

Installation/Owner's Manual

2100 Series

Internet/Cellular Programmable Video Telephone/Access Control System

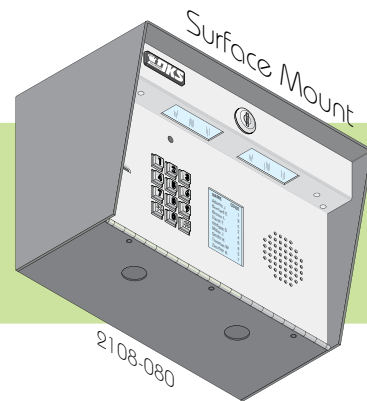
Use this manual for circuit board 8863-010 Revision C or higher.

2112-065-T-10-24

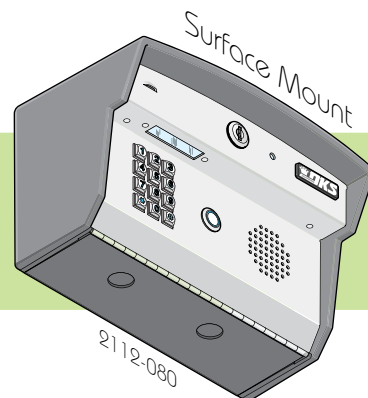
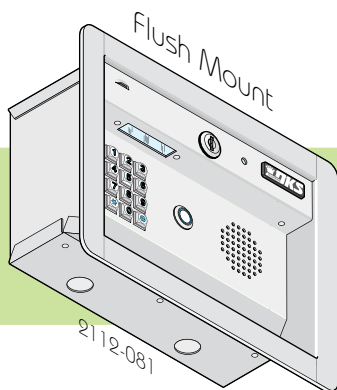
Control a main door / gate and two other entry points

Register and Program your Entry System at:
<https://dks2112.com>

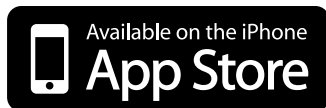
2108



2112



Download the smart phone App (**DKS 2112 Resident App**) at:



Android-version 8 or higher OR **iphone 6-with IOS 9 or higher**

IMPORTANT: The DKS 2112 Resident App is **REQUIRED** on your phone for video calling.

Date Installed: _____

Installer/Company Name: _____

Phone Number: _____

Circuit Board
Serial Number
and Revision Letter: _____

Leave Manual with Owner

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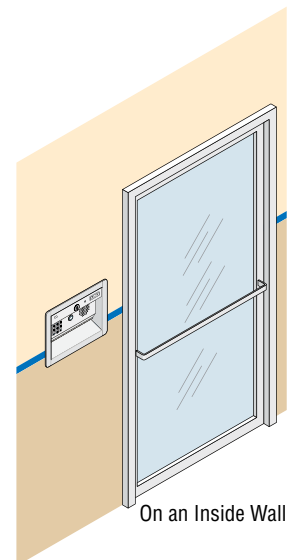
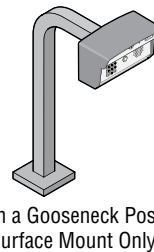
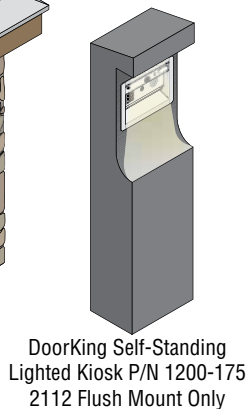
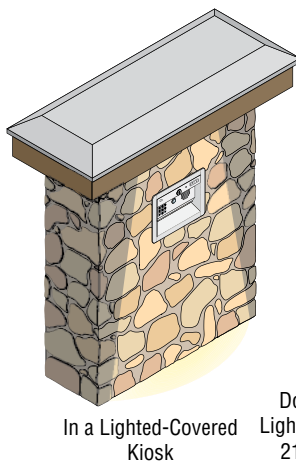
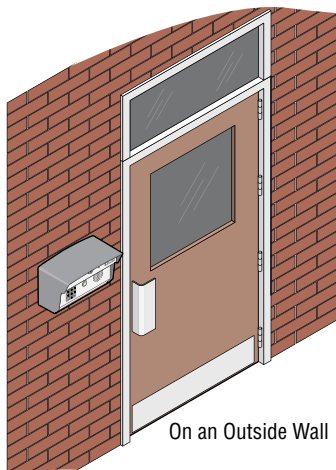
FEATURES

2100 Series Video Entry System

- User provided internet connection standard
- Optional cellular connection available
- Programming via Internet Browser
- DKS 2112 Resident App
- All programming is shared in the cloud and system memory
- Updates show as they occur
- Cloud Based system
- Built-in IP Camera for Video Calling
- Broadcast Calling (up to four numbers simultaneously)
- Up to 10 residents with a maximum of four (4) phone numbers per resident
- Up to 50 entry codes, four (4) or five (5) digits
- Do Not Call schedule
- Hold Open schedule
- Entry Code schedule
- Microphone / Speaker volume control through browser manager
- Relay status: Open - Close - Held Open
- Relay (Entry Point) names, Three (3) type C relays, 1A max
- Independent relay strike times
- Events log
- Relay (door/gate) control: Open - Close - Hold Open

Mounting Options

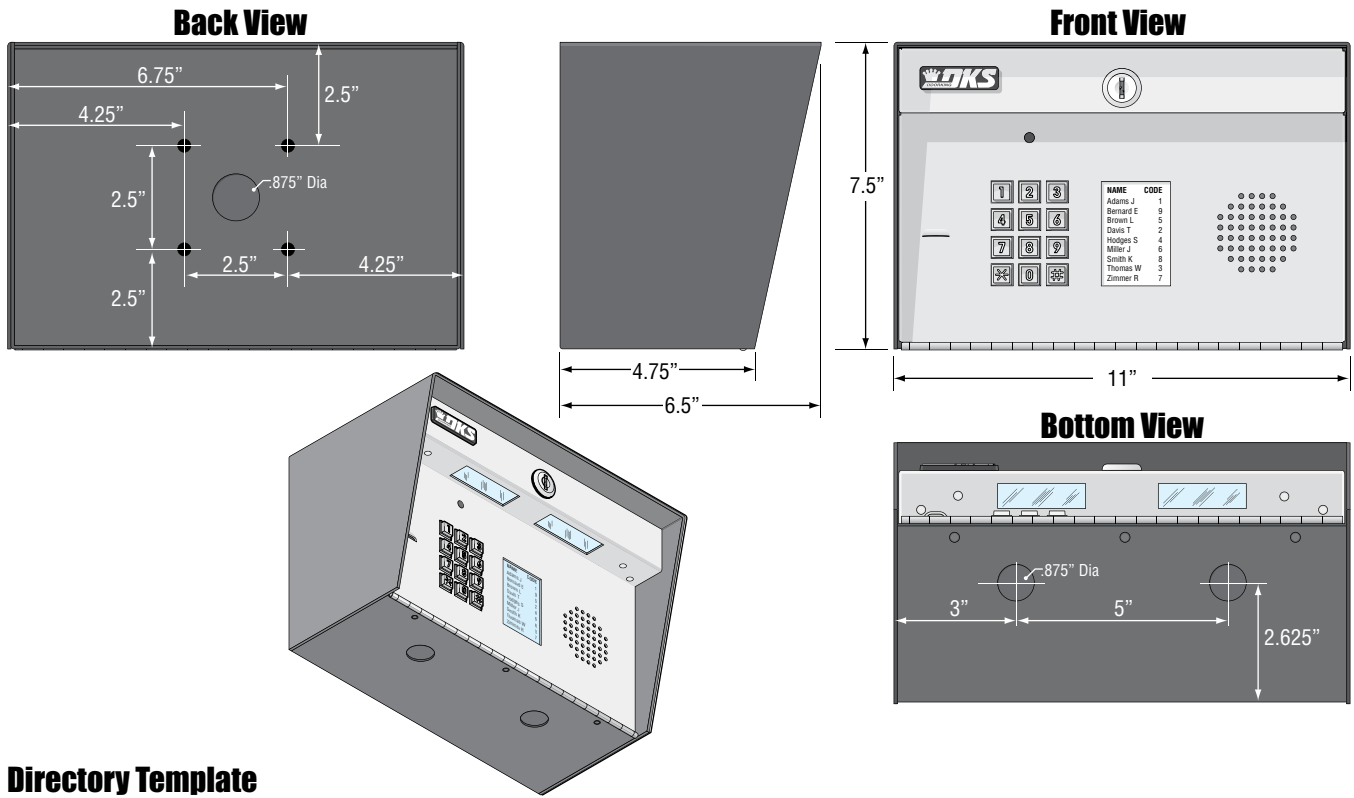
- Surface mount **cellular model** requires additional internal cellular module kit.
- Flush mount **cellular model** requires additional external cellular module kit.
(Model 2112 ONLY)



