QuikStor
Since 1987

Security and Software

Guardian Access Control System Installation Guide

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QuikStor Security and Software
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Please Read this Introduction before Starting Install

Please take a moment to read through this introduction before installing your new QuikStor Guardian Series access control products. This has been designed to save the installer time in the pre-planning and installation stages. This outline will cover all possible questions regarding minimum system requirements, materials, standards, installation, and trouble shooting tools in order to achieve a fully functional QuikStor access control system.

Please keep in mind that we have a fully trained and staffed Technical Support Department at your disposal that can assist you with questions or concerns during the entire installation process.

To reach the Technical Support Department please call (800)321-1987 8am to 5pm PST Monday through Friday

Tools Needed for Installation

- ☐ Fish Tape
- ☐ Electrical tape
- ☐ Wire Nuts
- ☐ Dolphin Connectors™
- ☐ Phillips-head screw driver
- ☐ Flat-head screw driver
- ☐ Wire strippers
- ☐ Wire lube
- ☐ Wire markers
- ☐ Sharpie ™ felt marker
- ☐ Hammer
- ☐ Multi-Meter
- ☐ Socket Set
- ☐ ½ Masonry Bit
- ☐ Hammer Drill

QuikStor Recommends the Following Wire

- ☐ 18/2 for all 12VDC, Relay, and Bypass wiring
- ☐ 18/2 OAS (shielded) for intercoms
- ☐ 18/2 OAS (shielded) for all data transmissions
- ☐ RG-59 (keypad cameras under 700ft)
- ☐ RG-6 (keypad cameras above 700ft)

NOTE: If you are installing a keypad system with wireless data communication, disregard the 18/2 OAS data wiring and references to the Surge Board in this document. Be sure to read the wireless section on page 13.

Wiring Requirements

- ☐ 12 VDC runs should be no longer than **200ft** (*please note that the keypad needs a minimum of 11.70 volts DC in order to operate at an optimum service level*)
- ☐ Data runs over **1000ft** must use 18 gauge wire or larger to ensure proper signal strength is met
- ☐ Earth Ground wiring – grounding is most effective at short distances as electricity travels to the point of least resistance. All grounding locations should be **6' or less** from the Surge Board.
- ☐ Splices made on 18/2 should always be done with wire nuts or using a suitable termination/splice block
- ☐ Any splices made in underground junction boxes or in an area where water or other foreign materials could short the wires, they must have a wire nut (or similar connector) filled with silicone or like material
- ☐ Keypads may be daisy chained or configured in a star topology
- ☐ BNC coax crimps should be used at all terminations and splice points when working with video coax
- ☐ BNC couplers should be used at all splice locations when working with video coax (*it is recommended that you wrap the splice with electrical tape to avoid grounding the video signal*)

🦺 Pre-Installation Tips

- ☐ Check the gate motor for a 120v outlet. This can provide you with an excellent local source of power for your keypads and prevents severe voltage drop issues) Confirm that the power outlet has a constant-hot connection and is not on a timer or photocell device.
- ☐ Plan on running a couple of spare 18/2 OAS Shielded wires. This can help in case you forgot something or need it for future add-ons to the system.
- ☐ Keypads should be on their own individual power supplies (QuikStor always includes enough power supplies at the time of the sale to meet these requirements. If you find you don't have enough please contact QuikStor or your sales representative immediately).
- ☐ QuikStor recommends and provides a switch that bypasses the keypad system in the event that the gate needs to be held open for an extended length of time. Please keep this in mind when you are planning your wire pulls. An extra 18/2 cable between the office bypass switch and gate motor will be needed.
- ☐ Please make sure your client has installed the QuikStor Express software and data entry have been completed before you head out to complete the installation.
- ☐ Make sure all conduit is complete before starting the job
- ☐ Verify that all conduits follow a logical pattern as suggested by the QuikStor typical conduit layout CAD drawing included in this document. (*Note that the QuikStor typical conduit layout drawing is merely a suggested guideline and can be deviated from or done in other ways based on your own personal experience. In no way does QuikStor accept any liabilities for mishandled conduit runs, improper conduit sizes, improper interpretations, or misused guidelines based on this layout.*)

By following these suggestions you should be well on your way to a quick and easy installation of your new QuikStor access control products.

Conduit Requirements

- [ ] A minimum of one ¾" to 1" conduit is needed from the office management area to the gate operator, junction box, or Christie™ box.
- [ ] A minimum of one ¾" conduit to each keypad stubbed up approximately a foot above grade is needed.
- [ ] A minimum of one ¾" conduit is needed from the junction box or Christie box to the gate motor for the relay control wires if your layout does not allow stubbing up next to the gate motor.
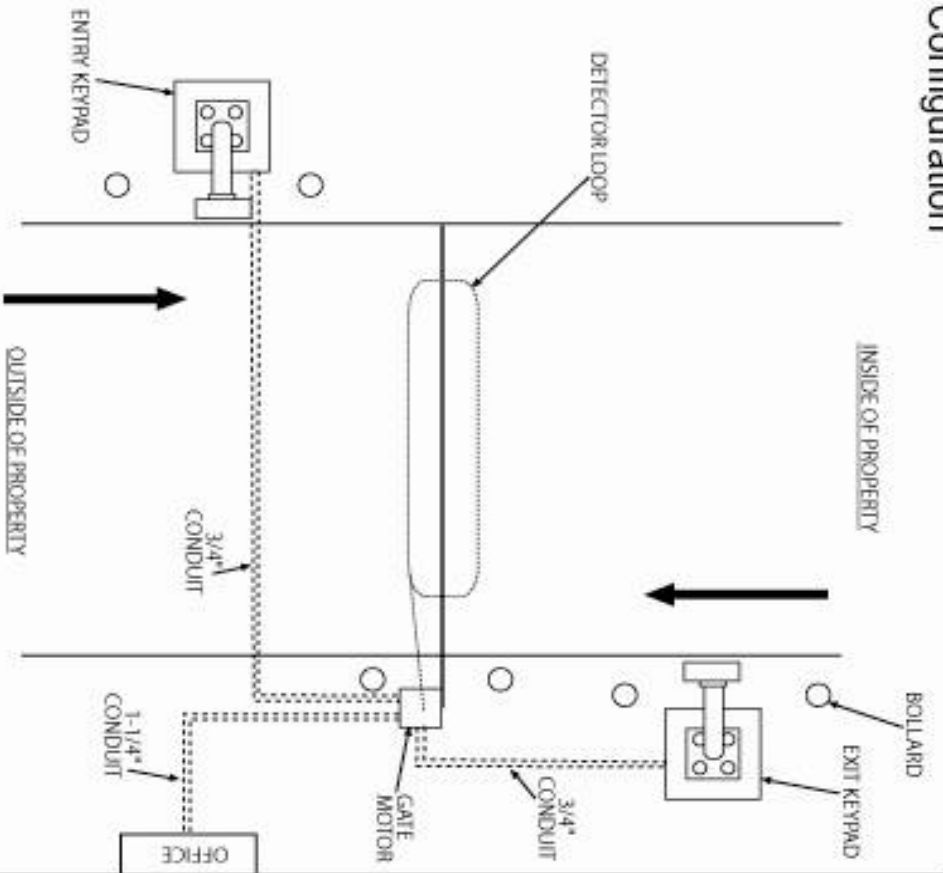
Note: If the keypads have cameras it is necessary to use 1' conduit or larger for the main run from the office

The next page contains a sample CAD layout for a typical QuikStor conduit layout.

(*Note that the QuikStor typical conduit layout drawing is merely a suggested guideline and can be deviated from or done in other ways based on your own personal experience. In no way does QuikStor accept any liabilities for mishandled conduit runs, improper conduit sizes, improper interpretations, or misused guidelines based on this layout.*)

Gate Keypad Configuration
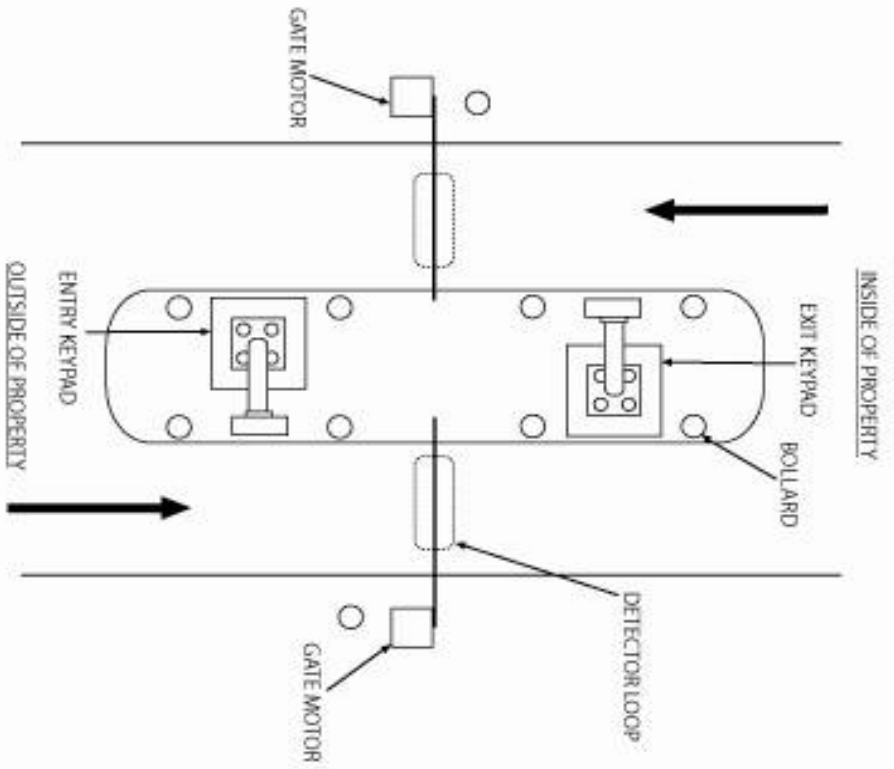
DUAL GATE OPERATORS WITH AN ISLAND

