connected to the computer through a router, then set this value to the router’s IP address. Valid value for any of the three digit numbers is 000 to 255. (See section 1.11.2 for network configurations and addresses)



System Keypad

1. Press \* 5 3 and enter the MASTER CODE. [**\* 5 3** \_\_\_\_ (beep)]
2. Enter the gateway (router) IP address. Use the \* key to enter the “dot”.  
[ \_\_\_\_ \*(beep) \_\_\_\_ \*(beep) \_\_\_\_ \*(beep) \_\_\_\_ \*(beep)]
3. Press 0 # TOGETHER to end. [**0 #** (beeeeeep)]

## 2.3.5 Set the Port Number *(reboot required)*

Factory setting is: 01030

This must be the same port number that was programmed in the software. Valid values are 01024 to 65535. All 5 digits must be entered in the field, for example: 1030 must be entered as 01030



System Keypad

1. Press \* 5 6 and enter the MASTER CODE. [**\* 5 6** \_\_\_\_ (beep)]
2. Enter the port number, then press \*. [ \_\_\_\_ \* (beep)]
3. Press 0 # TOGETHER to end. [**0 #** (beeeeeep)]

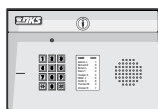
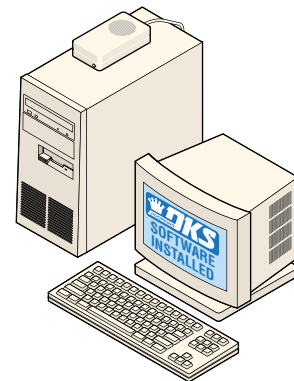
**STOP!**

If you are **OR** are going to use a computer with the Access Plus system, **NO other programming at the System Keypad is required.** All programming parameters beyond this point can be set in the Management software.

This software will show all the specific programming parameters that will exist in the memory of the Access Plus system after it has been programmed. It can be easily recalled for future modification or re-programming.



PC's only, NOT for use with MACs



System Keypad

The system keypad **DOES NOT** have the capability to show any of the programming that will exist in the memory of the unit after being programmed. The only way to keep track of the specific parameters that have been programmed into the unit for future reference when **NOT** using the management software, is to physically write down all the information in a log (In back of manual).

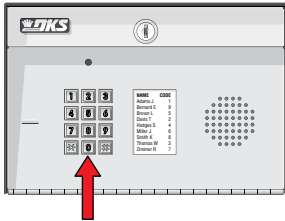


## 2.4 System Parameters Programming

**IMPORTANT!** We strongly suggest that you read these programming instructions in their entirety before beginning any manual programming of the Access Plus system.

The programming table on the next page provides a quick reference to:

### Programming from the System Keypad



Follow the programming instructions as described in each section of this manual.

**IMPORTANT** The system will prompt you with short tones (**beep**) when programming steps have been correctly keyed in and with a long tone (**beeeeeep**) when all of the programming steps have been successfully completed in the sequence.

If you make a mistake while programming steps, press “0 #” together and start at step 1 again.

### Programming from a Touch-Tone Telephone



Follow these steps when programming the Access Plus system from a **Touch-Tone Telephone**.

**IMPORTANT** The unit must be programmed to answer incoming calls, section 2.4.9.

1. Call the resident telephone number. The unit will answer with a short beep after the programmed number of rings.
2. Follow the programming instructions as described in each section of this manual. The system will prompt you with short (beep) tones when programming steps have been followed correctly.
3. When complete, hang up. You cannot use 0# pressed together to end programming steps from a touch-tone telephone. Wait 30 seconds before calling back to program another feature.

# Quick Reference Table

NOT Programmable from Software.  
Program from System Keypad ONLY.

	Page #	Section	Command	Factory Settings
<b>Section 2.1 Programming Master Code</b>				
Program a Master Code	32	2.1	Press Master Code Button	NO Master Code Programmed
<b>Section 2.3 Programming Network Setup for a Computer</b>				
Enable / Disable TCP / IP Support - System Reboot	34	2.3.1	* 5 0	0
Set the Unit's IP Address (reboot required)	34	2.3.2	* 5 1	192.168.001.030
Sub-Net Mask (reboot required)	35	2.3.3	* 5 2	255.255.255.000
Set the Gateway (Router) IP Address (reboot required)	35	2.3.4	* 5 3	192.168.001.001
Set the Port Number (reboot required)	35	2.3.5	* 5 6	01030
<b>Section 2.4 System Parameters Programming</b>				
Single or Multiple Systems	37	2.4.2	* 6 1	1 (Single System)
Single or Double Ring (1816 Interface ONLY)	37	2.4.4	* 6 3	1 (Double Ring)
Number of Resident Rings Before Unit Hangs Up (1816 Interface ONLY)	37	2.4.5	* 6 4	05 (5 Rings)
Talk Time	38	2.4.6	* 0 8	060 (60 Sec.)
Relay Strike Time	38	2.4.7	* 0 3	1 Sec
Tone Open Numbers	38	2.4.8	* 0 5	Relay 1: 9 8 7 6 Relay 2: 5 4 3 2 Relays 3-8 Not Set
Answer Incoming Call on X Rings	39	2.4.9	* 1 8	06 (6 Rings)
Call Waiting ON / OFF (1816 Interface ONLY)	39	2.4.11	* 2 0	1 (ON)
Turn Speaker On / Control Relay from Phone Call	39	2.4.12	* 1 6	N / A
Set Call Forward Microphone Gain & Speaker Volume	40	2.4.13	* 1 1	7 (Mic) 1 (Speaker)
Hang-Up Tone	40	2.4.14	* 1 7	0
<b>Section 2.5 Directory Codes</b>				
Directory Codes 1 – 23 Pre-Set (1816 Interface ONLY)	40	2.5.0	* 4 0	Empty
Directory Codes 24 – 50 "Dial Phone Number"	40	2.5.1	* 4 1	Empty
Delete a Phone Number from Directory Codes 24 – 50	41	2.5.2	* 4 2	N / A
Delete All Phone Numbers from Directory Codes 24 – 50	41	2.5.3	* 4 3	N / A
<b>Section 2.6 Access Codes for Access Control Devices</b>				
"Simple" Access Code Programming (Relays 1&2: 24/7 Operation)	41	2.6.1	* 0 2	Empty
Number of RS-485 Devices	41	2.6.2	* 0 9	0
Additional Relay Off-Line Function	42	2.6.3	* 0 7	0
"Time Zone Restricted" Device Access Code Programming	42	2.6.4	* 7 0	Empty
Delete an Access Code (Simple or Time Zone Restricted)	42	2.6.5	* 7 1	N / A
Delete All Access Codes for the Same Type of Device (Simple or TZR)	42	2.6.6	* 7 2	N / A
Program Temporary Access Codes (Up to 10)	43	2.6.7	* 7 3	Empty
Delete Temporary Access Code	43	2.6.8	* 7 4	N / A
Delete All 10 Temporary Access Codes	43	2.6.9	* 7 5	N / A
<b>Section 2.7 Time Functions</b>				
Time and Date Calendar Chip Programming	44	2.7.1	* 3 3	Empty
Automatic Relay Activation Time Zone Programming (Up to 4 zones)	44	2.7.5	* 3 5	Empty
Access Code Time Zone Programming (Up to 4 zones)	45	2.7.6	* 3 6	Empty
<b>Section 2.8 Miscellaneous</b>				
Restore Factory Settings	45	2.8.1	* 9 0	N / A
Erase Transaction Log	45	2.8.2	* 9 1	N / A

**Note:** Program section numbers have been intentionally skipped that **DO NOT** apply to these Access Plus systems in this manual. This allows **ALL** of the Access Plus manuals to remain in sync with each other when referencing programming numbers.

## 2.4.2 Single or Multiple Systems

---

### Factory setting is 1 (Single System).

Set for single if the unit is the only unit connected to the phone line, or set to multiple if more than one unit is connected to the phone line.

1. Press \* 6 1 and enter the MASTER CODE. [**\* 6 1** \_ \_ \_ \_ (beep)]
2. Press 1 \* for a single system **OR** press 0 \* for multiple systems. [ \_ **\***(beep)]
3. Press 0 # TOGETHER to end. [**0 # (beeeeeep)**]

If you make a mistake while programming steps, press “0 #” together and start at step 1 again.