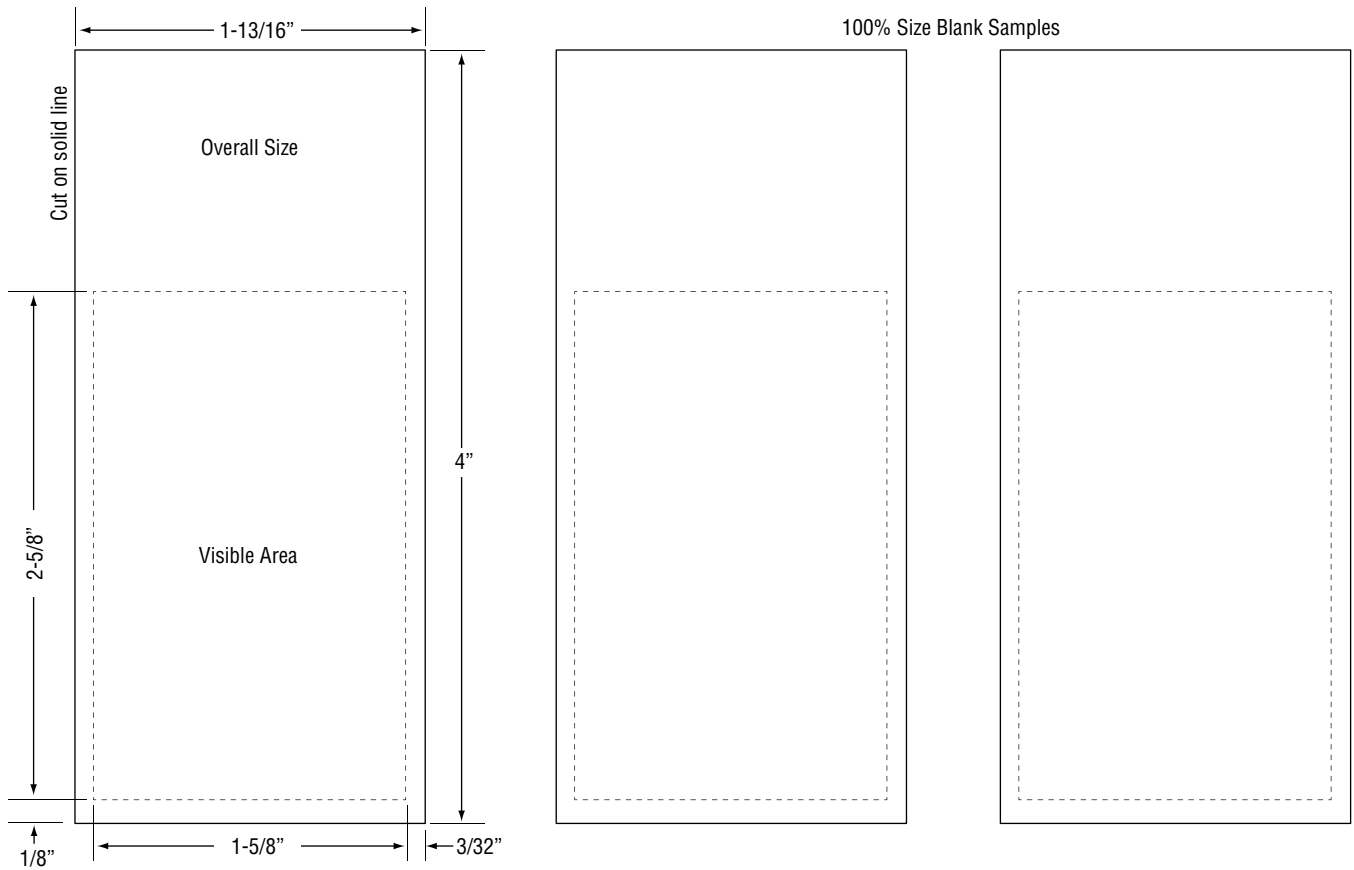
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2108 SPECIFICATIONS

Surface Mount Dimensions

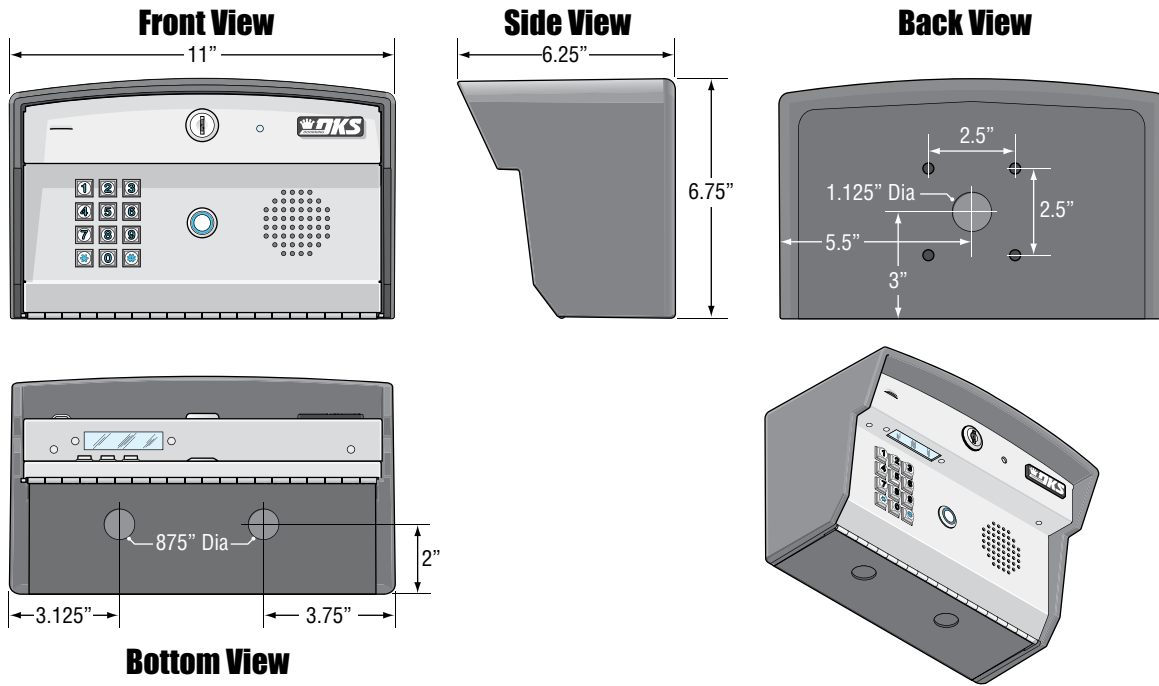


Directory Template

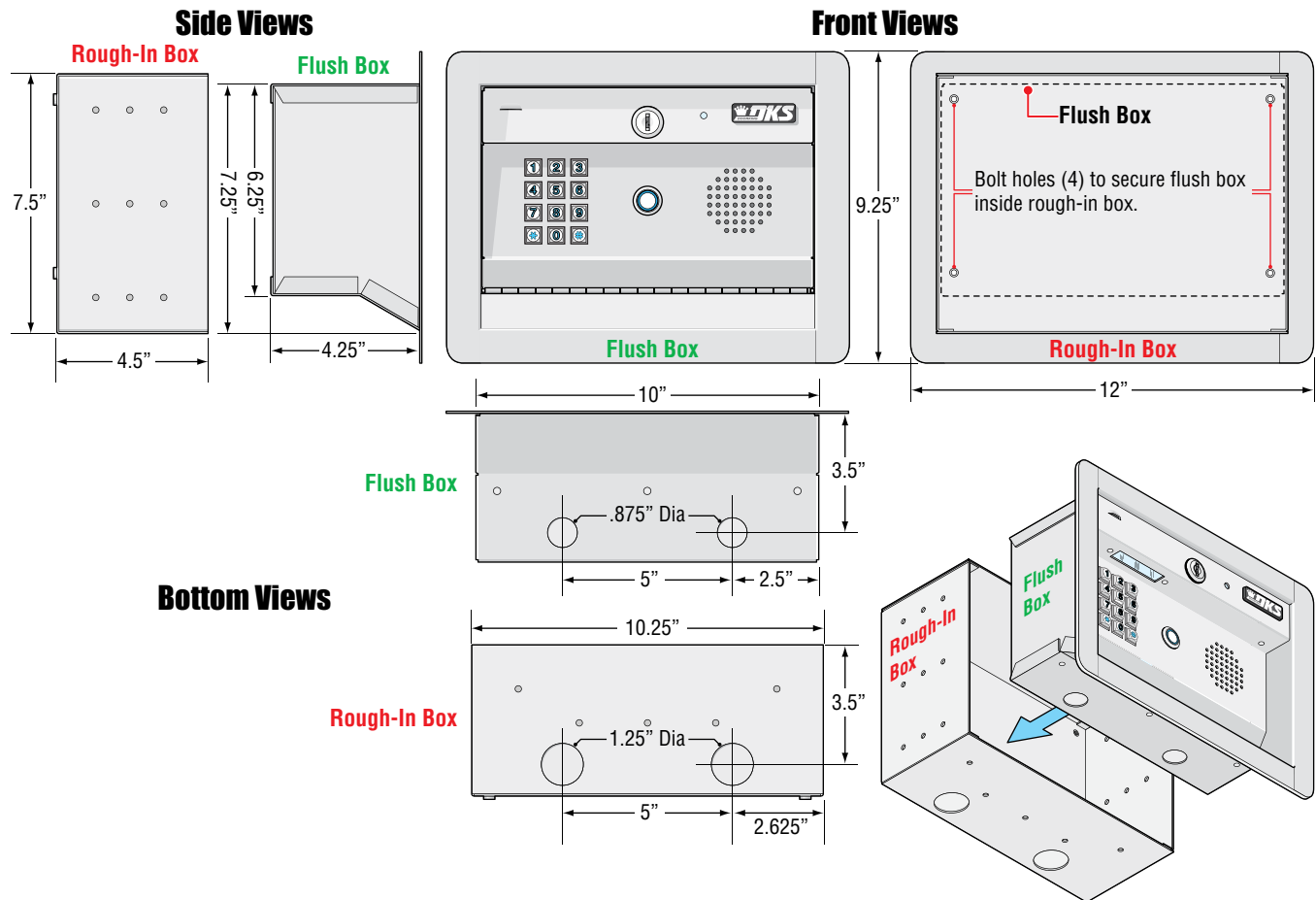


2112 SPECIFICATIONS

Surface Mount Dimensions



Flush Mount Dimensions



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-OT-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 2100 Series requires a 16.5-volt, 20 VA transformer.