GATE MOTOR

INSIDE OF PROPERTY

OUTSIDE OF PROPERTY

ENTRY KEYPAD

EXIT KEYPAD

BOLLARD

DETECTOR LOOP

GATE MOTOR

SINGLE GATE OPERATOR/NO ISLAND

ENTRY KEYPAD

DETECTOR LOOP

INSIDE OF PROPERTY

OUTSIDE OF PROPERTY

3/4" CONDUIT

1-1/4" CONDUIT

GATE MOTOR

3/4" CONDUIT

BOLLARD

EXIT KEYPAD

OFFICE

QuikStor
Security and Software

13908 Ventura Blvd
Sherman Oaks, CA 91423
Phone 1-800-321-1987
Fax 1-818-501-5785

DRAWING DESCRIPTION		
ACCESS DEVICE SETUP		
Orig. Date 4/23/03	Pages 1 of 1	Drawn By Renee Kaplan

Installation Steps

Installation tip!

It is always a good idea to label your wires with a Sharpie™ or wire markers! This will assist you during the installation and helps you or others later during service.

Wire Pulls

Pull the main wire run leaving enough slack to splice wires properly. The main run usually consists of the following wire:

Typical two keypad system with intercoms:

- ☐ One 18/2 OAS Shielded for data communications
- ☐ One 18/2 for 12 VDC for each keypad (this is if you have not chosen to power keypads locally from the gate motor)
- ☐ One 18/2 OAS Shielded for intercoms to each keypad (Must be home run back to the office base station!)
- ☐ One 18/2 for bypass or gate over ride directly to gate motor terminals
- ☐ One or two spare 18/2 OAS Shielded for future use

An additional 18/2 for power and RG-59/RG-6 for video data will be needed for keypads with cameras

The keypad will need the following wire pulled to it from the common junction box or gate motor.

- ☐ One 18/2 OAS Shielded for data
- ☐ One 18/2 for 12 VDC
- ☐ One 18/2 for relay
- ☐ One 18/2 OAS Shielded for Intercom
- ☐ Optional one for spare or required KNOX key switch (*If you are required to install a KNOX key switch QuikStor advises that it is best to run a separate wire directly to the gate operator keeping the QuikStor system independent of the KNOX switch*)

An additional 18/2 for power and RG-59/RG-6 for video data will be needed for keypads with cameras

Pull keypad runs leaving at least 5' of extra wire from the finished grade to thread through the gooseneck.

The different types of keypad installation

Guardian keypads can be used to open gates, access doors, and/or restrict elevator control. In this manual we focus on the most common keypad installations which are gates. Elevator control setup can be found in the, *Guardian Series Relay Board - Installation Manual*. Access door setup is nearly identical to gates except in two respects. First an access door keypad is usually mounted on the wall next to the door versus a gooseneck. The hardware used to mount the keypad will depend on the material you are mounting to (concrete, drywall, etc).

The second difference is that instead of connecting the dry contact relay of the keypad to a gate motor it will be connected to either an electric door strike or magnetic lock. Since the relay on the Guardian keypad is a dry contact, the voltage you choose for the door hardware control does not matter, though QuikStor recommends staying with a 12VDC or 24VAC lock system. Review the installation instructions for your particular door hardware on how to properly power and wire your hardware to the Guardian keypad relay.

Polycarbonate or Aluminum Housing?

The QuikStor Guardian keypad is offered with a choice of two housings:

- **Polycarbonate** - this is a cutting-edge design that provides a corrosion-resistant, and surge-resistant blend of high-strength polycarbonate. It provides the same vandal & weather-resistant protection for your keypad circuitry, but with the added benefits of improved styling, customized logo, keypad lighting, and integrated components. When a Guardian keypad is purchased in this housing it is eligible for a seven-year warranty!

- **Aluminum** - this is our original design that provides a more traditional styling that many owners still prefer. Due to its metal characteristics, it does not qualify the keypad for the seven-year warranty.
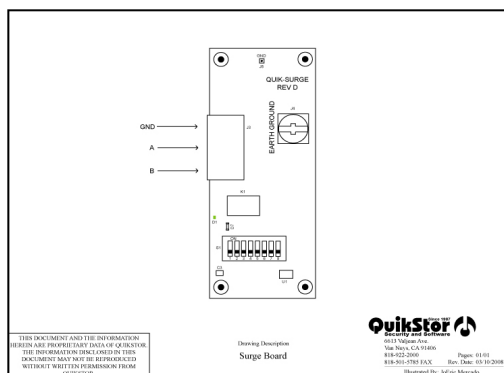
Other than the features listed above, all other functions of the keypad itself are identical between the two.

Mounting Goose Necks

QuikStor provides 3/8" REDHEAD brand drop in anchors. We feel that this is a suitable way to anchor our goose neck system but if you have an alternate method of anchoring products to concrete please feel free to use it.

- [ ] To mount the goose neck use your fish tape to pull in the excess wire through the top of the goose neck. Then mark the four holes on the level 18x18x18 concrete pad.
- [ ] Mark your hammer drill's ½" bit to the desired depth and begin boring out your first hole.
- [ ] It is always helpful to anchor the goose neck with the first REDHEAD and check to see if your pre–marked holes align. Sometimes the drill may drift. This will allow you to compensate on your next hole in order to get the proper alignment.
- [ ] Tighten bolts
- [ ] Ensure the keypad/gooseneck is level (it may be necessary to shim the bottom of the gooseneck in order to achieve a level appearance
- [ ] Place gooseneck base cover on then proceed to installing the keypad

Keypad installation

QuikStor provides carriage bolts to mount the keypads to the back plate of the gooseneck. Mount and level the keypad to the gooseneck utilizing the pre-drilled mounting holes and proceed to terminate the wiring to the keypad.

Lightning Protection – Surge Board

Electronics such as access control keypads must endure harsh environments, often including lightning and other power surges. This is why QuikStor has designed a revolutionary module called the, "Surge Board". This board goes on all access

control equipment that is hardwired (versus wireless) including keypads, relay boards and the UltraConverter. This device acts like a circuit breaker or fuse between the device it is protecting and the incoming data wiring. Simply snap it onto the device it is protecting and connect the data wires to it by using the removable wiring block.

In the event of a power surge the Surge Board acts like an automatic circuit breaker by momentarily breaking the data connection between the device and the wiring. When the surge has dissipated the connection is restored and communication resumes as normal. In the event of an extreme lightning-related or other power surge the Surge Board sacrifices itself to protect the device it is attached to. At that time you simply remove the sacrificed one and snap in a new Surge Board, similar to an automobile fuse. Surge Boards are inexpensive and easily replaced without the need for expensive component replacements.

IMPORTANT – PLEASE READ!!!

Your new Guardian Series Access System has been through extensive testing for surge dissipation and lightning resistance. Through tests ran at independent laboratories, as well as in the field, it has been determined that having a grounding rod driven into the ground near each keypad stand will provide the highest level of protection from electrical surges. When combined with the above mentioned Surge Board and #12 or larger solid conductor ground wire, your keypad system will greatly improve the possibility of surviving a nearby lightning strike or other electrical disturbance. Simply connect one end of the grounding wire to the "Earth Ground" screw of the Surge Board and the other end to a grounding clamp around the grounding rod. For added protection it is also recommended to run a separate grounding wire between the base of the keypad stand and the grounding rod.

If a grounding rod is not available you may run the same grounding conductor down the keypad stand from the Surge Board and terminate it to the mounting bolts of the keypad stand. This is a much less effective solution and increases the possibility of lightning related surge damage. NEVER install a keypad without a grounding wire running between the "Earth Ground" of the Surge Board and a solid grounding point!

Keypad wiring breakdown

It is important to make strong mechanical and electrical connections. Below is a breakdown of each wire, wire type and wire color that is needed to make your new keypad operational.