## 2.4.4 Single or Double Ring

---

The Access Plus unit can be used in both an **AUTO-DIALER** and/or 1816 Access Plus telephone **INTERFACE** configuration. **When used as an AUTO-DIALER, the double ring programming has NO affect on the ring** – this is controlled by the phone company and it will always be the standard single ring no matter how the ring is programmed in the Access Plus unit. In the telephone **INTERFACE** mode connected to the **1816 Access Plus telephone interface module**, the double ring provides a unique ring so that a call from the Access Plus unit is easily identified by the resident.

In the telephone interface mode connected to the 1816 AP module, the double ring provides a unique ring so that a call from the Access Plus unit is easily identified by the resident.

### Factory setting is 1 (Double Ring).

1. Press \* 6 3 and enter the MASTER CODE. [**\* 6 3** \_ \_ \_ \_ (beep)]
2. Press 1 \* for a double ring **OR** press 0 \* for a single ring. [ \_ **\***(beep)]
3. Press 0 # TOGETHER to end. [**0 # (beeeeeep)**]

## 2.4.5 Number of Resident Phone Rings Before Unit Hangs Up

---

**This programming step is only used if the Access Plus unit is connected with the 1816 Access Plus telephone interface. This programming step is not applicable when the Access Plus unit is used as an auto-dialer.**

This programming sequence sets the number of unanswered rings to the resident's phone before the Access Plus unit hangs up.

### Factory setting is 05 (5 Rings).

1. Press \* 6 4 and enter the MASTER CODE. [**\* 6 4** \_ \_ \_ \_ (beep)]
2. Enter the number of rings before unit hangs up (01-99), then press \*. [ \_ \_ **\***(beep)]
3. Press 0 # TOGETHER to end. [**0 # (beeeeeep)**]

## 2.4.6 Talk Time

**Factory setting is 060 (60 Seconds).**

This programming sequence sets the maximum time allowed for conversation when the Access Plus unit places a call either through the 1816 Access Plus telephone interface (directory codes 01-23) or through the auto-dialer (directory codes 24-50). Talk time can be set from 10 seconds up to 255 seconds (4 minutes, 15 seconds) and is entered as a three-digit number. For example, to set a talk time of 30 seconds, enter 030 in step 2.

1. Press \* 0 8 and enter the MASTER CODE. [**\* 0 8 \_ \_ \_ \_ (beep)**]
2. Enter the three-digit talk time code (010-255), then press \*. [ **\_ \_ \_ \* (beep)**]
3. Press 0 # TOGETHER to end. [**0 # (beeeeeep)**]

## 2.4.7 Relay Strike Time

**Factory setting for Relays 1 and 2 is 01 (1 Second). Relays 3 through 8 are not set.**

These steps will program the system relay strike times.

Strike times can be programmed from 1/4 second - enter 0 0 \* in step 3, up to 99 seconds - enter 9 9 \* in step 3.

System relays 1 and 2 are the two relays on the Access Plus unit's main circuit board. System relays 3 through 8 are the relays associated with additional RS-485 devices (card readers, keypads, RF receivers, etc.) connected to the system.

1. Press \* 0 3 and enter the MASTER CODE. [**\* 0 3 \_ \_ \_ \_ (beep)**]
2. Enter a relay number (1 – 8), then press \*. [ **\_ \* (beep)**]
3. Enter the two-digit strike time (00-99), then press \*. [ **\_ \_ \* (beep)**]
4. Repeat steps 2 and 3 to set other relay strike times if necessary.
5. Press 0 # TOGETHER to end. [**0 # (beeeeeep)**]

## 2.4.8 Tone Open Numbers

**Factory setting is 9876 for Relay 1; 5432 for Relay 2. Relays 3 – 8 are not set.**

These steps will program the tone open number(s) for each relay in the system (each relay is programmed independently). You will need to enter a four-digit number (see chart below) to set each relay in step 3. If a function is not desired, enter # in place of a number. Use a different number for each of the four-digits in step 3 when multiple functions are desired.

Example 1: If you want the relay to have a momentary activation function only, and you want the relay to activate when the number 9 is pressed, enter 9 # # # \* in step 3.

Example 2: If you only want the relay to hold open when the number 8 is pressed and the relay deactivated when the number 7 is pressed, enter # 8 7 # \* in step 3.

1. Press \* 0 5 and enter the MASTER CODE. [**\* 0 5 \_ \_ \_ \_ (beep)**]
2. Enter a relay number (1 – 8), then press \*. [ **\_ \* (beep)**]
3. Choose and enter a four-digit tone open number code (see chart below), then press \*. [ **\_ \_ \_ \_ \* (beep)**]  
If a tone open function is not desired, enter # in place of a number.
4. Repeat steps 2 and 3 to set other relay tone open number(s) if desired.
5. Press 0 # TOGETHER to end. [**0 # (beeeeeep)**]

4 Digit Tone Open Number Code	Function
1st Digit (Step 3)	Momentary activation. The relay will activate for its programmed relay strike time.
2nd Digit (Step 3)	Hold open. The relay will activate and remain activated until commanded to deactivate.
3rd Digit (Step 3)	Deactivate relay.
4th Digit (Step 3)	Hold open 1 hour. The relay will activate for 1 hour and then deactivate itself.

## 2.4.9 Answer Incoming Call on X Rings

---

**Factory setting is 06 (6 Rings).**

This programming section sets the number of rings that the unit will allow to pass through the system before it picks up the call. The number of rings to answer can be set from 1 to 99 rings and must be entered as a two-digit number. For example, if you want the unit to answer the call after the sixth ring, enter 0 6 \* in step 2. If you program 0 0 \* in step 2, this will prevent (disable) the unit from answering incoming calls to it.

1. Press \* 1 8 and enter the MASTER CODE. [**\* 1 8 \_ \_ \_ \_ (beep)**]
2. Enter the number of rings (01-99), then press \*. [**\_ \_ \*(beep)**]  
(enter 00 in this step to disable this feature)
3. Press 0 # TOGETHER to end. [**0 # (beeeeeep)**]

## 2.4.11 Call Waiting ON/OFF

---

**This programming step is ONLY used if the Access Plus unit is connected with the 1816 Access Plus telephone interface. This programming step is not applicable when the Access Plus unit is used as an auto-dialer.**

These steps will turn the Call Waiting feature either ON or OFF. The call waiting feature will allow the resident to place an outside call on hold when a visitor places a call from the Access Plus unit. Once communication with the visitor is established, access can be granted or denied. If access is granted (press the tone open number to open the door or gate), the unit will automatically switch the call back to the outside call. If the resident wants to deny access, they simply press the # key to switch back to the outside call.

**Factory setting is 1 (Call Waiting On).**

1. Press \* 2 0 and enter the MASTER CODE. [**\* 2 0 \_ \_ \_ \_ (beep)**]
2. Press 1 \* to turn Call Waiting ON **OR** press 0 \* to turn Call Waiting OFF. [**\_ \*(beep)**]
3. Press 0 # TOGETHER to end. [**0 # (beeeeeep)**]

## 2.4.12 Turn Speaker On / Control Relay from Phone Call

---

This command allows you to call the unit from a touch-tone phone and turn on the speaker at the unit to enable two-way voice communication and will allow relay control – all “Tone Open Numbers” that are programmed (2.4.8).

1. Call the resident’s phone number. After the programmed number of rings (2.4.9) the unit will answer with a tone.
2. Press \* 1 6 and enter the MASTER CODE. [**\* 1 6 \_ \_ \_ \_ (beep)**]  
If you use a “tone open number” during the call to activate a relay, the unit will automatically hang up after the “tone open number” is used. Only one activation number will function per phone call.  
Example: If you call and want to “Hold Open” the relay, you will have to call back to “Deactivate” it later.
3. Hang up when your conversation is completed if NOT using a “tone open number”.

## 2.4.13 Set Call Forward Microphone Gain and Speaker Volume

**Factory setting is 71 (7 - Microphone, 1 - Speaker).**

This adjustment is required only if the Access Plus unit is being used in the **auto-dialer mode** (directory codes 24-50). This step will adjust the microphone gain (the remote handset loudness) and the speaker volume (the Access Plus unit loudness) during call forwarding operation. You may have to perform these steps several times to get the optimal microphone gain and speaker volume adjustment.

Before making any adjustments, do a test call as the programmed defaults may work fine for you and no additional adjustments may be necessary. If adjustments are made, you will need to do a call forward test call after each adjustment to determine if the result is to your liking.

The valid values for both the microphone gain and speaker volume are 0 through 9. These values are entered as a two-digit number in step 2 below. The first digit is the microphone gain; the second digit is the speaker volume. The default setting is 71, which means that the microphone gain is set to 7 and the speaker volume is set to 1. A higher value increases the loudness where as a lower value decreases the loudness.