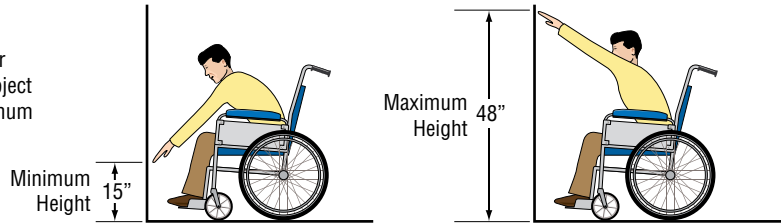
UL 294 Performance Levels

Destructive Attack:	Level I
Line Security:	Level I
Endurance:	Level IV
Standby Power:	Level I
Single Point Locking Device:	Level I

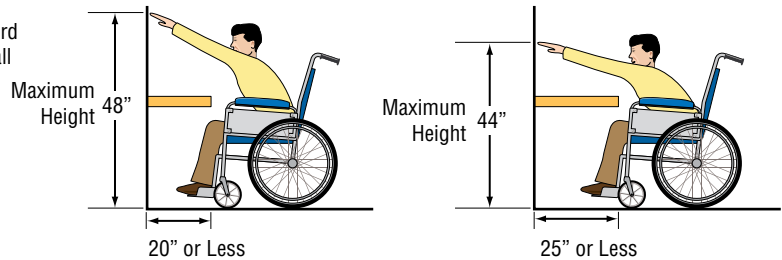
General Information

- 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 (Ref: ICC/ANSI A117.1-2009).** 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**.

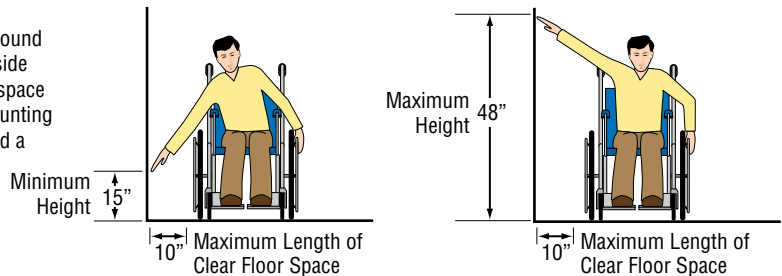
1. Unobstructed Forward Reach. Where a clear floor or ground space allows only a forward approach to an object and is **unobstructed**, mounting height shall be a minimum of **15 inches** (381 mm), and a maximum of **48 inches** (1.22 m), above the floor or ground to the operable controls.



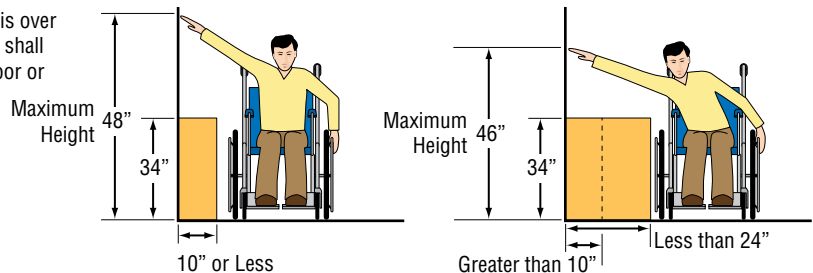
2. OBSTRUCTED HIGH Forward Reach. If the high forward reach is over an obstruction, reach and clearances shall be as shown. **NOTE: If the height of a control is 48" maximum, then the length of the obstruction must be 20" or less. If the height of a control is 44" maximum, then the length of the obstruction may be increased to 25" or less.**



3. Unobstructed Side Reach. Where a clear floor or ground space allows a parallel approach to an object and the side reach is **unobstructed**, and the edge of the clear floor space is **10 inches** (255 mm) maximum from the object, mounting height shall be a minimum of **15 inches** (380 mm), and a maximum of **48 inches** (1.22 m), above the floor or ground to the operable controls.



4. OBSTRUCTED HIGH Side Reach. If the side reach is over an obstruction **10 inches or less**, mounting height shall be a maximum of **48 inches** (1.21 m) above the floor or ground to the operable controls. If the side reach is over an obstruction **greater than 10 inches, but less than 24 inches**, mounting height shall be a maximum of **46 inches** (1.17 m) above the floor or ground to the operable controls.



- **When used to control a vehicular gate with an automatic gate operator, the telephone entry system must be mounted a minimum of six (6) 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

Prior to beginning the installation, we suggest that you become familiar with the instructions, illustrations, and wiring guide-lines in this manual. This will help insure that your installation is performed in an efficient and professional manner. Installation of the 2100 series 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 2100 series system to malfunction during operation.

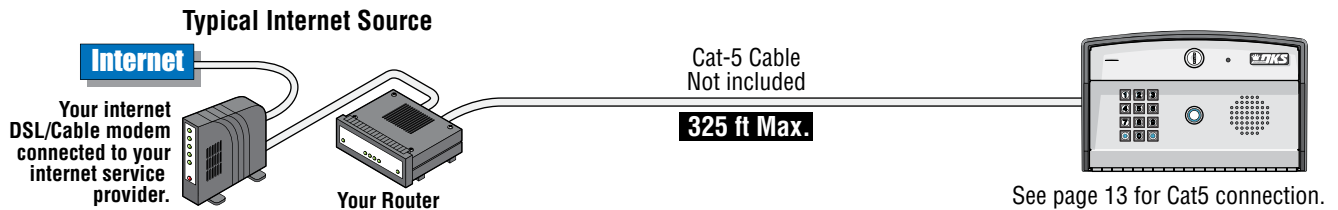


When the 2100 series is used to control a vehicular gate with an automatic gate operator, it must be mounted a minimum of six (6) feet away from the gate and gate operator, or in such a way that a person cannot operate the 2100 series system and/or touch the gate or gate operator at the same time.

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 Standard Internet Installation ONLY

A Cat5 wire will need to be run to the 2100 series installation location that is **ALREADY** connected to the internet, then installation can begin.



1.2 Optional Cellular Installation ONLY

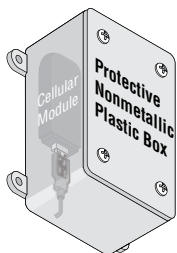
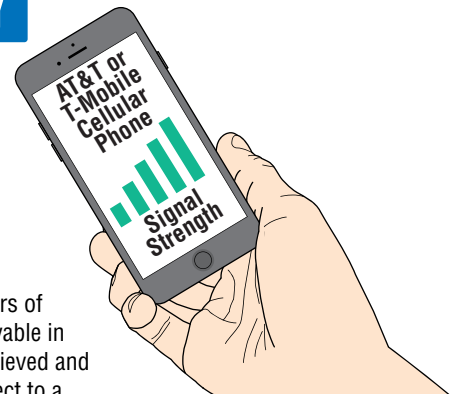
An existing cellular phone will be needed to test the signal strength of DoorKing's cellular network in the desired installation location (a smart phone is preferred).

BEFORE the cellular module can be installed, the installation location **MUST BE TESTED** for good cellular signal strength for reliable communication.

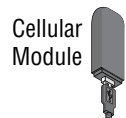
TEST this location using an **existing active AT&T or T-Mobile cellular phone**.

DO NOT install the cellular module in a WEAK or NO signal area.

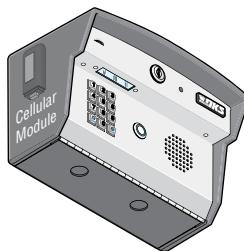
Activate the phone near the position where you want the cellular module to be installed. 3-4 bars of signal strength should be indicated on the phone for a reliable signal. If 3-4 bars are not achievable in that specific location, then try moving the phone around and see if at least 3-4 bars can be achieved and maintained in a nearby location. If a smart phone is being used, try using the browser to connect to a website to verify good data transfer. Generally, the higher the cellular module is mounted, the better the reception. This also helps protect against vandalism. The cellular module should be located as close as possible to minimize the wire run. This allows less chance for lightning surges or other electrical interference to disrupt the cellular signal. Keep the cellular module away from any metal. This can also disrupt the signal. After the 3-4 bar signal strength has been confirmed (and the smart phone has good browser data transfer if used for signal testing), the installation can begin.