Surge Board (Data Communications)
- ☐ **A –** red wire of 18/2 OAS Shielded wire
- ☐ **B –** black wire of 18/2 OAS Shielded wire
- ☐ **G –** drain wire (silver unclad wire) of 18/2 OAS Shielded wire (only connected on the keypad Surge Board. Do NOT terminate the drain wire onto the UltraConverter or allow it to touch the drain wires from other keypads.
- ☐ **Earth Ground** – this wire is to be run between the Surge Board and a grounding point near the keypad gooseneck. You may use a #12 solid ground wire between this terminal and a secure grounding point on the metal keypad housing, keypad stand or nearby grounding rod (preferred). NEVER OPERATE YOUR KEYPAD SYSTEM WITHOUT THE EARTH GROUND CONNECTED AND PROPERLY GROUNDED!

Power
- ☐ **12V** – red wire of 18/2 unshielded wire
- ☐ **GND** – black wire of 18/2 unshielded wire

NOTE: there is an auxiliary 12VDC terminal next to the power block that can be used to feed 12VDC power to a pinhole camera or other keypad. Please be sure to calculate voltage requirements before using this power block as voltage drop could negatively affect the operation of the keypad.

Relay
- ☐ **NO** – Normally Open – red wire of 18/2 unshielded wire
  OR
- ☐ **NC** – Normally Closed – red wire of 18/2 unshielded wire
- ☐ **COM** – black wire of 18/2 unshielded wire

NOTE: The choice to use Normally Open or Normally Closed will be based on the type of gate motor you have or type of access control device you are controlling.

Intercom (Optional)
- ☐ **STN** – red wire of 18/2 OAS shielded wire
- ☐ **COM** – black wire of 18/2 OAS shielded wire
- ☐ **SPK** – the two 18 gauge speaker wires will be pre-wired from QuikStor to the two SPK terminal locations. If you need to remove them for any reason

they are interchangeable and you can place either wire on either terminal without negative consequence.

Wireless Keypad Communication

The new Guardian Series access control system has the ability to communicate wirelessly. This is a great option if conduit runs are not possible, you are in a high lightning area and wish to reduce wiring exposure or if you simply want reliable communication that will never require maintenance & replacement as wire typically does over time.

When using the wireless radio system you will not use a Surge Board for data communication. Instead you will use a Radio Board with a small radio & antennae connected to it. The standard radio/antennae combination is rated at 800 ft. line-of-site. Obstacles will reduce this range.

The only configuration required when installing the wireless system is to flip dip switch #8 from OFF to ON (up position) on the bank of DIP switches. See drawing below for clarification if needed. This setting will be pre-configured by QuikStor if the component was ordered with a radio. However if you are changing from hardwired to radio, you will need to change this DIP switch setting which can easily be done in the field with a small flat-head screwdriver.
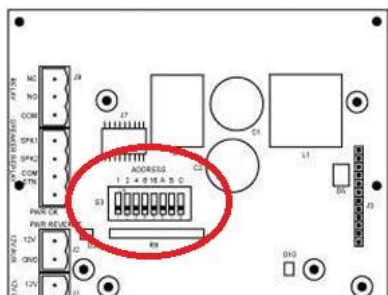
The radio, board and antennae should be pre-installed by QuikStor. Simply power the wireless devices and they will automatically detect each other. There are RANGE and COMMUNICATION (COM) LEDs located on the Radio Board to assist you during setup. In addition there is a power LED to signify that the radio is receiving the necessary power.

NOTE: Only the UltraConverter can have a Surge Board and Radio Board installed at the same time. The Keypad and Relay Boards must only have one or the other installed as there is no need to ever have both on a single board.

There is no problem mixing and matching wireless and hardwired components at a single site however. If you will be doing that, simply confirm that you have both a Surge Board and a Radio Board installed on your UltraConverter.

Setting the ID on your keypad

All Guardian keypads are pre-configured at the factory with the proper ID. Do NOT change this ID in the field unless instructed by a QuikStor technician!

This bank of dip switches allow you to ID the keypad so that it can be recognized on the RS-485 data network. The ID schema is based on binary numbers (i.e., 1,2,4,8,16,32…) So if you want the ID to be 6 you would have dip switches 2 and 3 up equaling 6. Contact QuikStor Technical Support if you have any questions on addressing your keypad, however by default your keypad will come pre-configured to the correct ID per the facility contract.

Office Setup

Mounting the UltraConverter Junction Box

Mount the QuikStor junction box with the UltraConverter inside as close to the management computer as possible as the USB cable from the UltraConverter will need to plug directly into management computer. A USB extension cable up to 50' may be used as necessary. It will also need to be in an accessible place to use the gate bypass switch and for any service needs that arise.
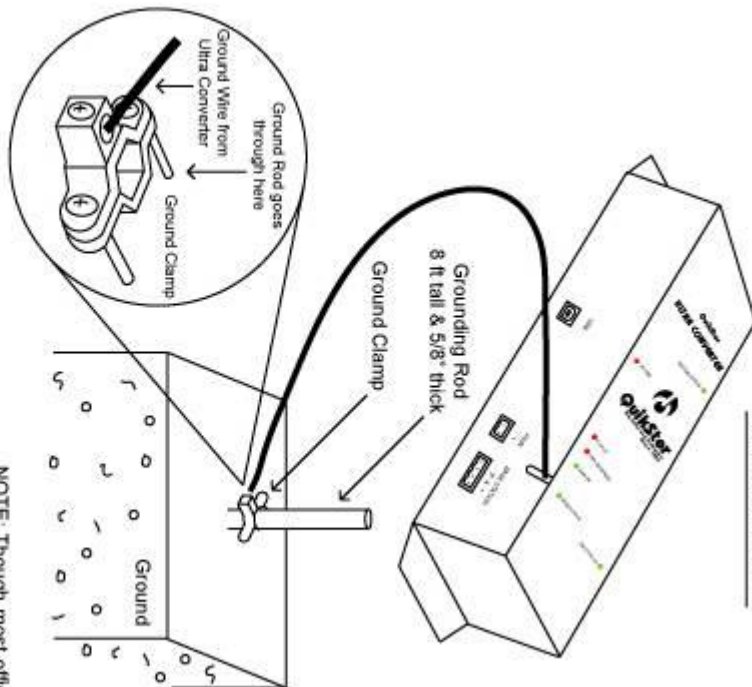
Terminating the Wiring and USB cable

☐ Terminate the data wires on the appropriate terminal blocks – Please note that the drain wires from the Surge Boards at the keypads are NOT connected on the UC end. Only the 'A' and 'B' terminal wires are connected on the UC and the GND terminal is left blank. Be sure to coil and tape the drain wires coming from the keypad's GND terminals as to make sure that they do not touch other grounding locations or each other. This can cause a ground differential and increase the possibility of lightning or surge-related failure.

☐ Terminate the 12 VDC power supply wires

☐ Terminate the USB PC communication cable from the UltraConverter to an available USB port on the management computer

☐ PLEASE PAY SPECIAL ATTENTION TO THE GROUNDING REQUIREMENTS FOR THIS DEVICE! A detailed diagram is provided on page 16. Not properly grounding this device can cause premature failure.

☐ Please see wiring diagrams on pages 15-18 if there are any questions or concerns

After you mount and power up the UltraConverter and keypads you are now ready to try and establish communication with the keypads and setup the gate operation parameters.
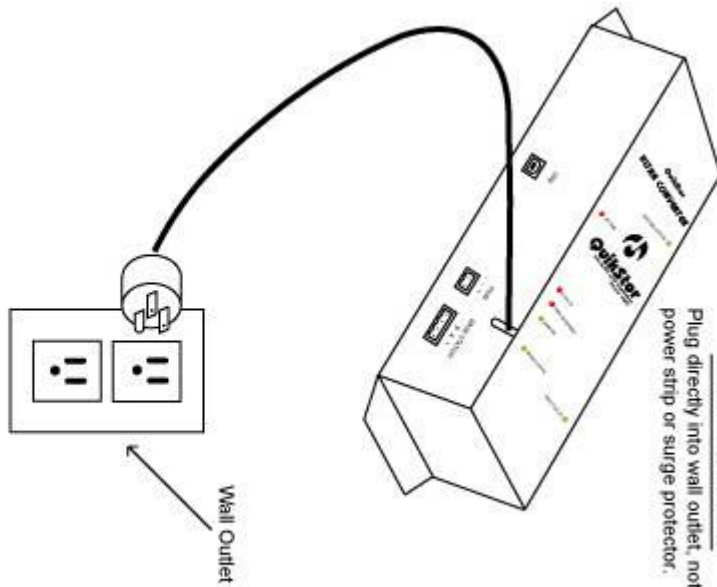
The following pages contain typical wiring diagrams for QuikStor keypads and office equipment. Please connect all of the appropriate wires to the gate operator, keypads, converters, computer and move on to the final check list before trying to establish communications with your keypad network.

Drawing Description

Ultra Converter to Computer

QuikStor Security and Software
6613 Valjean Ave.
Van Nuys, CA 91406
818-922-2000
818-501-5785 FAX

Pages: 01/01
Rev. Date: 04/04/2008

Illustrated By: JoEric Mercado

Preferred Method

Ground Wire from
Ultra Converter

Ground Rod goes
through here

Ground Clamp

Ground Clamp

Grounding Rod
8 ft tall & 5/8" thick

Ground

Alternate Method

Plug directly into wall outlet, not
power strip or surge protector.