1. Press \* 1 1 and enter the MASTER CODE. [**\* 1 1 \_ \_ \_ \_ (beep)**]
2. Enter a two-digit microphone gain and speaker volume setting, then press \*. [ **\_ \_ \*(beep)**]  
The first digit is the microphone gain (0-9); the second digit is the speaker volume (0-9).
3. Press 0 # TOGETHER to end. [**0 # (beeeeeep)**]

## 2.4.14 Hang-Up Tone Number

**Factory setting is 0**

This sets the number that when pressed on the phone will hang-up the Access Plus unit after conversation is complete.

1. Press \* 1 7 and enter the MASTER CODE. [**\* 1 7 \_ \_ \_ \_ (beep)**]
2. Choose and enter a single-digit hang-up number, then press \*. [ **\_ \_ \*(beep)**]
3. Press 0 # TOGETHER to end. [**0 # (beeeeeep)**]

## 2.5 Directory Codes

### 2.5.0 Directory Codes 1 – 23 PRE-SET (1816 Telephone Interface ONLY)

**This programming step is only used if the Access Plus unit is connected to an 1816 Access Plus telephone interface. This programming step is not applicable when the Access Plus unit is used as an auto-dialer.**

Directory codes 01-23 are **PRE-SET** to **dial relay numbers** and **telephone interface** lines associated with the 1816 system.

**Pre-Set numbers can be turned off but MUST to be ON to function.**

1. Press \* 4 0 and enter the MASTER CODE. [**\* 4 0 \_ \_ \_ \_ (beep)**]
2. Enter a two-digit directory code (01-23), then press \*. [ **\_ \_ \*(beep)**]
3. Press 0 \* to turn the directory code OFF **OR** press 1 \* to turn the directory code ON. [ **\_ \*(beep)**]
4. Repeat steps 2 and 3 to turn other directory codes **ON** or **OFF**.
5. Press 0 # TOGETHER to end. [**0 # (beeeeeep)**]

### 2.5.1 Directory Codes 24 – 50 “Dial Phone Number”

The Access Plus unit has the capability of operating as an auto-dialer system and can store up to 27 phone numbers in its memory. When a visitor enters a directory code on the system keypad, the Access Plus unit will call the phone number programmed under the specific directory code number. The directory codes, 24 through 50 cannot be revised after they have been programmed into the system memory, only deleted (see 2.5.2 on next page).

1. Press \* 4 1 and enter the MASTER CODE. [**\* 4 1 \_ \_ \_ \_ (beep)**]
2. Enter a two-digit directory code (24-50), then press \*. [ **\_ \_ \*(beep)**]
3. Enter the phone number (up to 20 digits, no dashes), then press \*. [ **\_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \*(beep)**]  
All 20 spaces do not have to be populated with numbers.
4. Repeat steps 2 and 3 to enter additional numbers.
5. Press 0 # TOGETHER to end. [**0 # (beeeeeep)**]

## 2.5.2 Delete a Phone Number from Directory Codes 24 – 50

This programming sequence deletes **individual** directory code dial-out phone numbers from the system memory.

**WARNING: once deleted, this CANNOT be undone.**

1. Press \* 4 2 and enter the MASTER CODE. [**\* 4 2 \_ \_ \_ \_ (beep)**]
2. Enter a two-digit directory code (24-50) of the phone number you want to delete, then press \* . [**\_ \_ \*(beep)**]
3. Repeat step 2 to delete additional existing phone numbers.
4. Press 0 # TOGETHER to end. [**0 # (beeeeeep)**]

## 2.5.3 Delete ALL Phone Numbers from Directory Codes 24 – 50

This programming sequence will delete **ALL** directory code dial-out phone numbers from the system memory.

**WARNING: once started, all phone numbers will be erased. This CANNOT be undone.**

1. Press \* 4 3 and enter the MASTER CODE. [**\* 4 3 \_ \_ \_ \_ (beep)**]
2. Press 9 9 9 9, then press \* . [**9 9 9 9 (beep)**]
3. The programming sequence will end itself automatically. [**beeeeeep**]

# 2.6 Access Codes to Operate Access Control Devices

**Note:** All access codes are five (5) digits in length.

## 2.6.1 “Simple” Access Code Programming (Relays 1&2: 24/7 Operation)

This programming sequence programs “simple” access codes used on the Access Plus unit keypad into the system memory. “Simple” access codes **CANNOT** be time zone restricted; they can **ONLY** be assigned to operate the internal **Relay 1** or **Relay 2** on a 24/7 basis using the relay strike time programmed in section 2.4.7. If you require access codes to be “time zone restricted”, use the programming sequence in 2.6.4.

**Note:** Up to 50 access codes can be programmed into the system. This 50 includes “simple” access codes programmed in 2.6.1 **AND** “time zone restricted” access codes programmed in 2.6.4. For example, if 10 “simple” access codes are programmed in 2.6.1, then only 40 “time zone restricted” access codes can be programmed in 2.6.4.

1. Press \* 0 2 and enter the MASTER CODE. [**\* 0 2 \_ \_ \_ \_ (beep)**]
2. Press 1 for relay 1 **OR** Press 2 for relay 2, then press \* . [**\_ \*(beep)**]
3. Choose and enter a five-digit “simple” access code, then press \* . [**\_ \_ \_ \_ \_ \*(beep)**]
4. Repeat steps 2 and 3 to enter additional “simple” access codes.
5. Press 0 # TOGETHER to end. [**0 # (beeeeeep)**]

If you make a mistake while programming steps, press “0 #” together and start at step 1 again.

## 2.6.2 Number of RS-485 Devices

**Factory setting is 0 (No Devices Connected).**

This programming sequence sets how many remote RS-485 devices are connected to the Access Plus unit.

1. Press \* 0 9 and enter the MASTER CODE. [**\* 0 9 \_ \_ \_ \_ (beep)**]
2. Enter a single-digit number of devices connected (0-6), then press \* . [**\_ \*(beep)**]  
Entering a 0 in this step will disable RS-485 communication.
3. Press 0 # TOGETHER to end. [**0 # (beeeeeep)**]



## 2.6.3 Additional Relay Off-Line Function

---

### Factory setting is 0 (No Devices Connected).

This programming sequence sets how the remote RS-485 devices connected to the Access Plus unit will respond if the RS-485 communication link **fails** to a specific remote device.

**Entering a 1** in step 2 sets the remote device to **GRANT ACCESS** to any five-digit card, transmitter or access code, whether it has been programmed into the system or not at the specific device location where the RS-485 communication link failed.

**Entering a 0** in step 2 sets the remote device to **NOT GRANT ACCESS** at the specific device location where the RS-485 communication link failed. In this case, the Access Plus unit and any other remote RS-485 devices may still be operating normally as long as they have a good RS-485 communication link.

1. Press \* 0 7 and enter the MASTER CODE. [**\* 0 7** \_ \_ \_ \_ (beep)]
2. Enter 0 **OR** 1, then press \*. [ \_ **\***(beep)]
3. Press 0 # TOGETHER to end. [**0 #** (beeeeeep)]

## 2.6.4 “Time Zone Restricted” Device Access Code Programming

---

This programming sequence programs access codes into the system memory **with time zone restrictions applied**. It also allows programming of the **access codes to momentarily activate a relay or to hold open (latch) a relay**.

Note: Up to 50 access codes can be programmed into the system. This 50 includes “simple” access codes programmed in 2.6.1 **AND** “time zone restricted” access codes programmed in 2.6.4. For example, if 10 “simple” access codes are programmed in 2.6.1, then only 40 “time zone restricted” access codes can be programmed in 2.6.4.

1. Press \* 7 0 and enter the MASTER CODE. [**\* 7 0** \_ \_ \_ \_ (beep)]
2. Enter the device type (0 = card, 1 = transmitter, 2 = keypad, 3 = other), then press \*. [ \_ **\***(beep)]
3. Choose and enter a five-digit access code, then press \*. [ \_ \_ \_ \_ \_ **\***(beep)]
4. Enter a minimum of 1, and a maximum of 4 time zones (valid time zones are 0 through 6) that you want to apply to this access code, then press \*. [ \_ \_ \_ \_ **\***(beep)]  
Time zone 0 - Always deny access.  
Time zone 1 - Allows 24/7 access for relay 1 and any additional relays.  
Time zone 2 - Allows 24/7 access for relay 2 and any additional relays.  
Time zones 3, 4, 5 and 6 - Are time zones that have been programmed in 2.7.6.
5. Enter 0 \* for momentary relay activation or enter 1 \* to hold open (latch) the relay. [ \_ **\***(beep)]
6. Repeat steps 2 through 5 to program additional access codes (Time zone restricted).
7. Press 0 # TOGETHER to end. [**0 #** (beeeeeep)]

## 2.6.5 Delete an Access Code (Simple and Time Zone Restricted)

---

This programming sequence **deletes individual** “simple” and “time zone restricted” access codes that have been programmed into the system.