2108 Surface Mount: Cellular module needs to be mounted **outside** metal enclosure in a **protected secure** area as high as possible for best reception. Avoid **any** metal around module. **DO NOT** expose module to weather.



2112 Surface Mount: Cellular module works **inside** plastic enclosure. The cellular module can be mounted outside the enclosure if desired because signal strength is a problem. Avoid **any** metal around module. **DO NOT** expose module to weather.



2112 Flush Mount: Cellular module needs to be mounted **outside** metal enclosure in a **protected secure** area as high as possible for best reception. Avoid **any** metal around module. **DO NOT** expose module to weather. See pages 10 & 11.



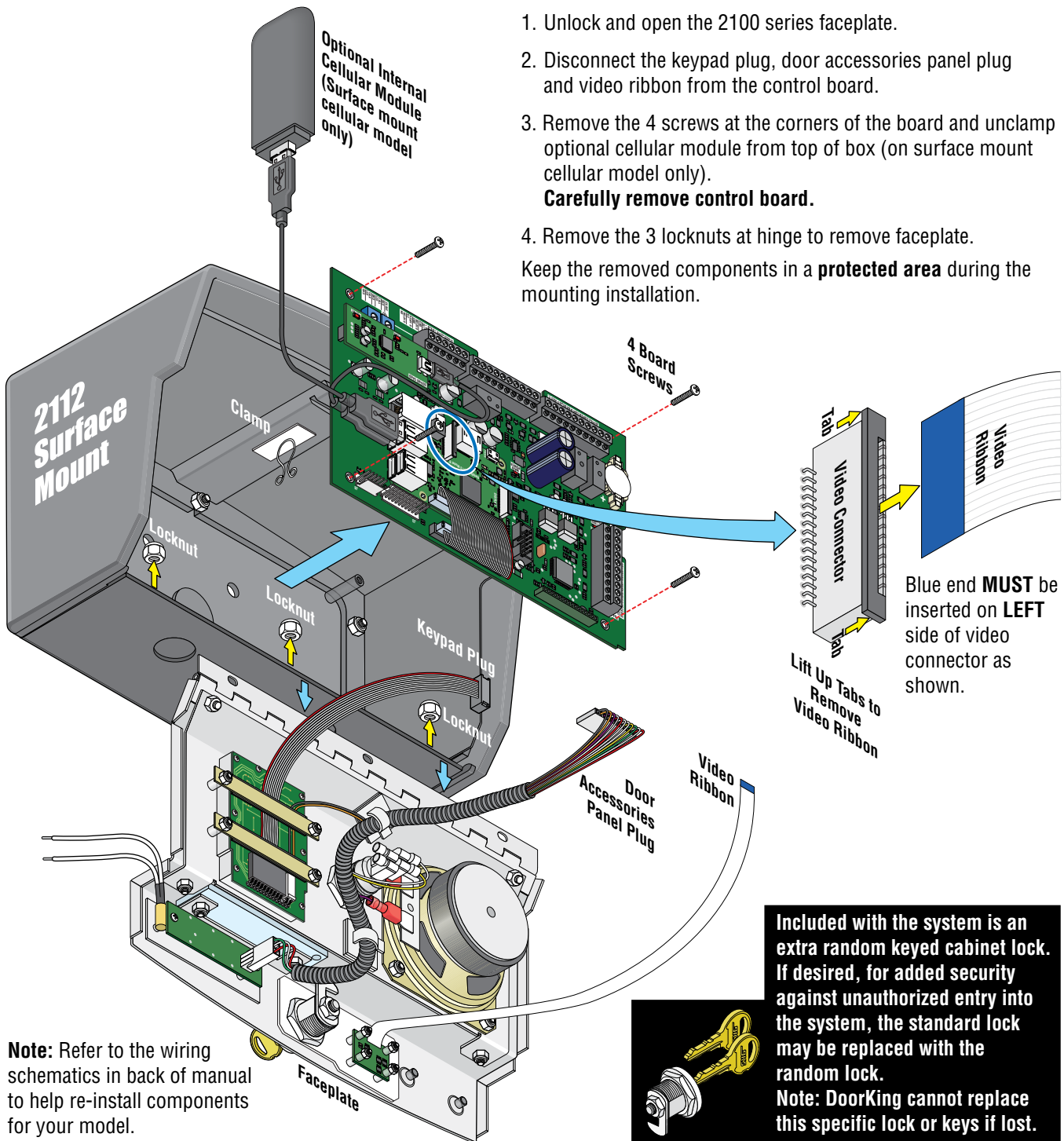
1.3 Mount the 2100 Series

Use the specification dimensions page in front of manual and the next 2 pages to help with the installation of your chosen 2100 model.

Remove Control Board and Faceplate

The control board removal is the same for flush mount model.

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.



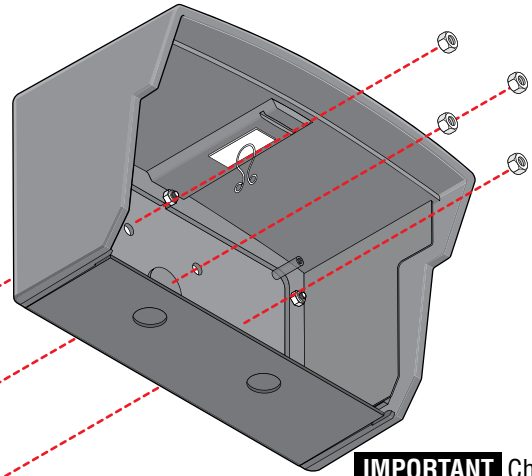
Surface Mount Configurations

Surface mount models can be mounted directly to a wall, pilaster or post mounted using a DoorKing mounting post (there are several different styles available). Be sure it is securely mounted and is not subject to continuous vibration from closing doors or gates.

Mount on a Mounting Post

Use existing 4 holes in cabinet box to bolt the surface mount model 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.



IMPORTANT Choose how your 2100 will function (**Internet** or **Cellular** connection, see sections 1.1 and 1.2).

Add washers on bottom to angle the unit upward (see Tip).

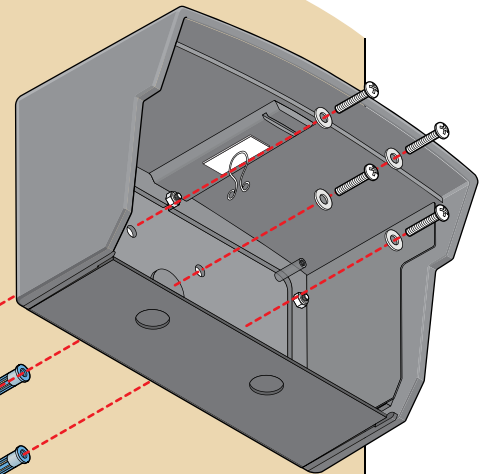
TIP: The mounting height of the Surface Mount models will determine the field-of-view of the video lens. High profile vehicles may present a problem when viewing the person inside the vehicle if the video lens is mounted too low. The unit can be mounted at an upward angle to better view a person in a high profile vehicle. Keep this in mind when you are determining the mounting height of the Surface Mount models.

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)



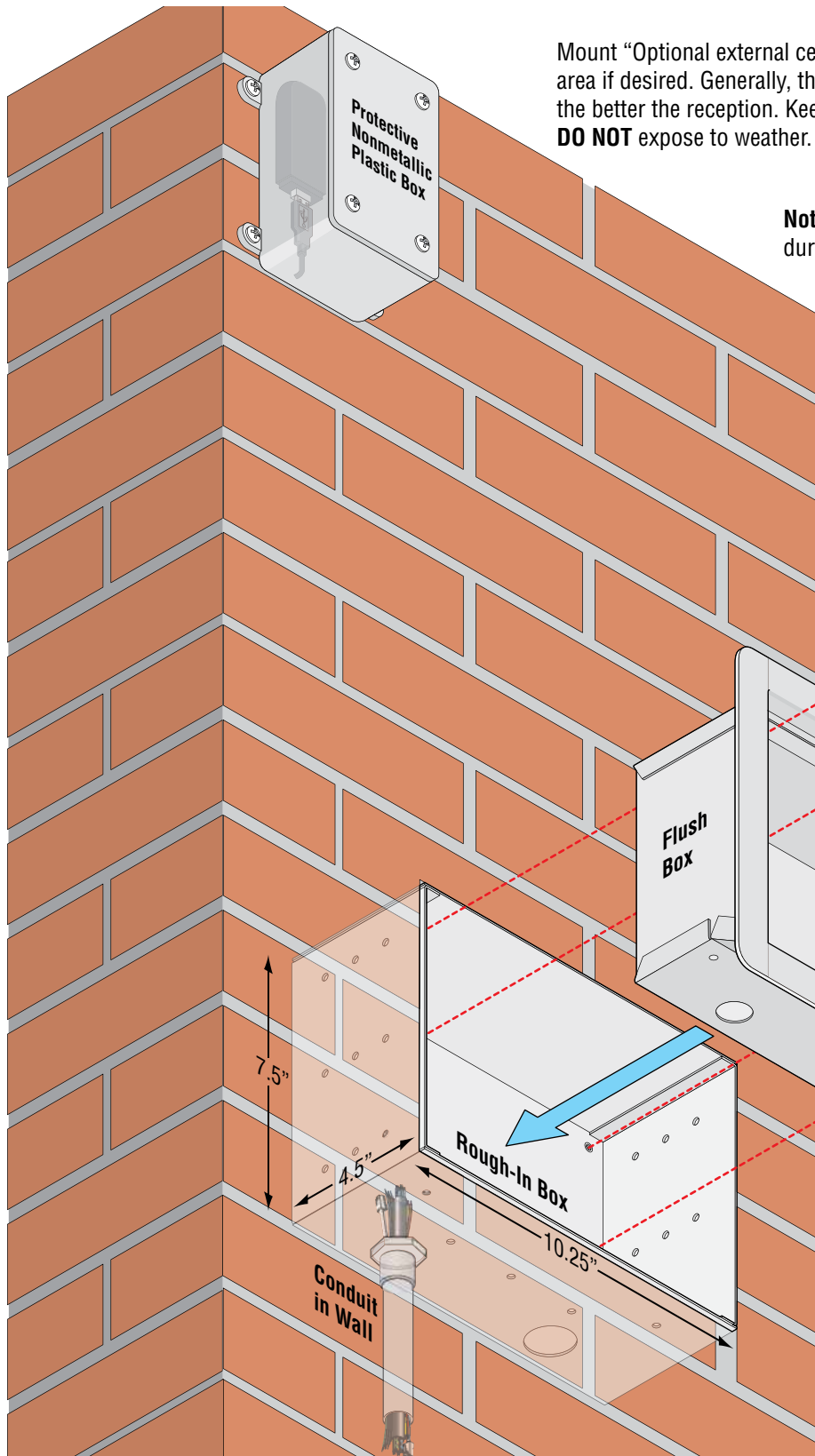
Conduit (Shown inside wall)