Wall Outlet

NOTE: Though most offices will not have a grounding rod or cold water pipe available for grounding, we highly recommend that method over simply plugging it into a local outlet. However if that is all that is available we do provide a grounded "U-Ground" outlet that you can use. Do NOT use this system without an "Earth Ground" wire securely connected to a grounding source.

Drawing Description
Ultra Converter Grounding

QuikStor
Security and Software
Since 1987

6613 Valjean Ave.
Van Nuys, CA 91406
818-922-2000
818-501-5785 FAX

Pages: 01/01
Rev. Date: 04/10/2008

Illustrated By: JoEric Mercado

Top of Ultra Converter

12 VDC -
Black Wire

Red Wire
12 VDC +

12 VDC -
Black Wire

Red Wire
12 VDC +

Ultra Converter to Guardian Keypad Board

Drawing Description

Surge Board attached here

Do not connect GND wire from Keypad to Ultra Converter. Cut or wrap wire.

Guardian Keypad Board with Attached Surge Board

QuikStor
Security and Software
Since 1987

6613 Valjean Ave.
Van Nuys, CA 91406
818-922-2000
818-501-5785 FAX

Pages: 01:01
Rev. Date: 04.08.2008

Illustrated By: JoEric Mercado

Inside of Intercom Base

QUIKSTOR SECURITY AND SOFTWARE
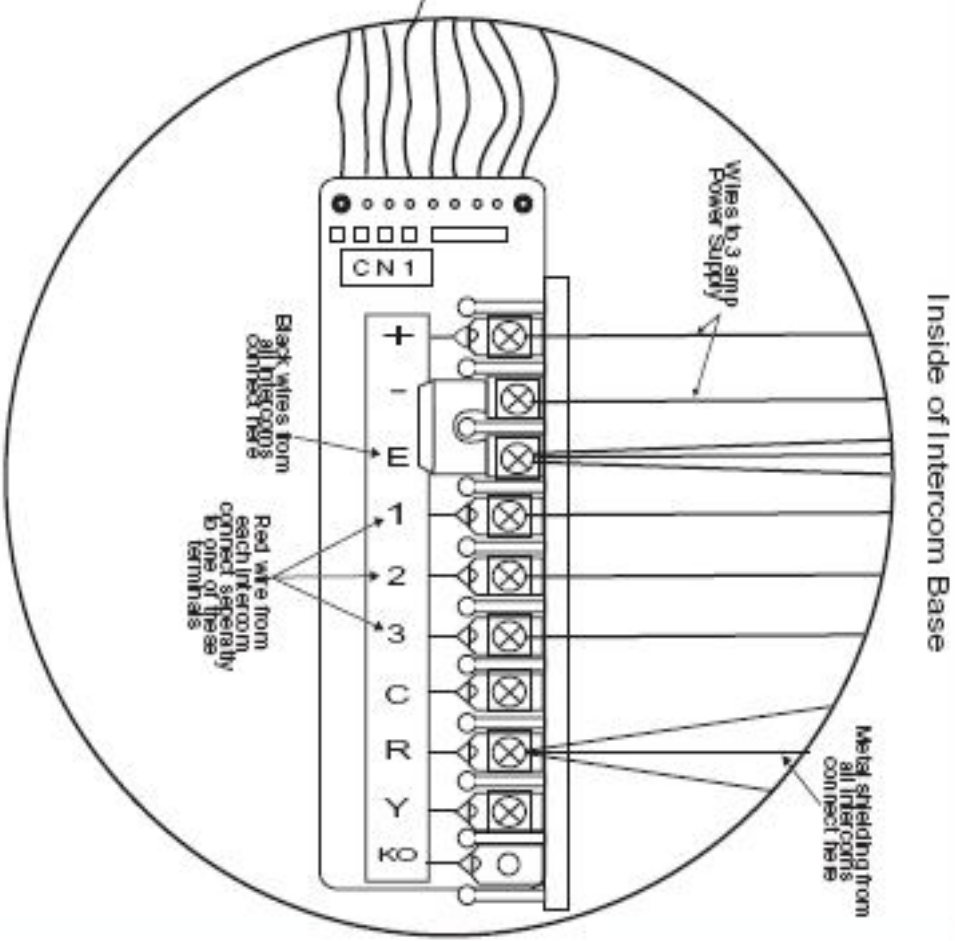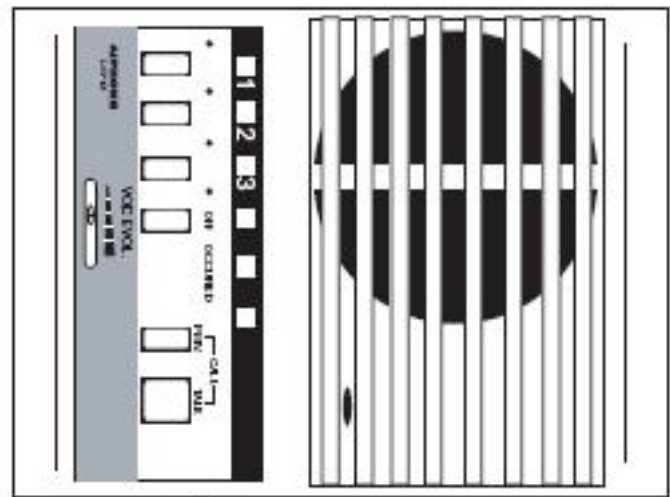
QuikStor
Security and Software

6613 Valjean Ave
Van Nuys, CA 91406-5817

Phone 1-800-321-1987
Fax 1-818-501-5785

DRAWING DESCRIPTION		
LEF 3 Diagram		
Orig. Date	Pages	Illustrated by
7/7/03	1 of 1	Renee Kaplan

Wires to 3 amp Power Supply

Black wires from all intercoms connect here

Red wire from each intercom connect separately to one of these terminals

Metal shielding from all intercoms connect here

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+ − E 1 2 3 C R Y KO

Final hardware check list

Before setting up your gates within QuikStor Express (QuikStor's Management Software), there are items that should be complete. If the site is not using QuikStor's Express management software please follow the documentation for the software used at that site. Contact QuikStor Support if there are questions not answered in that documentation.

Below is a basic checklist that will aid you. Please check off each item as it is completed:

- ☐ Your gate and keypad hardware is completely set up
- ☐ Your keypads are plugged into the UltraConverter
- ☐ IMPORTANT: do not connect the UltraConverter USB cable to the PC until the software is installed. Doing so could install the incorrect driver and cause communication issues with your keypads!
- ☐ Keypads should be powered up. You can verify this by pushing buttons on the keypad. You should hear beeps from the key presses and see a welcome message on your LCD screen.
- ☐ QuikStor Express Data Entry has been completed and can access the full QuikStor Express software (if applicable – if you are converting from another version of QuikStor software, this will not apply to you)
- ☐ Verify that the "Allcon" Integration is turned on. You can verify this by going to **File** / **Site Setup** / **Change Site Setup**, clicking on the **Additional** tab, where it will say "Allcon" (see screenshot below). If this is not the case, contact QuikStor Technical Support for assistance.

Minimum Computer Requirements

Operating System: Windows 2000, XP, Vista (32/64 bit), and Windows 7 (32/64bit)

USB Port: A free USB port is necessary to connect your new Guardian System to the management computer*.

Memory (RAM)
- o Windows 2000 – 256MB or higher
- o Windows XP – 512MB or higher
- o Windows Vista – 1GB or higher

* Though any USB port will work, we strongly recommend using a USB 2.0 port to provide the fastest connection between the PC and your new keypad system. Earlier versions of USB were extremely slow and result in slow or intermittent communication between your PC and access control system. Most computers purchased since 2000 will have USB 2.0 already installed.

Trying to establish communications for the first time

The first thing that you will do is have QuikStor Technical Support connect to your PC so that they can load and setup the requisite software. They will be loading two main software programs. The first is the interface program that runs in the background and communicates with the keypad system. This is called, "Allcon". The second is the user interface program called the, "Guardian Control Panel" or "GCP" for short. This is the program that you will use to setup your customized site settings.

Now that the software is loaded onto your machine you need only setup up those variables that are unique to your facility, such as time zones, grace period, etc.

If you are using the Quikstor Express (QSX) management software, you can easily configure these settings by following the instructions in your QSX manual or help files.

If you are using different management software that integrates with the Guardian Access Control System, you will set all of these variables in the Guardian Control Panel. You will also need to keep this program open if you wish to view real time gate activity.

Using the Guardian Control Panel to Configure your Keypads

Note: for the purposes of this documentation we will assume that you are using QSX. Many of these features will work regardless of which management software you are using, but others are QuikStor specific. If you are using different management software please follow that vendor's instructions and the "Non-QuikStor Management Software Integration" section below.