1. Press \* 7 1 and enter the MASTER CODE. [**\* 7 1** \_ \_ \_ \_ (beep)]
2. Enter the device type (0 = card, 1 = transmitter, 2 = keypad, 3 = other), then press \*. [ \_ **\***(beep)]
3. Enter the five-digit device access code to be deleted, then press \*. [ \_ \_ \_ \_ \_ **\***(beep)]  
See 2.6.1 and/or 2.6.4 for the five-digit access code.
4. Repeat steps 2 and 3 to delete additional existing “simple” and “time zone restricted” access codes.
5. Press 0 # TOGETHER to end. [**0 #** (beeeeeep)]

## 2.6.6 Delete All Access Codes for the Same Type of Device (Simple and TZR)

---

This programming sequence deletes **ALL** existing “simple” and “time zone restricted (TZR)” access codes **for the same type of device**. To delete **ALL** existing “simple” and “time zone restricted” access codes, this programming sequence will need to be performed for each type of device that is connected to the system.

**WARNING: Once started, all “simple” and “time zone restricted” access codes for the same type of device will be erased.**

1. Press \* 7 2 and enter the MASTER CODE. [**\* 7 2** \_ \_ \_ \_ (beep)]
2. Enter the device type (0 = card, 1 = transmitter, 2 = keypad, 3 = other), then press \*. [ \_ **\***(beep)]
3. Press 9 9 9 9, then press \*. [**9 9 9 9** (beep)]
4. The programming sequence will end itself automatically. [**beeeeeep**]

## 2.6.7 Temporary Device Access Code Programming

---

This programming sequence programs up to 10 temporary device access codes with a beginning and ending date and any time zone restrictions that may need to be applied.

1. Press \* 7 3 and enter the MASTER CODE. [**\* 7 3** \_ \_ \_ \_ (beep)]
2. Enter the device type (0 = card, 1 = transmitter, 2 = keypad, 3 = other), then press \*. [ \_ **\***(beep)]
3. Choose and enter a five-digit access code, then press \*. [ \_ \_ \_ \_ \_ **\***(beep)]
4. Enter the beginning month (01-12) and day (01-31), then press \*. [ \_ \_ \_ \_ **\***(beep)]
5. Enter the ending month (01-12) and day (01-31), then press \*. [ \_ \_ \_ \_ **\***(beep)]
6. Enter a minimum of 1, and a maximum of 4 time zones (valid time zones are 0 through 6) that you want to apply to this access code, then press \*. [ \_ \_ \_ \_ **\***(beep)]  
Time zone 0 - Always deny access.  
Time zone 1 - Allows 24/7 access for relay 1 and any additional relays.  
Time zone 2 - Allows 24/7 access for relay 2 and any additional relays.  
Time zones 3, 4, 5 and 6 - Are time zones that have been programmed in 2.7.6.
7. Enter 0 \* for momentary relay activation or enter 1 \* to hold open (latch) the relay. [ \_ **\***(beep)]
8. Repeat steps 2 through 5 to program additional access codes (Time zone restricted).
9. Press 0 # TOGETHER to end. [**0 #** (beeeeeep)]

If you make a mistake while programming steps, press "0 #" together and start at step 1 again.

## 2.6.8 Delete a Temporary Device Access Code

---

This programming sequence **deletes individual** device access codes that have been programmed into the system.

1. Press \* 7 4 and enter the MASTER CODE. [**\* 7 4** \_ \_ \_ \_ (beep)]
2. Enter the device type (0 = card, 1 = transmitter, 2 = keypad, 3 = other), then press \*. [ \_ **\***(beep)]
3. Enter the five-digit temporary device access code to be deleted, then press \*. [ \_ \_ \_ \_ \_ **\***(beep)]
4. Repeat steps 2 and 3 to delete additional existing temporary device access codes.
5. Press 0 # TOGETHER to end. [**0 #** (beeeeeep)]

## 2.6.9 Delete All Temporary Device Access Codes

---

This programming sequence deletes all (10) temporary device access codes that have been programmed into the system.

**WARNING: Once started, Once started, all temporary access codes will be erased.**

1. Press \* 7 5 and enter the MASTER CODE. [**\* 7 5** \_ \_ \_ \_ (beep)]
2. Press 9 9 9 9, then press \*. [ **9 9 9 9** (beep)]
3. The programming sequence will end itself automatically. [beeeeeep]

## 2.7 Time Functions

### 2.7.1 Time and Date Calendar Chip Programming

This programming sequence programs the calendar chip in the Access Plus system for the current time and date. The calendar chip must be programmed if any of the time related features are going to be used.

Note: The clock / calendar chip in the Access Plus system will keep time for approximately 48 hours if power to the system is lost or removed. If power is off longer than this, the clock / calendar chip will have to be reprogrammed.

1. Press \* 3 3 and enter the MASTER CODE. [**\* 3 3** \_ \_ \_ \_ (beep)]
2. Enter the current hour (01 to 12) and minutes (01 to 59), then press \*. [ \_ \_ \_ \_ **\*(beep)**]
3. Press 0 \* for AM **OR** press 1 \* for PM. [ \_ **\*(beep)**]
4. Enter the month (01 to 12), day of the month (01 to 31) and the year (00 to 99), then press \*. [ \_ \_ \_ \_ \_ **\*(beep)**]
5. Enter the day of the week (1-7), then press \*. [ \_ **\*(beep)**]  
Sun = 1, Mon = 2, Tue = 3, Wed = 4, Thu = 5, Fri = 6, Sat = 7.
6. Press 0 # TOGETHER to end. [**0 # (beeeeeep)**]

Example: Saturday, February 14th, 2010, 11:30 AM. Your Master Code - **1. \* 3 3** \_ \_ \_ \_ (beep)

Time - **2. 1 1 3 0** \*(beep)

AM - **3. 0** \*(beep)

Date - **4. 0 2 1 4 1 0** \*(beep)

Day - **5. 7** \*(beep)

End Programming - **6. 0 # TOGETHER (beeeeeep)**

If you make a mistake while programming steps, press "0 #" together and start at step 1 again.

### 2.7.5 Automatic Relay Activation Time Zone Programming (Up to 4)

**Factory setting in step 3 is 0 (Time zones are OFF).**

This program sequence sets up time zones to automatically activate and deactivate relays 1 through 8. Up to **Four** time zones can be programmed, each of which can be assigned to the desired relay(s). These time zones can be independently turned ON or OFF after they have been programmed.

1. Press \* 3 5 and enter the MASTER CODE. [**\* 3 5** \_ \_ \_ \_ (beep)]
2. Enter a time zone number (1, 2, 3 or 4), then press \*. [ \_ **\*(beep)**]
3. Press 0 \* to turn the time zone OFF, **OR** press 1 \* to turn the time zone ON. [ \_ **\*(beep)**] You can terminate here (Go to step 11 to finish) if you have previously programmed the time zones and only ON / OFF is desired.
4. Enter the beginning hour (01 to 12) and minutes (01 to 59), then press \*. [ \_ \_ \_ \_ **\*(beep)**]
5. Press 0 \* for AM **OR** press 1 \* for PM. [ \_ **\*(beep)**]
6. Enter the ending hour (01 to 12) and minutes (01 to 59), then press \*. [ \_ \_ \_ \_ **\*(beep)**]
7. Press 0 \* for AM **OR** press 1 \* for PM. [ \_ **\*(beep)**]
8. Enter the days of the week that the auto relay time zone is to be active, then press \*. [ \_ \_ \_ \_ \_ **\*(beep)**]  
Sun = 1, Mon = 2, Tue = 3, Wed = 4, Thu = 5, Fri = 6, Sat = 7.  
You can enter up to 7 numbers here (1-7) but all 7 spaces do not have to be populated with numbers. For example, for the auto relay time zone to be active only on Saturdays and Sundays, enter 1 7 \*. The order of the numbers is not important; 17 is the same as 71.
9. Enter the relay number(s) that the time zone will apply to, then press \*. [ \_ **\*(beep)**]  
You can enter a single relay number; all relay numbers (up to 8), or any combination of relay numbers.
10. Repeat steps 2 through 9 to program the other auto relay time zones (up to 4) if desired.
11. Press 0 # TOGETHER to end. [**0 # (beeeeeep)**]

## 2.7.6 Access Code Time Zone Programming (Up to 4 zones)

Factory setting in step 3 is 0 (Time Zones are OFF).