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 six (6) 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.

Note: Run **ALL** wires that will be needed during the cabinet installation, see section 2.

2112 Flush Mount Model

Flush mount unit is installed into a pilaster, wall or 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. Run conduit inside wall into bottom of rough-in box if desired. Use appropriate hardware (Not supplied) to secure the rough-in box in place.



Mount “Optional external cellular module kit” in a **secure protected** area if desired. Generally, the higher the cellular module is mounted, the better the reception. Keep clear of metal. **DO NOT** expose to weather.

Note: Run **ALL** wires that will be needed during the cabinet installation, see section 2.

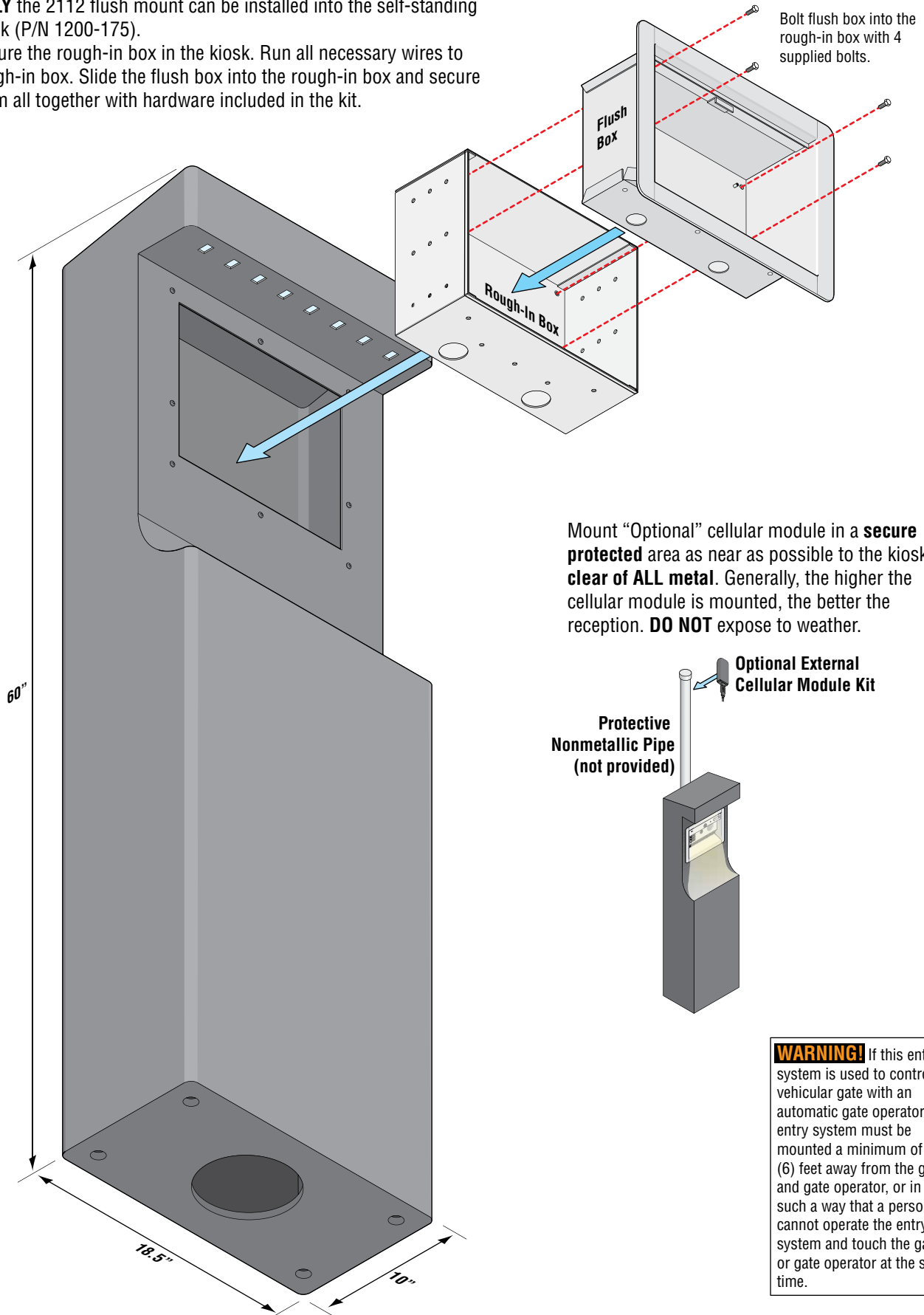
WARNING! If this entry system is used to control a vehicular gate with an automatic gate operator, the entry system must be mounted a minimum of six (6) feet away from the gate and gate operator, or in such a way that a person cannot operate the entry system and touch the gate or gate operator at the same time.

Bolt flush box into the rough-in box with 4 supplied bolts.

IMPORTANT Choose how your 2112 will function (**Internet** or **Cellular** connection, see sections 1.1 and 1.2).

2112 Flush Mount Model in a DoorKing Self-Standing Lighted Kiosk

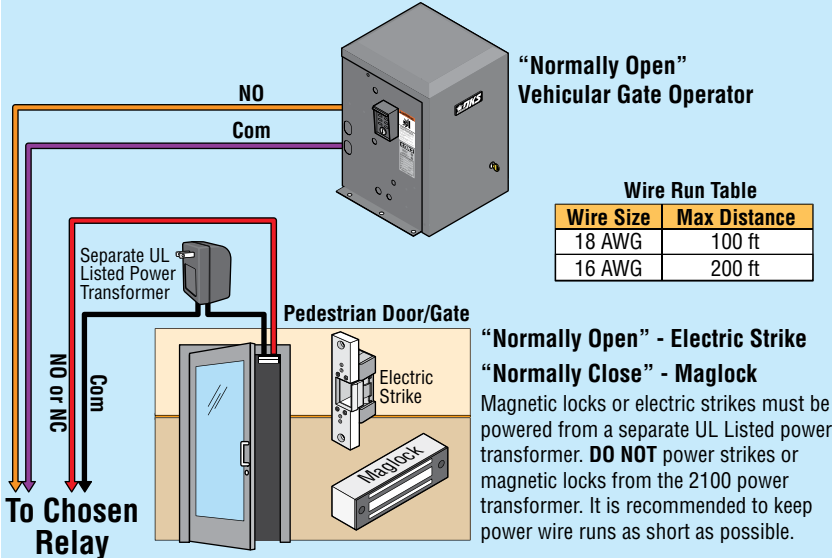
ONLY the 2112 flush mount can be installed into the self-standing kiosk (P/N 1200-175). Secure the rough-in box in the kiosk. Run all necessary wires to rough-in box. Slide the flush box into the rough-in box and secure them all together with hardware included in the kit.



SECTION 2 - WIRING

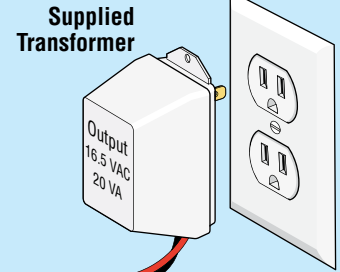
2.1 Terminals TB1, TB2, TB3, TB4

Access Control Devices to RELAYS 1, 2, 3



16 VAC IN Power Input

Polarity does not matter.