IMPORTANT! When entering codes into your management software or GCP, please note that there can be no leading zeros in the gate code (i.e. 000123) or apostrophes in the code name (i.e. Bob's Code)! If you have existing codes in this format, please correct them before using your Guardian system.
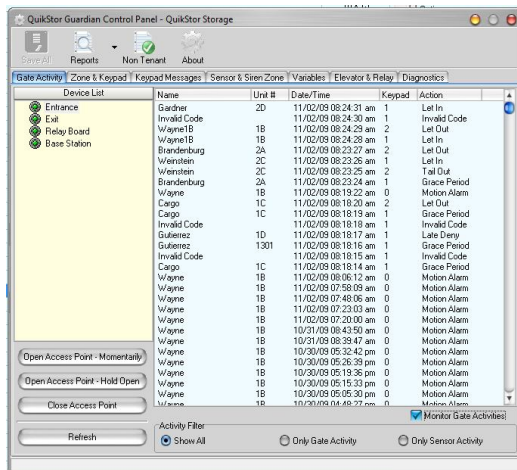
Your daily operations with the gate will be done solely within QSX, including reviewing real-time gate activity and running gate reports. However you will need to use the Guardian Control Panel to setup your initial gate configuration settings.

The screen to the left shows a typical 3rd party management integration that displays gate activity, non-tenant codes, and reports.

At the top of the Guardian Control Panel are five buttons that are global to all tabs.
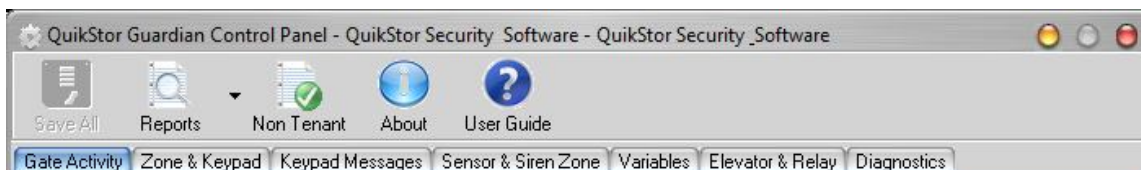
They are:

- o <u>Save All</u> – after you have changed a setting, or group of settings, click this button to send the updated information to the keypads.

- o Reports – click this button to run activity reports. There are four reports that you can run from the Guardian Control Panel:
  - o List of All Gate Codes
  - o Gate Codes for a Selected Unit
  - o Gate Activity
  - o Gate Activity for a Selected Unit

Note: The Reports button will only be available if you are not running QSX

- o Non-tenant Code – this button is only used for sites not running QSX. It allows the manager to add a code for contractors, trash pick-up, etc. When you click this button you will see a screen like the one below where you can enter in a name, code, access rights and a keypad zone.


- o About - this tells you the version of the software and a little bit about the creators.
- o User Manual - click this button to open a PDF version of the latest Guardian User Manual

Below the buttons are seven (7) tabs that allow you to customize your Guardian Access System experience.

✓ Gate Activity – this screen gives you real time gate activity, reporting functionality and status of each QuikStor Access Control Device. On the left frame you will find a list of all of the keypads at your facility, any relay boards and your wireless base station (if you have one). Next to each device will be one of the following indicators:

- o Green – a green LED indicates that this device is online and properly communicating with the PC.

- o <u>Yellow</u> – a yellow LED indicates that there has been no polling response from the device for 30-60 seconds. If no communication continues for over one minute the status LED will turn to red. When the device is brought back online it will return to green within 2-3 minutes.
- o <u>Red</u> – a red LED indicates that this device is setup in the software, but is not communicating with the PC.
- o <u>Blinking Orange</u> – a blinking orange LED indicates that the access point is being held open by the software. To return the LED to green simply click the "Close Access Point" button.

✓ **NOTE**: a quick reference guide of these colors and their meanings will pop-up if you hover you mouse over an LED or device in the list.
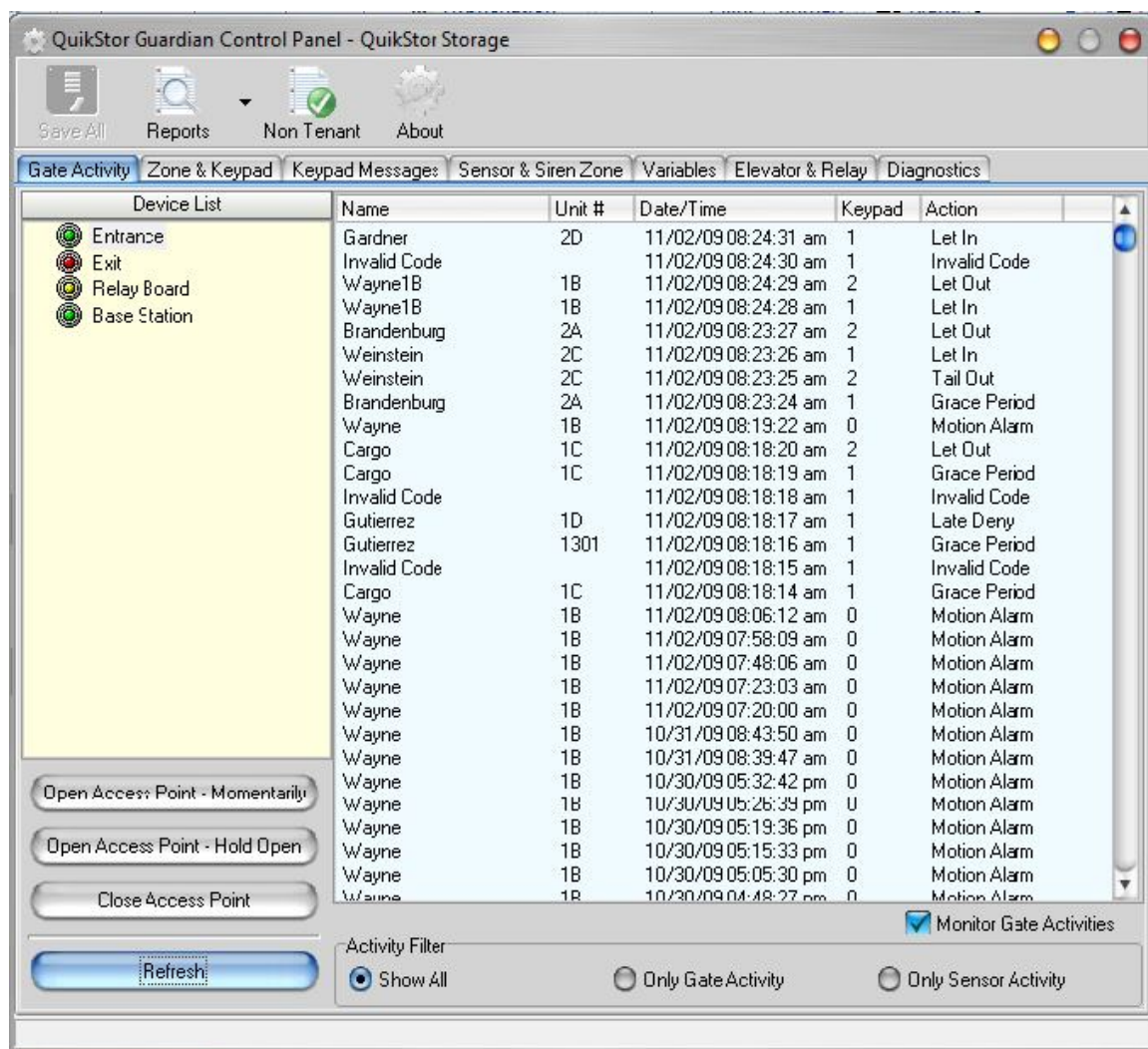
Below the device list there are five buttons to control immediate actions. Those buttons are:

- o Open Access Point – Momentarily – when you click this button you will select which keypad you want to trigger to open a gate, access door, etc. The relay will pulse momentarily based on the variable setting on the "Variables" tab. This is a handy button to use to let in a vendor or other person that does not need a code.
- o Open Access Point – Hold Open – similar to the above command, but this one will actually hold the relay closed for the chosen device. You would use this if you wanted to hold a gate or access door open. The device shows a blinking orange LED indicating the device is being held open by the software.
- o Close Access Point – use this button to open the relay for a device that has been held open.
- o Silence All Alarms - this button will only appear if you have QuikStor wireless door alarms installed at your facility. Clicking this button immediately quiets all sirens at the facility.

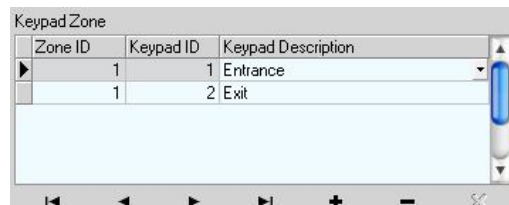- o Refresh – click this button to refresh the keypad list and gate activity list
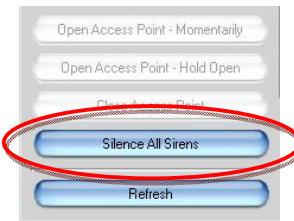
The right frame of this tab is where the real-time gate/sensor activity will be displayed. When an event happens it will list the name of the tenant, unit number, date/time of the event, which keypad the event happened at and a description of the event such as "Let In".