This programming sequence sets up time zones (up to 4) that can be applied to the “Access Codes” programmed in section 2.6.4 into the Access Plus system. These time zones can be turned ON or OFF once they have been programmed.

1. Press \* 3 6 and enter the MASTER CODE. [**\* 3 6** \_ \_ \_ \_ (beep)]
2. Enter a time zone number (3, 4, 5 or 6), then press \*. [**\_ \***(beep)]  
**Do not use 0, 1 or 2** for time zone numbers. These are already used; **0** = always deny, **1** = 24/7 access for Relay 1, and Relays 3-8; **2** = 24/7 access for Relay 2, and Relays 3-8.
3. Press 0 \* to turn the time zone OFF, **OR** press 1 \* to turn the time zone ON. [**\_ \***(beep)]  
You can terminate here (Go to step 11 to finish) if you have previously programmed the time zone and only ON / OFF is desired.
4. Enter the beginning hour (01 to 12) and minutes (01 to 59), then press \*. [ \_ \_ \_ \_ **\*(beep)**]
5. Press 0 \* for AM **OR** press 1 \* for PM. [ \_ **\*(beep)**]
6. Enter the ending hour (01 to 12) and minutes (01 to 59), then press \*. [ \_ \_ \_ \_ **\*(beep)**]
7. Press 0 \* for AM **OR** press 1 \* for PM. [ \_ **\*(beep)**]
8. Enter the days of the week that the time zone is to be active, then press \*. [ \_ \_ \_ \_ \_ \_ \_ **\*(beep)**]  
Sun = 1, Mon = 2, Tue = 3, Wed = 4, Thu = 5, Fri = 6, Sat = 7.  
You can enter up to 7 numbers here (1-7) but all 7 spaces do not have to be populated with numbers. For example, for the time zone to be active only on Saturdays and Sundays, enter 1 7 \*. The order of the numbers is not important; 17 is the same as 71.
9. Enter the relay number(s) that the time zone will apply to, then press \*. [ \_ **\*(beep)**]  
You can enter a single relay number; all relay numbers (up to 8), or any combination of relay numbers.
10. Repeat steps 2 through 9 to program the other time zones (up to 4) if desired.
11. Press 0 # TOGETHER to end. [**0 # (beeeeeep)**]

If you make a mistake while programming steps, press “0 #” together and start at step 1 again.

## 2.8 Miscellaneous

### 2.8.1 Restore Factory Settings

This step will restore the factory settings for each of the programming parameters. See the “Quick Reference Table” on page 36 for all of the factory settings. The master code (2.1) will remain intact after the factory settings have been restored.

**WARNING: Once started, this sequence will program all values to factory settings.**

1. Press \* 9 0 and enter the MASTER CODE. [**\* 9 0** \_ \_ \_ \_ (beep)]
2. Press 9 9 9 9, then press \*. [**9 9 9 9 (beep)**]
3. The programming sequence will end itself automatically. [**beeeeeep**]

### 2.8.2 Erase Transaction Log

This step will erase (empty) the transactions stored in the system history buffer (the system stores up to 500 transactions).

**WARNING: Transaction log cannot be recovered after this sequence is started.**

1. Press \* 9 1 and enter the MASTER CODE. [**\* 9 1** \_ \_ \_ \_ (beep)]
2. Press 9 9 9 9, then press \*. [**9 9 9 9 (beep)**]
3. The programming sequence will end itself automatically. [**beeeeeep**]

# SECTION 3 - ADJUSTMENTS

## Speaker Volume

The speaker volume potentiometer is labeled SPEAKER VOL on the control board. The speaker volume should be adjusted for adequate sound. Adjusting the speaker volume too loud could cause feedback from the microphone.

1. Open the front of the telephone entry system and locate the speaker volume adjustment.
2. Place a call to a resident by entering a directory code on the keypad. While they are talking, adjust the speaker volume potentiometer for adequate sound. To increase the volume rotate the potentiometer clockwise, to decrease the volume rotate the potentiometer counter clockwise.

## Microphone Gain

The microphone gain potentiometer is labeled MIC VOL on the control board. This adjustment increases or decreases the loudness in the resident telephone handset.

1. Open the front of the telephone entry system and locate the Mic Vol adjustment.
2. Place a call to a resident by entering a directory code on the keypad. After they answer, adjust the microphone gain and ask the resident to let you know when the loudness in their telephone handset is set to a comfortable level.

## Interface Board LED Status

**RS-485 RX** - Green LED indicates that the system is on-line and scanning the RS-485 devices.

**BAD DNS** - Yellow LED indicates an email server problem, rejecting the mail server.

**LAN DOWN** - Red LED indicates a problem with the LAN. IP or Gateway (router) down or wrong gateway IP address.

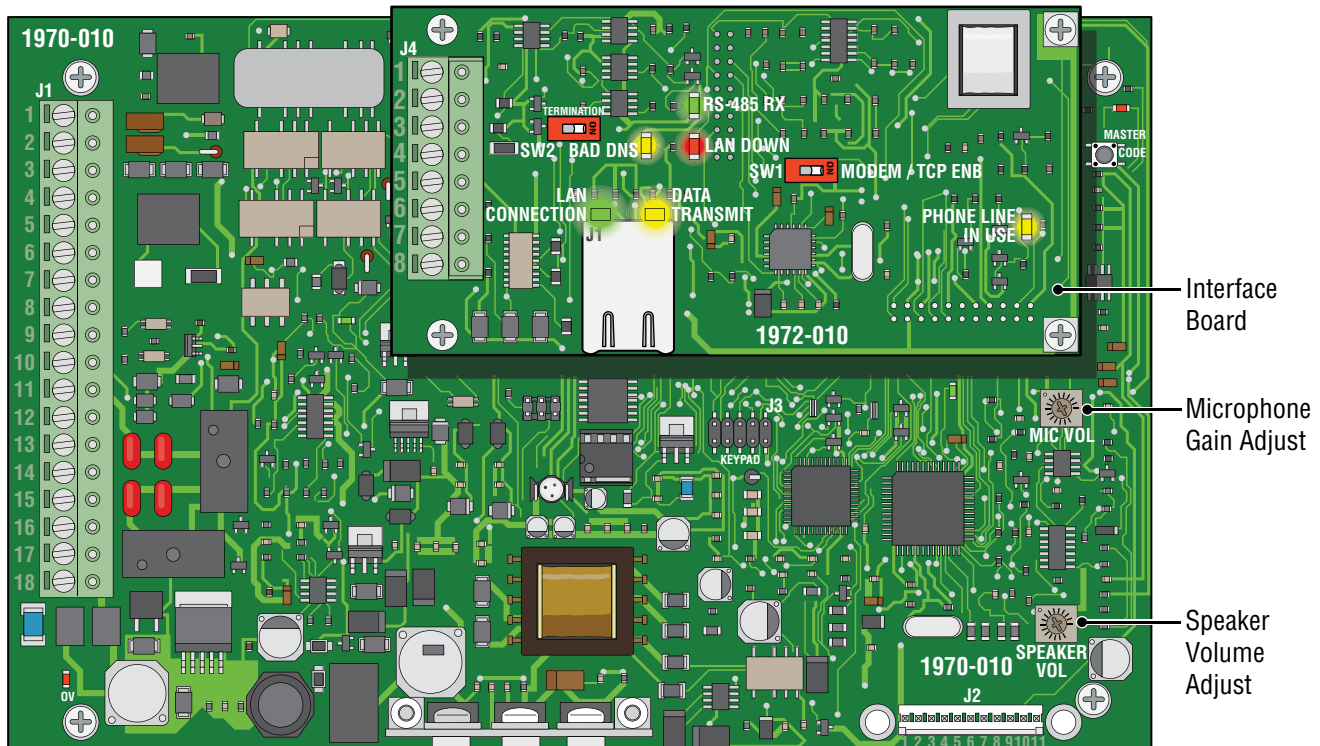
**PHONE LINE IN USE** - Yellow LED indicates that the phone line is being used (dial-out, call forwarding, etc.).

**LAN CONNECTION** - Green LED indicates that the wire connection from the unit to the computer or router is good.

**DATA TRANSMIT** - Yellow LED indicates that the TCP / IP connection is transmitting data or sending an email.

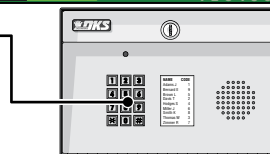
**SW1 - Modem/TCP Enable** - Turning SW1 Off disables the modem and TCP / IP, but will speed up programming from the keypad.