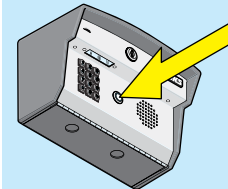
Do Not Connect To A Receptacle Controlled By A ON/OFF Switch.

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

The 2100 operates on 16.5 VAC **OR** 12-24 VDC (TB1 Terminals 9-10).

Use the supplied power transformer, 16.5 VAC, 20 VA (or UL listed equivalent) to power the 2100. **DO NOT** power any other devices (electric strikes, magnetic locks etc.) from the 2100's power transformer.

NOTE for 2112 ONLY: After power has been applied, LED push button will light up when 2112 is ready for operation.



Low Voltage Surge Suppressor
DoorKing Surge Suppressor P/N 1878-010 (or equivalent) is optional but **highly recommended** to protect against power surges. See next page.

Choose Input Power

Never use both connected at same time.

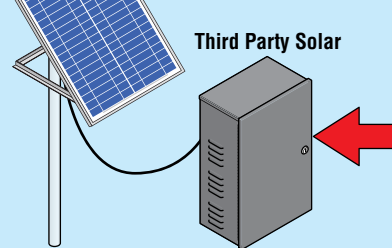
INPUT POWER:
Third Party Regulated Power Solar System
12-24 VDC

OR

INPUT POWER:
16 VAC (Supplied Transformer)
OR
12-24 VDC

Solar Power Input

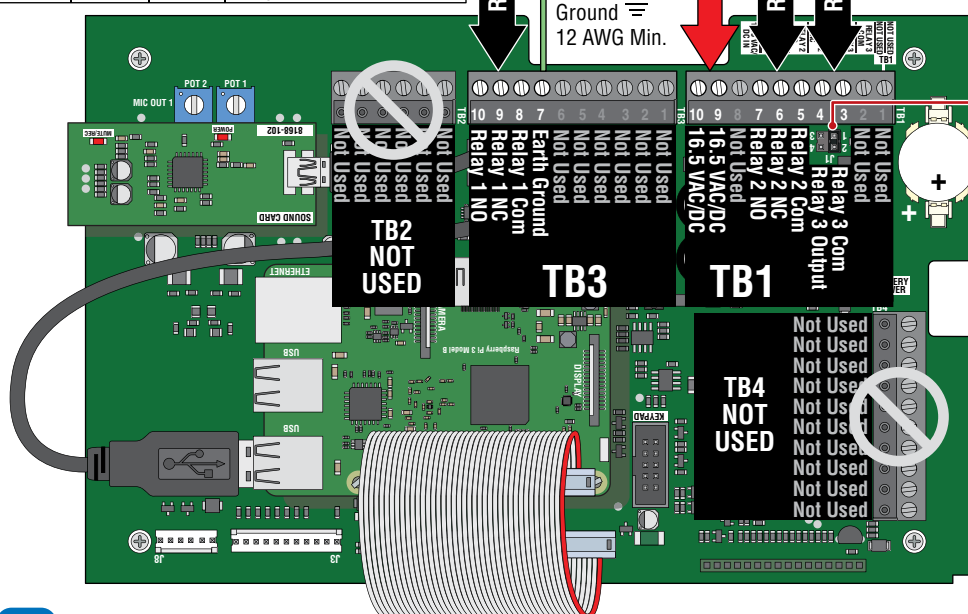
Polarity does not matter.



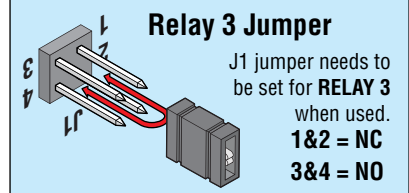
12 VDC	290 Ma	3.48 W	w/out cell dongle stand-by
12 VDC	340 Ma	4.08 W	with cell dongle stand-by
12 VDC	430 Ma	5.16 W	with cell dongle + video + relay activated

Properly ground board! See next page for acceptable grounding sources.

Ground
12 AWG Min.



Relay 3 Jumper



2.2 Internet-Standard OR Cellular-Optional Connection

Optional External Cellular Module Kits
mounts outside the 2100 system
in a Separate Enclosure:

P/N: 2112-152 - **T-Mobile** External Cellular Kit

P/N: 2112-153 - **AT&T** External Cellular Kit

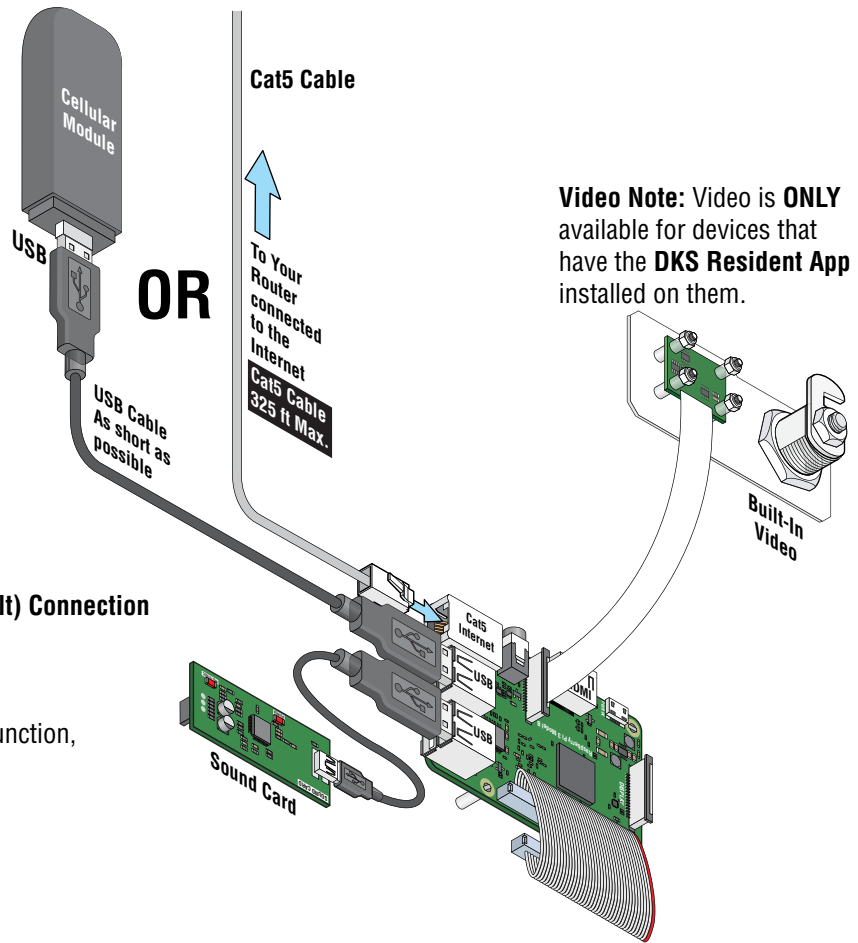
Optional Internal Cellular Module Kits
mounts inside the 2112 system **ONLY**:

P/N: 2112-150 - **T-Mobile** Internal Cellular Kit

P/N: 2112-151 - **AT&T** Internal Cellular Kit

Connection Note: The 2100's **Standard (Default) Connection** is to the internet with a Cat5 cable. The cellular module connection is **OPTIONAL**.

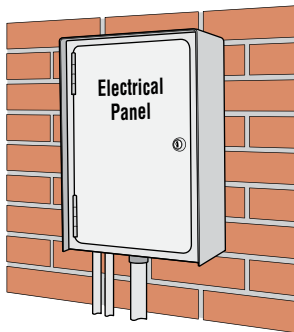
The 2100 **MUST** be registered **BEFORE** it will function, see section 3 on next page.



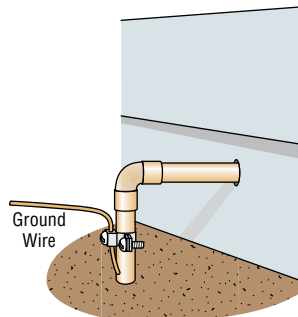
2.3 Grounding and Surge Suppression

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.**

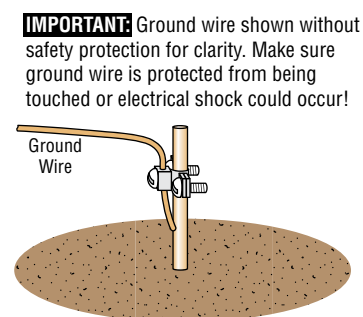
Some Acceptable Ground Sources



Ground to existing electrical system.



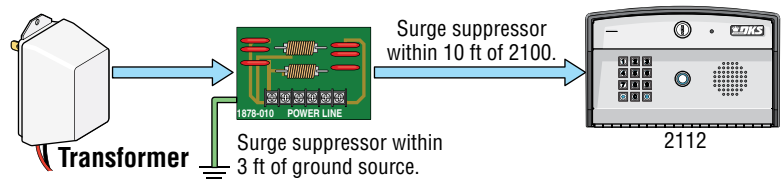
Ground to metallic cold water pipe.



Grounding rod 10 feet in soil.

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.