Below the gate activity window are your Activity Filters. Here you can choose to display "Show All", "Only Gate Activity" or "Only Sensor Activity" based on your personal preferences. Remember that all of this activity will also be displayed in your QSX activity window.

- ✓ Zone Setup – this tab allows you to define various zones as well as create descriptions for your keypads and relay boards. Here to you can define Holidays and add additional keypads and relay boards into the system. Let's walk through each section of this tab:

  - o Time Zone – here you can setup time zones for your tenants, managers and vendors. Each zone is designated a number or "Zone ID". Below that you can enter a description for the zone, such as Holiday Hours. Finally there is a 7 day setup for both open and close times, starting with Monday. All times are in 24HR format. If you want all of your hours for a particular zone to be the same as

Monday's, simply click the red down arrow button and it will automatically populate the remaining days with Monday's time setup. Simply click the ADD or DELETE buttons at the bottom of this frame to add or remove any time zone. You can also click one of the two checkboxes next to each day to designate that day as 24hour access or "Closed All Day". When designated 24hour the time fields will turn green. When designated as "Closed All Day" the time fields will turn red.

- o Holiday – most storage facilities will close their site down for at least a few holidays throughout the year. This box will allow you to define those holidays. Simply enter in a description like, "Memorial Day" followed by the date. When you click on the date field a calendar comes up which easily allows you to select the date you are looking for. Click the ADD or DELETE buttons at the bottom of this frame to add or remove holiday closings.

- o Keypad Setup – this is where you add keypads into your system. Click on the ADD button on the bottom of this frame and enter in a new "Keypad ID", "Description" and "Keypad Type" where "Keypad Type" is an Entrance/Access Door, Exit or Elevator. These can be selected by using the drop down box in this field. You can delete a keypad from the system by clicking the DELETE button at the bottom of this frame.

- o Keypad Zone – here you define which keypads belong to which keypad zone. A keypad zone is one or more keypads that a tenant may access at the facility. In this form you would enter the zone number, followed by one keypad device on the first line. Each line can have one zone, and one device listed. For example, if you have a two keypad system and you want them both to be part of keypad zone #1, then you would have two lines as shown in the picture.
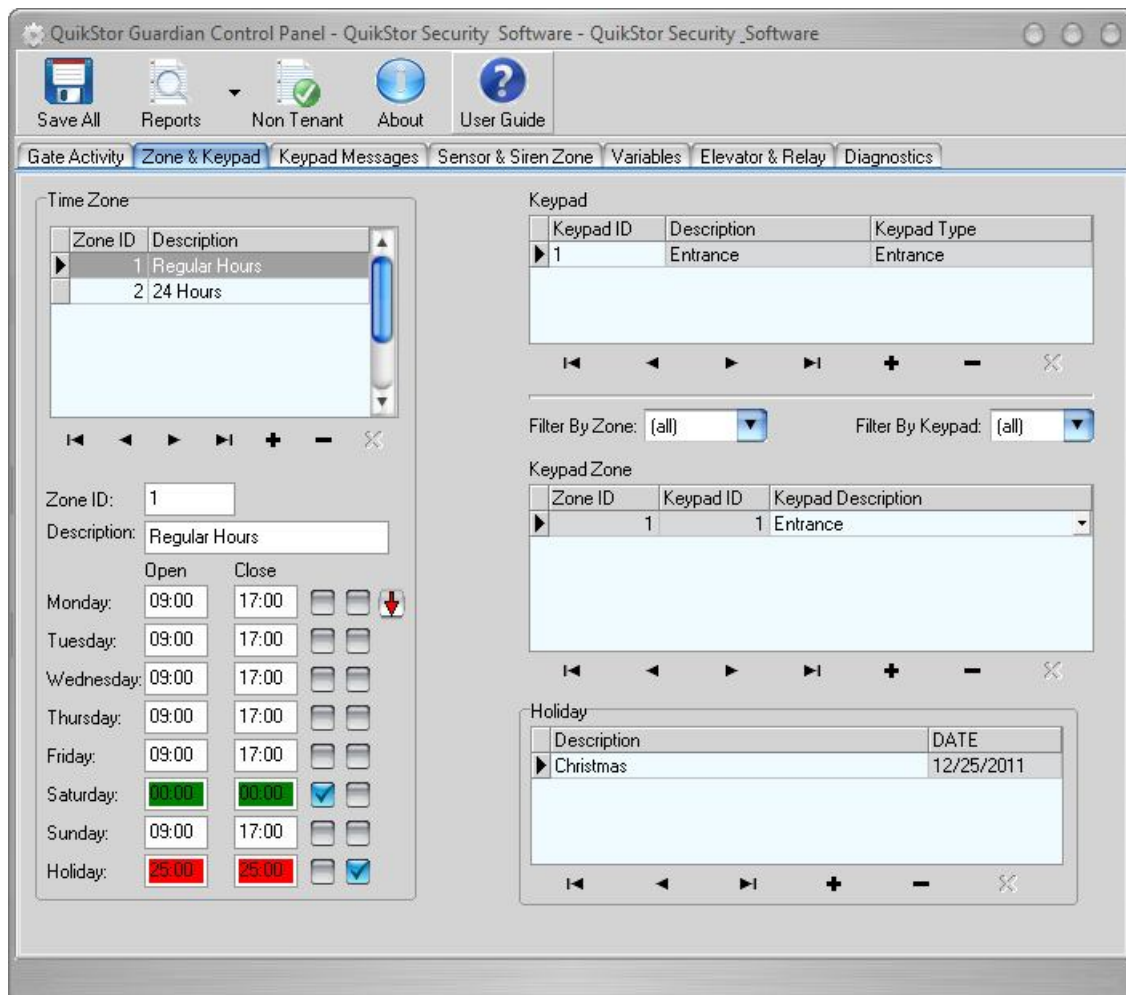
✓ <u>Keypad Messages</u> - the keypads come from the QuikStor factory with standard industry messages for various events, such as letting someone on to the property, notification of delinquency, etc. However you can click on this tab to modify several of these messages to customize them to your own needs.
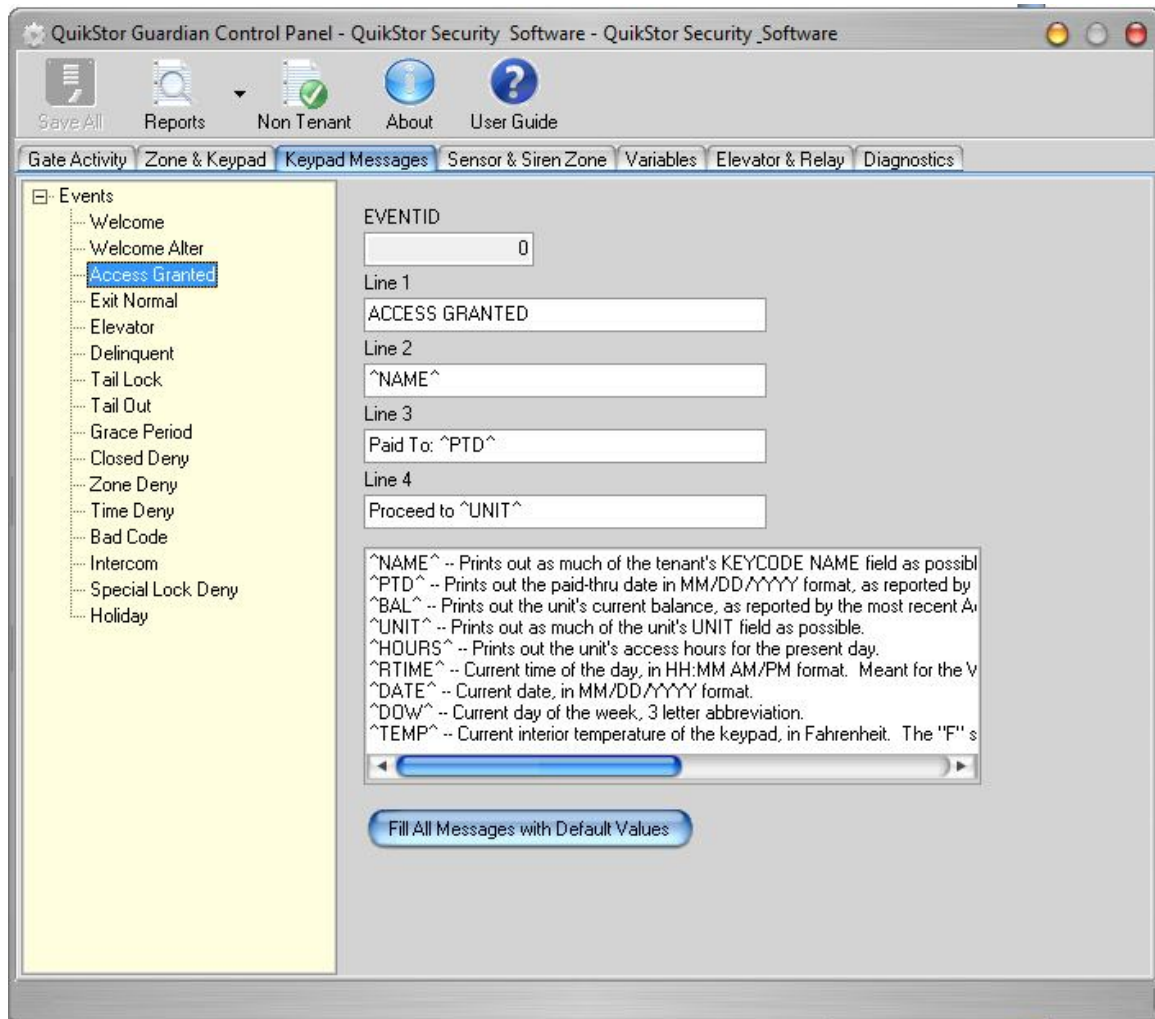
Below is a list of merge field style variables that you can use with your keypad messages to help personalize the messages your tenant receives:

➢ ^NAME^ -- Prints out as much of the tenant's Last Name as possible

➢ ^PTD^ -- Prints out the paid-thru date in MM/DD/YYYY format

➢ ^BAL^ -- Prints out the customer's current balance

➢ ^UNIT^ -- Prints out the customer's unit number

➢ ^HOURS^ -- Prints out the customer's access hours for the present day

➢ ^RTIME^ -- Current time of the day, in HH:MM AM/PM format. Designed for the welcome screen only!

➢ ^DATE^ -- Current date, in MM/DD/YYYY format.
➢ ^DOW^ -- Current day of the week, 3 letter abbreviation. For example, FRI for Friday

➢ ^TEMP^ -- Current interior temperature of the keypad, in Fahrenheit. The "F" symbol will be appended to the value.

✓ Sensor & Siren Zone –

There are two buttons at the bottom of this tab:

- *Import from QB* – this button can be used to import a sensor database file from the legacy QuikStor QB wireless alarm controller.

- *Sensor Status Report* – this report provides the user or QuikStor Support a quick way to identify the status of the wireless sensors, specifically to confirm if they have all checked in recently.

  o **Siren Zones (Wireless Alarm Systems only)** – you can set up siren zones so that only sirens in the affected areas sound. For example, if you have a unit on the 3rd floor you may want to create a siren zone that only sounds the sirens on the 3rd floor.

    ▪ Active Zone – select "Yes" if you want this zone to actively sound a siren when activated. "No" if you do not.

    ▪ Relays – enter which relay is triggered when this siren zone is activated. If you would like to have multiple sirens, on multiple relays, sound at the same time just separate them with commas (i.e. 61,62,63)

  o **Siren Settings (Wireless Alarm Systems only)** – there are three separate variables that you can set to control the siren duration at your facility:

    ▪ Occupied – how many seconds should the alarm sound when there is an unauthorized opening of an occupied unit?

- Vacant - how many seconds should the alarm sound when there is an unauthorized opening of a vacant unit?

- Tamper Event - how many seconds should the alarm sound when there is a tamper event detected (wall removal, introduction of a second magnet, etc)?

o **Sensor Information** – this table shows a list of the wireless sensors programmed at your facility. There are various options that can be setup for each individual sensor:

- Unit – the unit associated with the sensor

- Sensor ID – this is the hardcoded ID of the sensor. This number can be found on a tag inside of the wireless sensor

- Siren Zone – the siren zone that this sensor is associated with

- Device Type – use the drop-down box to select the type of wireless device you would like to monitor. You may select Sensor, Panic Pendant, Motion Sensor, or Repeater

- Active Siren – will the siren sound if this unit is activated? Turning this off individually allows a manager to silence a siren temporarily while conducting an auction, cleaning a unit, performing maintenance, etc.

- Active Log – select "Yes" if you want to log activity for this sensor. "No" if you do not.

- Last Event – shows the last type event associated with this unit, such as a Door Close. Remember that you can see an historical report showing all activity by clicking on the Reports button or by using the reports in QSX.

- Event Date/Time – displays the last date and time an event occurred with this unit.
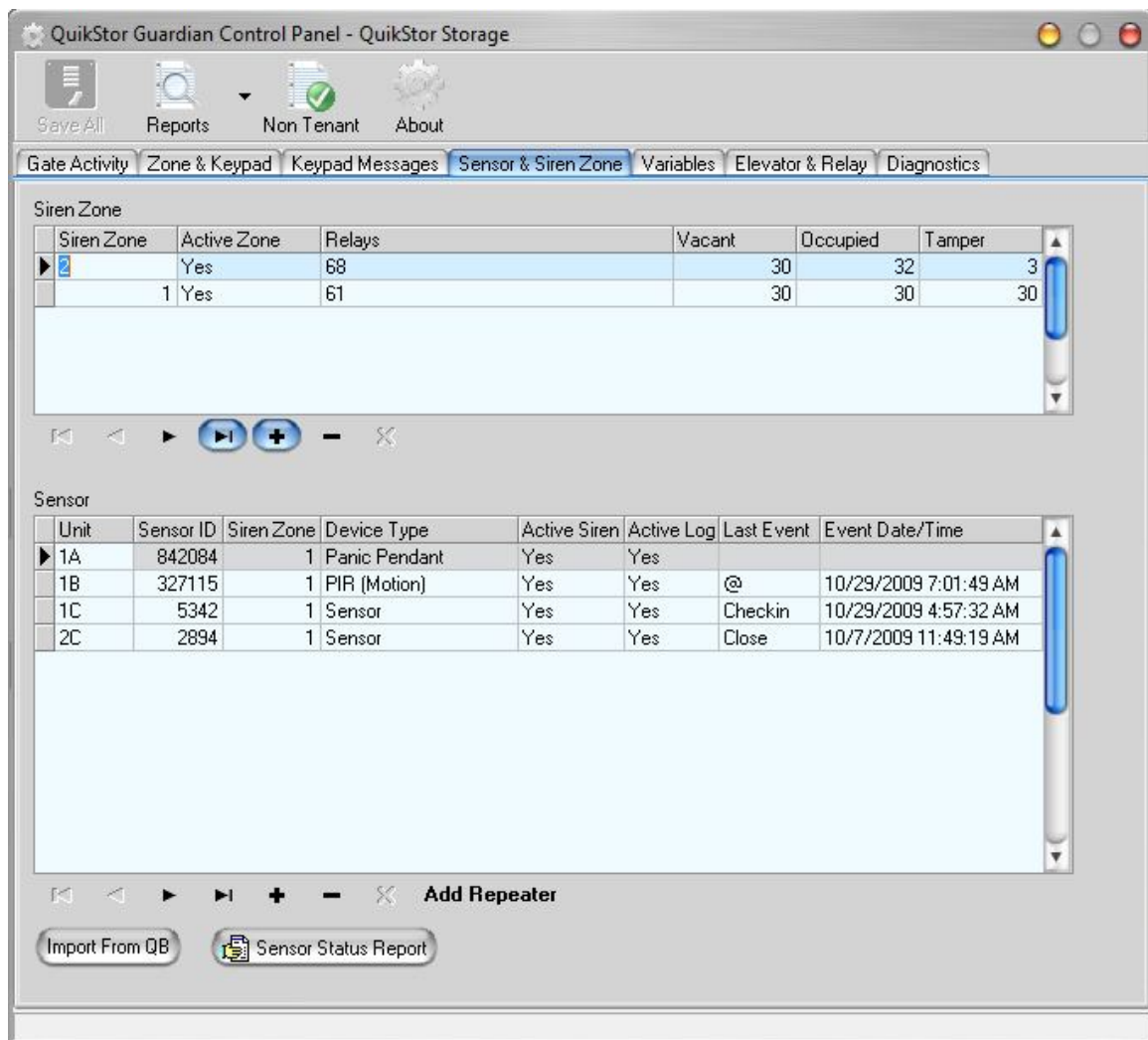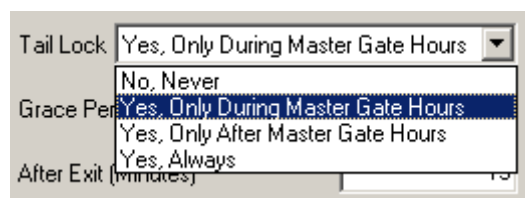
✓ <u>Variables</u> – this is the tab where you will fine tune and customize the Guardian system to your facility. Here is a listing of the variables and what they do in the program:

    o **Relays (Seconds)** – there are two relays inside the keypad; the main gate relay and the intercom relay. The intercom relay is set at a default of 6 seconds and should not be changed unless directed by QuikStor Support. The main gate relay is set by default to 5 seconds. This setting is fine for most gate motors; however you may want to modify this setting if you are controlling an access door to hold the door open longer with the keypad relay. Lastly there is an elevator setting when controlling elevator relays (on the separate Guardian Series Relay Board.) The default is to hold the

relay for 45 seconds, but again this can be modified to suit your facility's needs.