**SW2 - Termination Switch** - Only used when RS-485 access control devices are being used (See section 1.11.1).



## System Keypad

Used to key in existing Access Codes and Directory Codes during normal operation. Also used to program system features.



# SECTION 4 - USER INSTRUCTIONS

## 4.1 Resident Operating Instructions

### 4.1.1 Granting or Denying a Guest Access

To place a call from the Access Plus unit to a residence, the guest locates the directory code of the resident they want to visit, and then enters that code on the unit's keypad. Once the guest has been identified by voice communication, the resident may grant them access by pressing the appropriate tone open number, or they may deny access by simply hanging up or by pressing the programmed hang-up number.

1. To **GRANT ACCESS** to a guest, press the programmed tone open number. (The factory setting for the tone open number is 9, however this can be programmed to any number desired (section 2.4.8). The Access Plus unit will respond with a confirming tone and will open the door or gate.
2. To **DENY ACCESS**, hang-up the telephone or press the programmed hang-up tone number (section 2.4.14).

### 4.1.2 Call Waiting (1816 interface ONLY)

**This feature is only available if the Access Plus unit is connected with the 1816 Access Plus telephone interface and applies to directory codes 01-23 only. This feature is not available when the Access Plus unit is used as an auto-dialer.**

When a resident is on their telephone and a guest enters their directory code on the Access Plus unit's keypad, the unit will sound a short tone in the resident's handset. This indicates to the resident that a guest is at the door or gate.

1. To place an outside call on HOLD and talk to the guest at the Access Plus unit, **press #**.
2. To **GRANT ACCESS** to the guest, press the programmed tone open number. The Access Plus unit will respond with a confirming tone, open the door or gate, then reconnect the resident's phone with their outside call.
3. To **DENY ACCESS** to the guest, press #. The Access Plus unit will disconnect from the resident's phone and reconnect the resident's phone with their outside call.

The same process can be used when the resident is talking to a guest at the Access Plus unit and an outside call comes in. The resident can place the guest on hold and switch to the outside call by pressing "#".

When using the Access Plus unit in the auto-dialer mode, it's a good idea for residents to subscribe to a call waiting feature offered by the phone company.

### 4.1.3 Dial-Connect Numbers (1816 interface ONLY)

**This feature is only available if the Access Plus unit is connected with the 1816 Access Plus telephone interface and applies to directory codes 01-23 only. This feature is not available when the Access Plus unit is used as an auto-dialer.**

To use the dial-connect feature, the guest simply presses a two-digit directory code (01-23) on the Access Plus unit's keypad. The unit will automatically connect to the resident phone programmed under the directory code that was entered on the keypad. Once the call is answered, the person called may grant access by pressing the programmed tone open number (2.4.8) or they can press the hang up tone number (2.4.14) to disconnect the call **without** granting access.

### 4.1.4 Dial-Out Phone Numbers

To use the dial-out phone number feature, the guest simply presses a two-digit directory code (24-50) on the Access Plus unit's keypad. The unit will automatically dial out the phone number programmed under the directory code that was entered on the keypad (section 2.5.1). Once the call is answered, the person called may grant access by pressing the programmed tone open number (2.4.8) or they can press the hang up tone number (2.4.14) to disconnect the call **without** granting access.

### 4.1.5 Access Codes

"Simple" access codes (five-digit entry code on the Access Plus unit's keypad) will operate either relay 1 or relay 2 depending on which relay they have been programmed to activate (2.6.1). "Time Zone Restricted" (2.6.4) access codes will operate the relay that they have been programmed to operate.

**To use a keypad access code:**

1. Press # then enter the access code (Five-Digits). [ # \_ \_ \_ \_ \_ (beep)]

When the access code is entered on the keypad, the system will check its memory to see if the code is programmed and will also check any time zone restrictions that may have been programmed for the specific code that was entered.

If the access code is a temporary code, the system will check the clock/calendar to determine if the current day falls within the programmed temporary access code boundaries (section 2.6.7).



## 4.2 Remote Operation

### 4.2.1 Remote Programming (Touch-Tone Phone)

The Access Plus unit can be programmed and operated from a touch-tone telephone. Be sure that the ability for the unit to answer an incoming call has not been disabled (section 2.4.9).

Note: The master code cannot be programmed remotely, it can only be programmed from the system keypad (section 2.1).

1. Call the unit's phone number. After the programmed number of rings (2.4.9) the unit will answer with a tone.
2. Follow the desired programming steps in Section 2 of this manual.
3. When complete with the desired programming function, hang up. You cannot use 0# pressed together to end programming steps from a touch-tone telephone. Wait 30 seconds before calling back to program another feature.

### 4.2.2 Remote Relay Activation (Touch-Tone Phone)

The Access Plus system relays can be activated from a Touch-Tone phone. Be sure that the ability for the Access Plus unit to answer an incoming call has not been disabled (section 2.4.9). Refer to the tone open numbers that were programmed in section 2.4.8 to determine each of the activation numbers.

- **Momentary Activation** (Relay activates for its programmed relay strike time, section 2.4.7).
- **Hold Open** (Relay will activate and remain activated).
- **Deactivate** (Relay will deactivate).
- **Hold 1 Hour** (Relay will activate for 1 hour and then automatically deactivate).

To activate the relay(s) from a touch-tone phone, perform the following steps:

1. Call the unit's phone number. After the programmed number of rings (2.4.9) the unit will answer with a tone.
2. Press \* 1 6 and enter the MASTER CODE. [ \* 1 6 \_ \_ \_ \_ (beep)]  
(Two-way voice communication is also enabled at this point)
3. Enter the desired tone open number (2.4.8). [ \_ (beep)]
4. Hang up.

### 4.2.4 Remote Relay Activation Check (Touch-Tone Phone)

The Access Plus unit can be called to check if relay 1, relay 2, or both relays on the unit's main circuit board are latched and holding a door or gate in the open (unlocked) position. Relays 3 - 8 (RS-485 devices) cannot be checked from the phone.

1. Call the unit's phone number. After the programmed number of rings (2.4.9) the unit will answer with a tone.
2. Press \* 1 6 and enter the MASTER CODE. [ \* 1 6 \_ \_ \_ \_ (beep)]  
(Two-way voice communication is also enabled at this point)
3. press \* 7. [ \* 7 (beep)]
4. Listen for the following sequence of tones.
  - No Tones:** neither relay is activated.
  - Relay 1 Activated:** beep - pause - beep - pause . . .
  - Relay 2 Activated:** beep beep - pause - beep beep - pause . . .
  - Both Relays Activated:** beep beep beep - pause - beep beep beep - pause . . .
5. Hang up.



## SECTION 5 - MAINTENANCE

The DoorKing Access Plus system is essentially a maintenance free device. When the unit is properly installed, it should provide years of trouble free service. Maintenance is limited to updating the access codes on an as needed basis.

The faceplate of the unit should be cleaned on a regular basis to keep contaminants in the air from sticking to the surface and possibly causing pitting. When cleaning the faceplate of the system, never use an abrasive cleaner or cloth. Stainless steel cleaner works very well with a soft cloth for systems with a stainless steel faceplate. A clean damp soft cloth should be used to clean gold plated faceplates.

### Creating Printed Directories for 1808 or 1810 units:

The Access Plus Account Manager software will print a directory for either the 1810 Access Plus or the 1808 Access Plus. The directory can then be easily inserted into the respective unit.