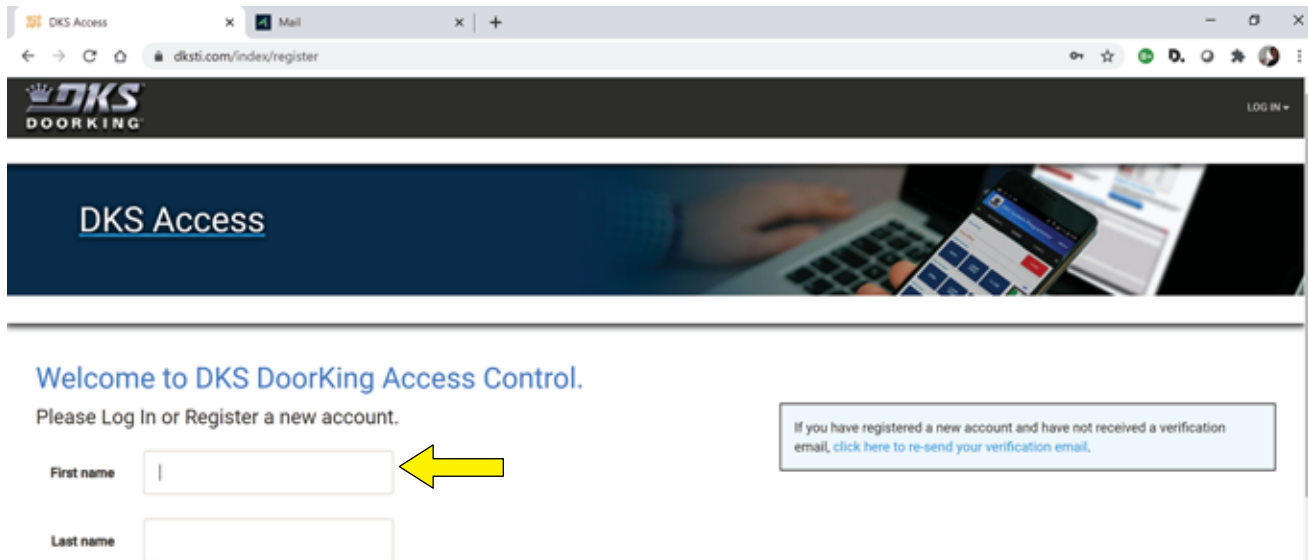
SECTION 3 - REGISTERING/PROGRAMMING/VOLUME ADJUST

After installation is **complete**, register your 2100 first, then program it and adjust volume if necessary.

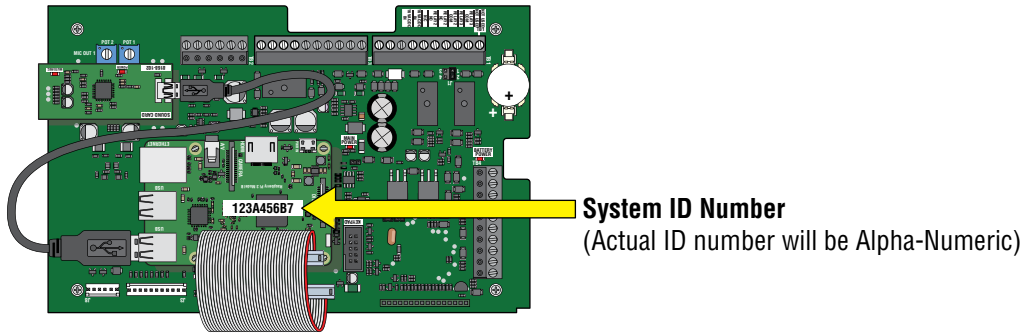
3.1 Register 2100

After the 2100 is connected to the internet (Cat5 connection or cellular module),

Go to DoorKing's website: <https://dks2112.com> to **Register** and create a **User Account** for your 2100 Series.



The **System ID Number** will be needed for registering, found **inside** on the faceplate and on the circuit board of the 2100.



A **Confirmation email** will be sent to **YOU** to verify your registration. Once you have the **Confirmation** email, you can start setting up your 2100.

Click on the link **Manage Systems**

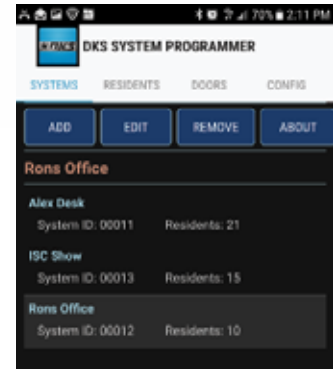
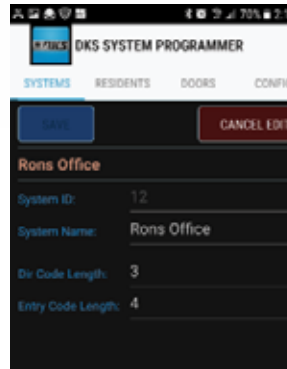


Enter the **System ID Number** then Click **Add A System**

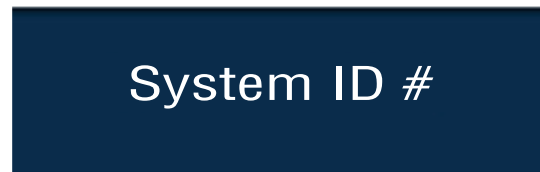


Please enter the 5-digit System ID of the system you wish to add:

123A456B7



Your 2100 will be displayed. Click on **Next** to activate your chosen connection type, **Internet-Standard** or **Cellular-Optional**



OR

Entry System Connectivity.

System ID: **System ID #**
Connection: **Ethernet**
No Cellular Option.
Next Step: Activate Outgoing Phone Calls.

Entry System Connectivity.

System ID: **System ID #**
Connection: **Cellular**
Activate Cellular Connection.
Next Step: Activate Outgoing Phone Calls.



IMPORTANT: Cellular connection can only be made using the **Optional Cellular Module**, the SIM ID # will be needed, located on the module, see Section 2.2.

This opens the **System Set Up** page.



- Assign or change the system name
- Set Directory Code length
- Set "4" or "5" digit entry codes
- Name the relays
- Set the system time zone
- Click "Submit" when finished

System: Ron's House

System Name:	<input type="text" value="Ron's House"/>	Door:	Door Name	Strike Time
Dir Code Length:	<input type="text" value="3"/>	Door 1:	Front Gate	01
Entry Code Length:	<input type="text" value="4"/>	Door 2:	Walk Gate	04
Device Time Zone:	<input type="text" value="Pacific (GMT -8)"/>	Door 3:	Back Gate	03

Use Daylight Savings:

Continued on next page

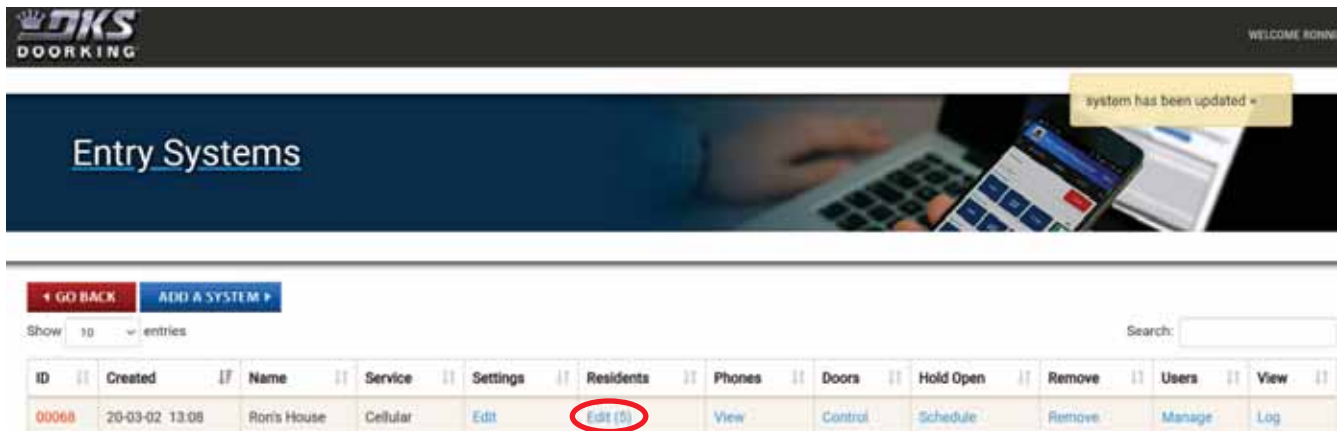
This page is where you will perform programming for your 2100 system.



NOTE: All programming must be done on the www.dks2112.com web site. No programming can be done through the keypad. An Internet connection is required for programming.

Programming Residents:

On the Entry System page, select on **EDIT** from the Residents column.



Select **Add a Resident** to add a new resident **OR EDIT** to work with an existing resident.



NOTE:

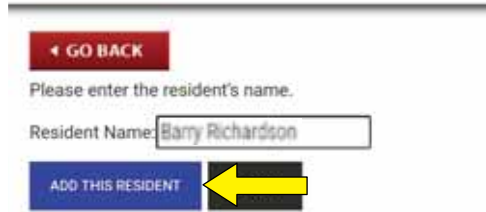
DIR 000 will be assigned to **CALL BUTTON**

Continued on next page

Enter a Resident Name and click **Add this Resident**



Enter **directory code**, **entry code**, select which **relay** will respond to **Tone Open** and to **Entry Code**.