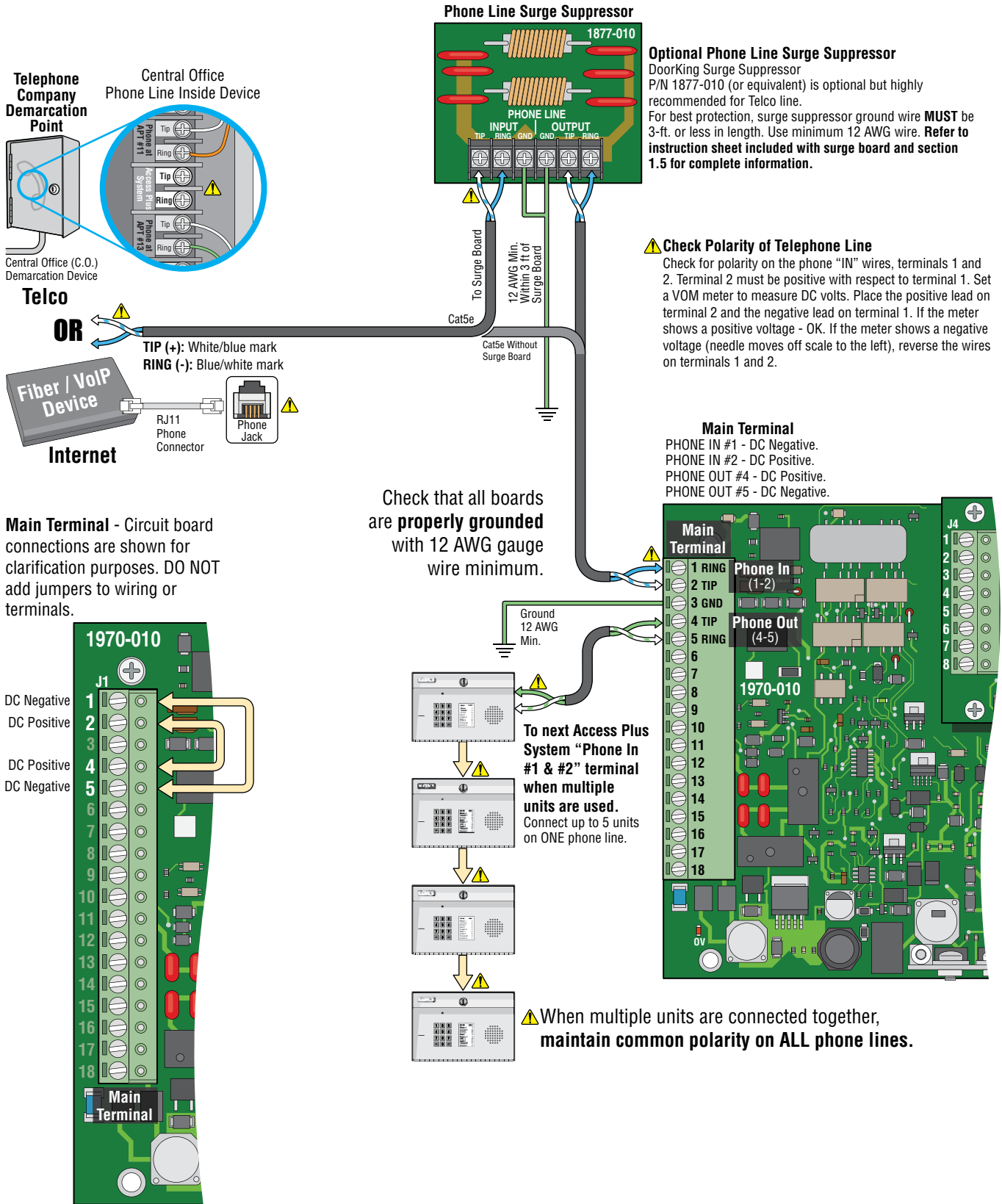
## 5.1 Troubleshooting

If problems should develop with your Access Plus system, refer to section 5.3 troubleshooting table to try and correct any problems. Our experience has shown that a majority of reported problems are actually programming related and can be corrected on site. If problems persist and they cannot be corrected, contact your authorized DoorKing dealer for assistance. Before performing any troubleshooting, check the following:

1. Have a good VOM meter handy to check voltages and continuity.
2. Have a telephone test set (DoorKing P/N 1800-050 or equivalent) to check the telephone line. Noise on the phone line will cause problems with the entry system.
3. Check the polarity of the phone lines. See section 5.2 on the next page.
4. Be sure that the entry system case is properly grounded.
5. Be sure that the telephone wires are twisted.
6. A hum on the system indicates that the phone line or 16.5 VAC power lines may be grounded. Check to be sure that the phone lines or power lines are not shorted to ground. Be sure that the cable used for communication is a twisted pair, good quality phone cable insulated for direct underground burial. **Using phone wire that is designed for indoor use only can absorb moisture and cause a hum on your phone line.**
7. Check the 16.5 VAC system power. Be sure that the transformer is properly rated (20 VA). **DO NOT USE 24 VAC POWER.** Keep the wire run from the transformer to the entry system as short as possible. Use 16 or 18 AWG, 600 volt insulated wire only. **The importance of proper power wiring cannot be over stressed!**

# 5.2 Phone Line Polarity

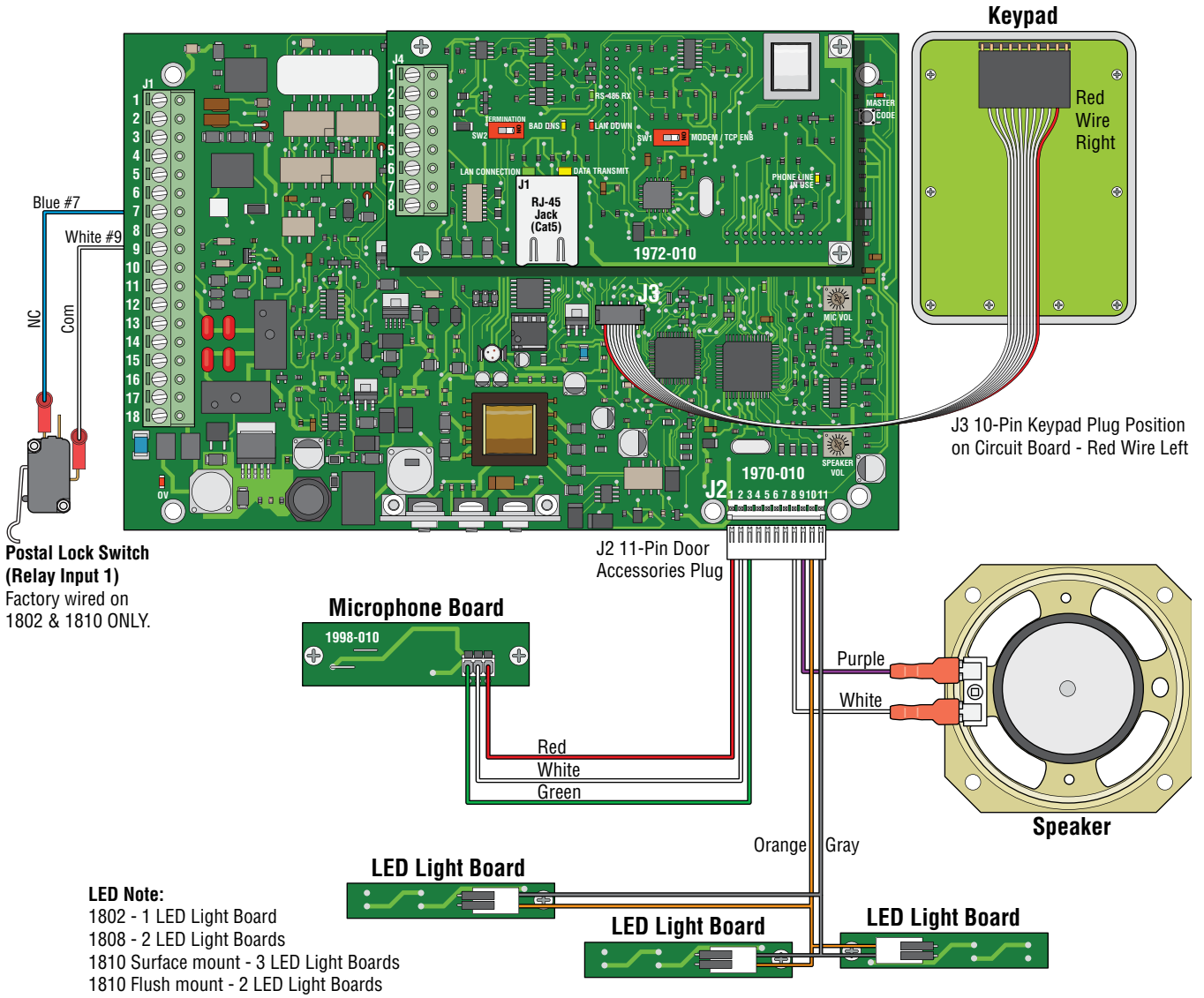
When troubleshooting Access Plus system operational problems, check phone line polarity. **Crossed polarities can affect system operation.**