Click on **Add A Phone Number**
(or "Manager Phone Numbers" if you already have a number programmed)



- Each Directory Code can be programmed with up to 4 phone numbers.
- Each phone number can be set for either Voice or Video calling.
(Video is ONLY available for devices that have the DKS Resident Video App installed on them)
- These numbers will be dialed in "Broadcast Calling" where all numbers are called at the same time.
- The first number to answer the call from the entry system will be connected.
- All other numbers will stop dialing.

For training tutorials on the 2100 system visit: <https://DoorKing.com>

3.2 Smart Phone App

The 2100 is programmed directly from your internet browser via a laptop, tablet or smartphone.
The DKS 2112 Resident App is required for video calling.

Download the App for a Android phone at **Google Play Store**.
Download the App for a iphone at **APP Store**.



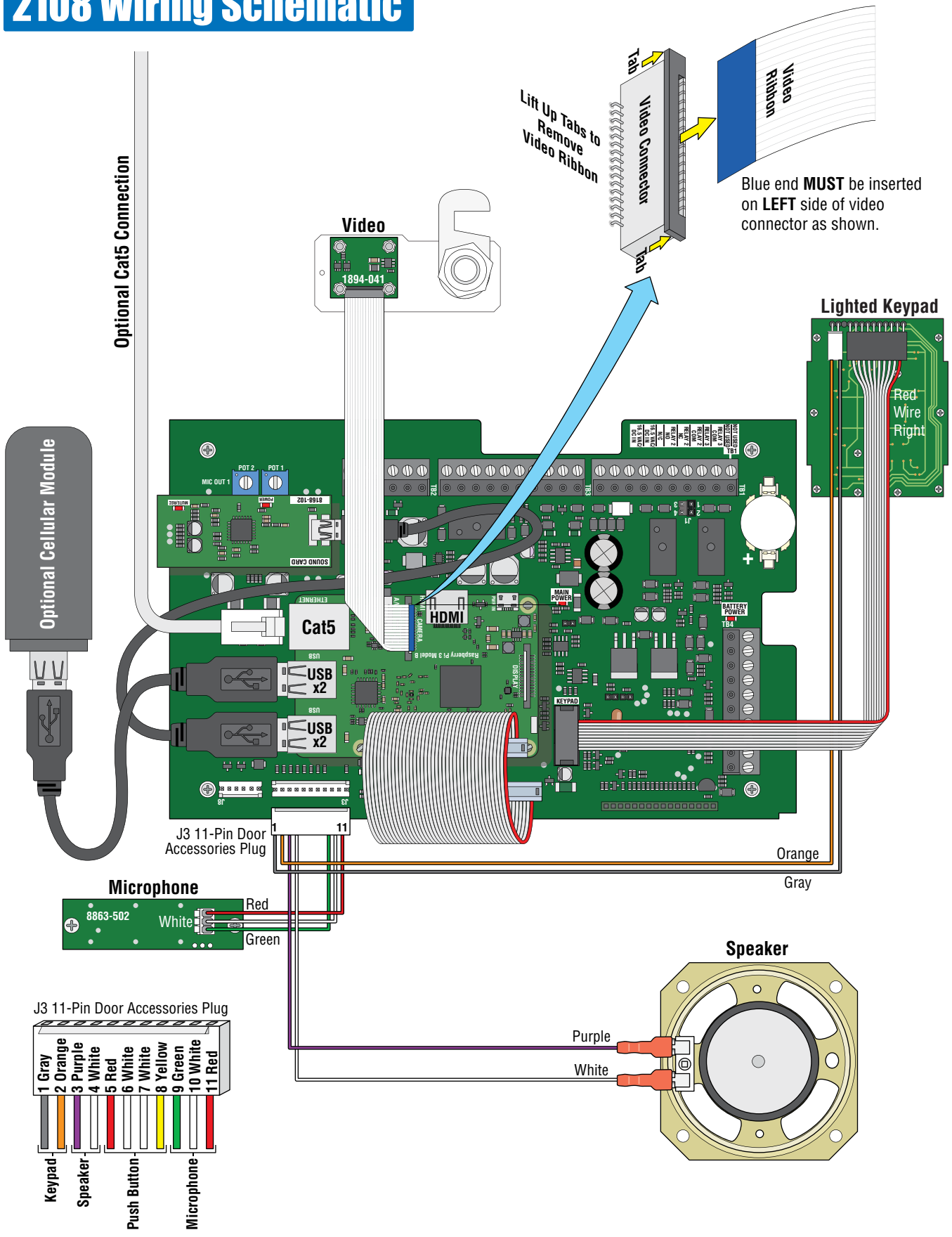
3.3 Volume Adjustment

Final adjustment after the 2100 has been Registered

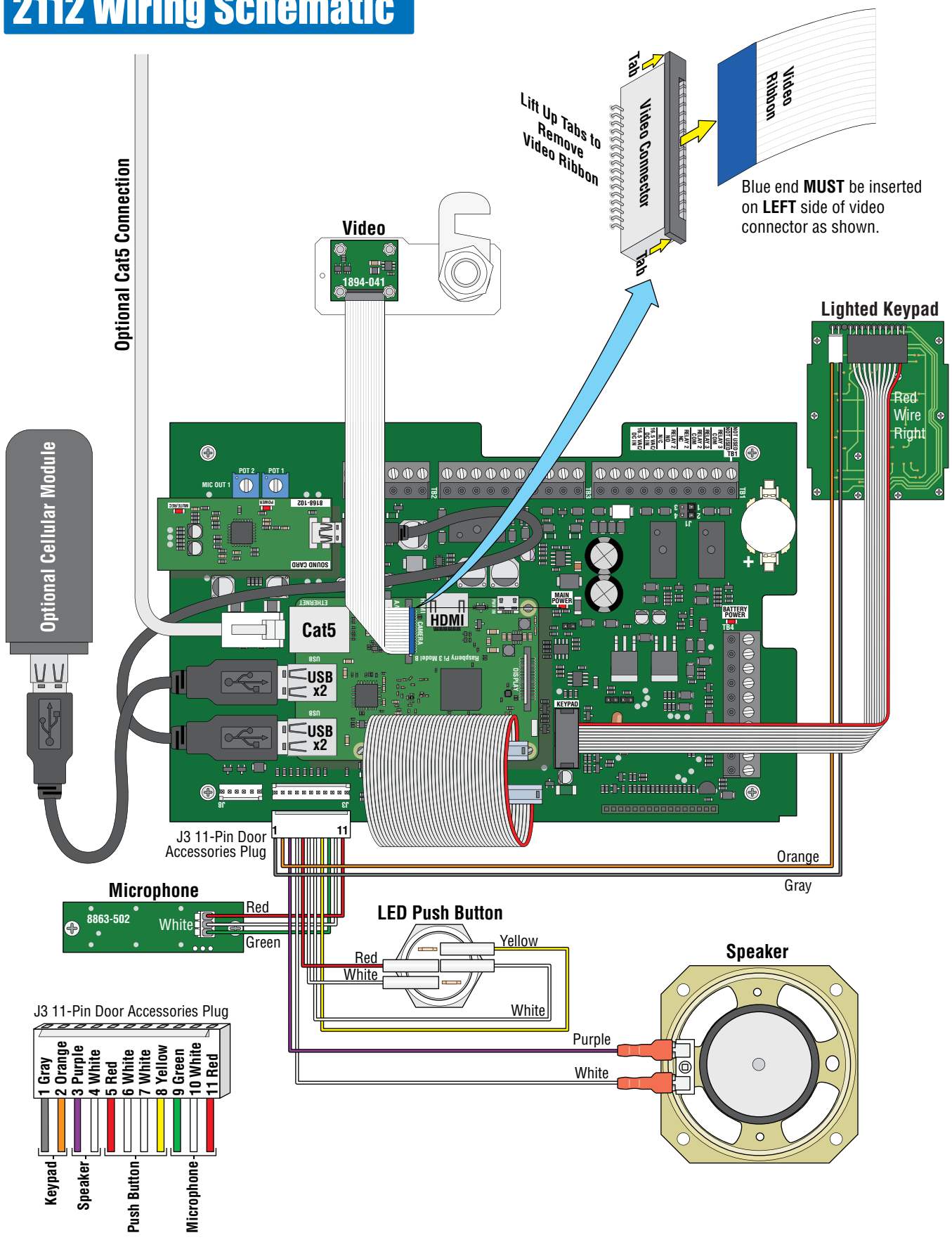
Volume is adjusted online using the internet browser. Adjust as desired.

If the phone line is not active, something went wrong during the registration which must be corrected. If still having problems, call DoorKing tech support.

2108 Wiring Schematic



2112 Wiring Schematic



Installation/Owner's Manual

2100 Series

Internet/Cellular Programmable Video Telephone/Access Control System

Use this manual for circuit board 8863-010 Revision C or higher.

2112-065-T-10-24

Control a main door / gate and two other entry points



Download the smart phone App (**DKS 2112 Resident App**) at:



Android-version 8 or higher OR **iphone 6-with IOS 9 or higher**

Register and Program your Entry System at:
<https://dks2112.com>

www.doorking.com

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