## 5.3 Troubleshooting Table

Symptom	Possible Solution(s)
Board does not power up.	<ul style="list-style-type: none"> <li>No power. Check for 16 VAC input power.</li> <li>If OV LED is ON, input voltage is too high. Insure that the transformer connected to the input terminals is 16 VAC.</li> </ul>
Cannot get into programming mode.	<ul style="list-style-type: none"> <li>Wrong master code entered. Start over.</li> <li>Waiting too long between pushing buttons. Enter information quicker.</li> <li>Keypad is not plugged into board correctly. Cable points down.</li> </ul>
System emits a long tone and cancels programming.	<ul style="list-style-type: none"> <li>Waiting too long between pushing buttons.</li> <li>Forgetting to press "*" first when programming.</li> </ul>
Keypad is dead.	<ul style="list-style-type: none"> <li>No power. Check for 16 VAC input power.</li> <li>Check that the keypad is properly connected to the circuit board. The cable on the plug points down when connected to the circuit board.</li> </ul>
Buzz or noise on the line.	<ul style="list-style-type: none"> <li>Check for a short to ground behind the circuit board.</li> <li>Check for pinched wires near the door hinge.</li> <li>Check for 16-volt power shorted to a conduit.</li> <li>Check for a phone line shorted to ground.</li> <li>Check that the phone wires are twisted.</li> <li>Check that all wires, speaker, keypad, etc., are isolated from ground.</li> <li>Check that the cabinet is properly grounded. Be sure case ground (terminal 3) is not used as a low voltage common.</li> <li>Check for excessive voltage drop on 16 VAC power.</li> <li>Check phone line with telephone test set.</li> </ul>
System will not answer when called from a remote location.	<ul style="list-style-type: none"> <li>Answer incoming call feature is turned off. Turn answer incoming call feature on.</li> <li>Number of rings to answer may be programmed too high. Reprogram number of rings to answer.</li> </ul>
Electric strike locks on or gate operator holds open.	<ul style="list-style-type: none"> <li>Excessive voltage drop on 16 VAC line.</li> <li>Hold open schedule is enabled. Turn off hold open schedule or reprogram time zone.</li> <li>Access code used was programmed under a hold location code. Reprogram access code into a momentary activation location code.</li> <li>A hold command was sent to the relay from the resident's phone. Deactivate the relay using the resident's phone.</li> </ul>
Access code will not work.	<ul style="list-style-type: none"> <li>Forgetting to press # first.</li> <li>Access code is time zone restricted and the access code time zone is enabled. Turn access code time zone off, reprogram time zone boundaries or reprogram access code without a time zone.</li> </ul>

# 5.4 Access Plus Wiring Schematic



## 5.5 Accessories

### **RS-485 Card Readers**

P/N 1815-232 (uses DKS reader)

P/N 1815-233 (uses AWID reader)

P/N 1815-234 (uses HID reader)

### **RS-485 Keypads**

P/N 1513-080 (surface mount, non-lighted)

P/N 1513-081 (surface mount, lighted)

P/N 1513-082, (flush mount, lighted)

### **RS-485 RF Receiver**

P/N 8053-080 (MicroPlus receiver)

**Secondary Keypads:** Allows remote activation of the system relays by use of the access codes. Does not provide any voice communication to the main unit or to the resident telephone.

P/N 1812-082 (surface mount)

P/N 1812-197 (flush mount)

### **Surge Suppressors:**

High voltage (115 V) suppressor. P/N 1879-010.

Phone line suppressor. P/N 1877-010.

Low voltage (28 V) suppressor. P/N 1878-010.

### **Mounting Posts:**

P/N 1200-045 Standard Gooseneck Pad Mount

P/N 1200-046 Standard Gooseneck In-ground Mount

P/N 1200-037 Architectural Style Gooseneck Pad Mount (1810 AP only)

P/N 1200-038 Architectural Style Gooseneck In-ground Mount (1810 AP only)

P/N 1200-037 Architectural Style Straight Pad Mount (1810 AP only)

P/N 1200-038 Architectural Style Straight In-ground Mount (1810 AP only)

P/N 1200-086 Designer Style Gooseneck Pad Mount (1810 AP only)

P/N 1200-085 Designer Style Straight Pad Mount (1810 AP only)

**Telephone Test Set:** Includes clips, cord and carrying case. P/N 1800-050.

**Back-Up Battery:** 12 volt .8 amp hour gel cell provides stand by power during power interruptions. P/N 1801-008.

**Postal Lock Box:** Provides a means for the mail carrier to enter the premise to deliver mail. P/N 1402-080.

**Magnetic Locks:** A variety of magnetic locks are available to meet individual application requirements.

Contact your DoorKing dealer.

**Electric Strikes:** A variety of electric strikes are available to meet individual application requirements.

Contact your DoorKing dealer.

**CCTV Camera:** Camera mounted in phone system.

P/N 1812-130 Color

P/N 1812-040 Black & White.

# 5.6 Programmed Information Log Sheets

Complete the information in the tables on the following pages to maintain a record of the information that has been programmed into the Access Plus system. Access Plus system manual is available on-line at: [www.dkaccess.com](http://www.dkaccess.com) if extra log sheets are required.

<b>Master Code</b> (section 2.1)			
1st Digit	2nd Digit	3rd Digit	4th Digit

<b>Relays</b> (section 2.4.7)								
<b>Tone Number Function</b>	<b>1 Internal</b>	<b>2 Internal</b>	<b>3 External</b>	<b>4 External</b>	<b>5 External</b>	<b>6 External</b>	<b>7 External</b>	<b>8 External</b>
Momentary Activation								
Hold Open								
Deactivate Relay								
Hold Open 1 Hr.								

<b>Access Code Time Zone Schedule</b> (section 2.7.6)				
	<b>Time Zone 1</b>	<b>Time Zone 2</b>	<b>Time Zone 3</b>	<b>Time Zone 4</b>
Beginning Time				
Ending Time				
Days of the Week				
Relays				

<b>Automatic Relay Activation Time Zones (Hold Open Schedules)</b> (section 2.7.5)				
	<b>Time Zone 1</b>	<b>Time Zone 2</b>	<b>Time Zone 3</b>	<b>Time Zone 4</b>
Beginning Time				
Ending Time				
Days of the Week				
Relays				

# Directory Codes 1 – 23 / Pre-Set Numbers (1816 Telephone Interface ONLY)

Directory Code	Name	Apartment Number
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		



# Directory Codes 24 – 50 / Dial-Out Phone Numbers

Directory Code	Name	Phone Number
24		
25		
26		
27		
28		
29		
30		
31		
32		
33		
34		
35		
36		
37		
38		
39		
40		
41		
42		
43		
44		
45		
46		
47		
48		
49		
50		

# 1-25 Access Codes Log Sheet (With Phone Numbers)

Name / Phone Number (Optional)	Access Code # and Type: Simple or Time Zone Restricted	Device Type	Time Zone Restricted Information	
			Time Zone Number	Relay: Momentary or Hold (Latch)
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				

## 26-50 Access Codes Log Sheet (With Phone Numbers)

Name / Phone Number (Optional)	Access Code # and Type: Simple or Time Zone Restricted	Device Type	Time Zone Restricted Information	
			Time Zone Number	Relay: Momentary or Hold (Latch)
26				
27				
28				
29				
30				
31				
32				
33				
34				
35				
36				
37				
38				
39				
40				
41				
42				
43				
44				
45				
46				
47				
48				
49				
50				

# 1-25 Access Codes Log Sheet (Access Only)

Name	Access Code # and Type: Simple or Time Zone Restricted	Device Type	Time Zone Restricted Information	
			Time Zone Number	Relay: Momentary or Hold (Latch)
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				

## 26-50 Access Codes Log Sheet (Access Only)

Name	Access Code # and Type: Simple or Time Zone Restricted	Device Type	Time Zone Restricted Information	
			Time Zone Number	Relay: Momentary or Hold (Latch)
26				
27				
28				
29				
30				
31				
32				
33				
34				
35				
36				
37				
38				
39				
40				
41				
42				
43				
44				
45				
46				
47				
48				
49				
50				

## 1-10 Temporary Access Codes Log Sheet (When using software ONLY)

Name	Temporary Access Code #	Device Type	Beginning Date	Ending Date	Time Zone Number	Relay: Momentary or Hold (Latch)
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

(section 2.6.7)

## 1-10 Temporary Access Codes Log Sheet extra log sheet

Name	Temporary Access Code #	Device Type	Beginning Date	Ending Date	Time Zone Number	Relay: Momentary or Hold (Latch)
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						



Installation/Owner's Manual **1802 1808 1810 Access Plus**  
PC Programmable Telephone Entry/Access Control System

Use this manual for circuit board 1970-010 Revision U or higher.

1810-162-A-6-16

Control a main door, gate and six additional RS-485 entry points.



[www.doorking.com](http://www.doorking.com)

DoorKing, Inc.  
120 S. Glasgow Avenue  
Inglewood, California 90301  
U.S.A.  
Phone: 310-645-0023  
Fax: 310-641-1586