o **Master Gate Hours** – this is where you select the gate hours for your entire site. Select the opening time in the first box and your closing time in the second box. This time is what other variables reference, such as siren duration or after exit settings.

o **Tenant Offsite (Minutes)** – there are two fields that determine how long a tenant can be onsite before they are moved offsite by the system. The first is how long after they entered their code at an entrance keypad and the second is how long after their door is closed (only applicable to sites with wireless door alarms). Both of these settings are used to assure that the system is kept current and/or that a unit is re-armed if someone tail gates out of the facility.

o **Climate (Fan or Heater)** – depending on the climate you live in you may choose to add a small fan or heating element inside of the keypad housing. The fan helps keep the inside circuitry cool in extreme heat environments. The heating element is for extreme cold climates where freezing could occur on the keypad keys. Select "Fan" to enable the fan feature or "Heater" for the heater feature on the drop down menu. The necessary hardware must be installed inside the keypad for these features to work.

o **Tail lock** –

Set to 'Yes, Always" if you want to lock a tenant in that did not enter their code at the entry keypad. Enter a "No, Never" if you would like to allow "tailgaters" out of your facility at any time. You can also only lock them in during certain times. For instance if you only want to lock them while the manager is on duty, select, "Yes, Only During Master Gate Hours", conversely if you only want to lock them in after normal office hours select, "Yes, Only After Master Gate Hours". Exit gate activity will show up as, "Tail Out" or "Tail Lock" in your QSX activity window based on which option you choose above.

o **Grace Period (Day)** – how many days past their paid-to-date do you want to allow tenants into the facility? A specialized message will come up on the entry keypad notifying the tenant that he is past due and needs to pay his rent now.

- o **After Exit (Minutes)** – how many minutes after closing (master closing hours) are tenants allowed to leave the facility using the exit keypad?

- o **One Code** – you can assign multiple gate codes to each unit, however if you prefer to only have one code per unit you can lock down this feature by changing this variable to "Yes". By default it is set to "Off".

- o **Welcome Screen Interval** – your Guardian keypads allow you to have alternating welcome messages allowing you to convey more information to your tenants. For instance, you could choose to only change the bottom line and alternate between the current time/date and the current temperature. Select "Yes" to alternate messages or "No" to have a single welcome message.

- o **Speaker Volume –** adjust the speaker volume for intercom communication or audio feedback

- o **Reset Keypad –** this variable allows you to automatically have a keypad reset if communication is lost for anytime between 10 to 60 seconds using the drop down box. This variable should always be set to "Deactive" unless instructed by QuikStor Technical Support.
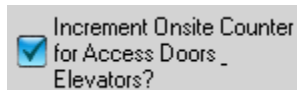
- o ☑ Increment Onsite Counter for Access Doors Elevators? **Access Door/Elevator Onsite List –** if the checkbox is selected the onsite list will be incremented for access door and elevator keypads. If unchecked the onsite list will not increment.

(See the Variable screenshot on the following page)
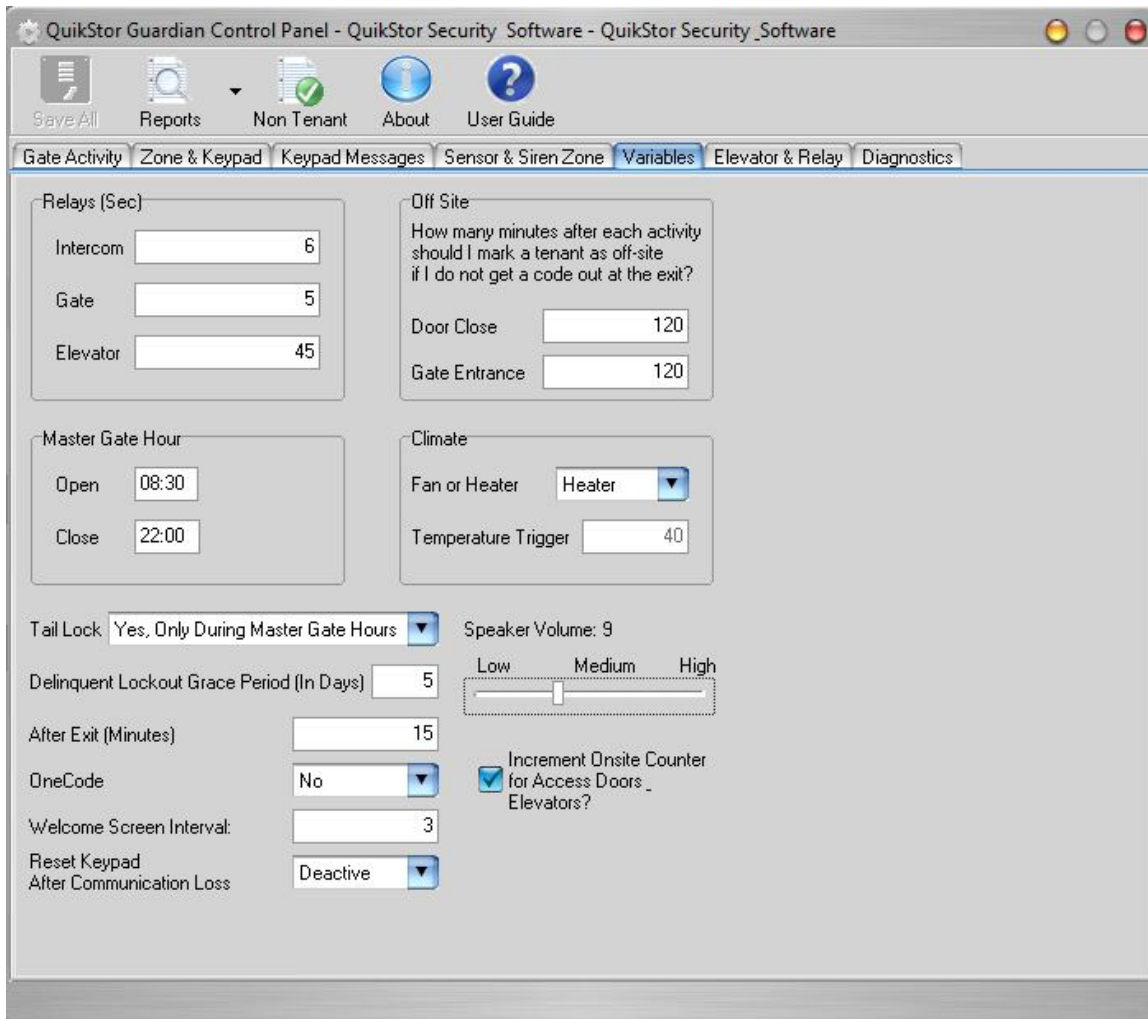
✓ <u>Elevator & Relay Setup</u> – use this tab to setup elevator and relay boards. Including using the Relay Module to control lighting, perimeter beam arming, etc.

The **Elevator** section allows you assign the following:

o Floor – select which floor this keypad and relay will allow access too.

o Keypad ID – select which keypad a tenant would use to access a given floor

o Relay – this is the relay on the Guardian Relay Board that is triggered when a tenant enters a successful code at an elevator. When the tenant enters the elevator car they will only be allowed to go to the floor that their unit is located on.

The **Relay** section allows you to assign the following:

o Relay ID – select the ID address of the relay board you are connecting to your Guardian access network. Remember that the relay board is part of the keypad data bus so there is no need for a dedicated data line between the relay board and UltraConverter. You may daisy chain it along with the keypad data.

o Relay Description – this is where you will write a description for your relay board. This is particularly helpful when you have multiple relay boards around a large facility performing various functions, such as elevator control, sirens, etc.

o Relay Setup – this is a free-form space that allows you to make notes as to what each relay is doing. For example, "Relay 45 – Siren 2"

The **Relay Trigger** section allows you to setup specific relay boards & relays to control various devices outside of the QuikStor system. The settings include the following:

o Relay Board – select the relay board that you would like to use to control your external devices

o Relay ID – select the specific relay that will control each external device

o Time Zone Schedule – select which time zone will be used with this function. Please note that this time zone is not related to the keypad time zone discussed earlier in the manual. See below for relay time zone setup.

o Time Zone Control – you can select Active or Inactive depending on whether or not you want the device to be controlled during specific hours or not

o Onsite Control – you select Active or Inactive depending on whether or not you want the device to be controlled based on if someone is onsite or not. This is useful if you want to have lighting come on only when someone is onsite at night.

The **Relay Time Zone Schedule** section allows you to setup relay zone descriptions such as, "Lighting Schedule".

In this section you can also select the hours that you want to associate with that schedule.

Time Zone		
Zone ID	Description	
1001	Lighting Schedule	
1002	Perimeter Beam Schedule	

Zone ID: 1001
Description: Lighting Schedule

	Open	Close
Monday:	07:00	13:00
Tuesday:	07:00	13:00
Wednesday:	07:00	13:00
Thursday:	07:00	13:00
Friday:	07:00	13:00
Saturday:	07:00	13:00
Sunday:	07:00	13:00
Holiday:	07:00	13:00

(See the Elevator & Relay Setup screenshot on the following page)
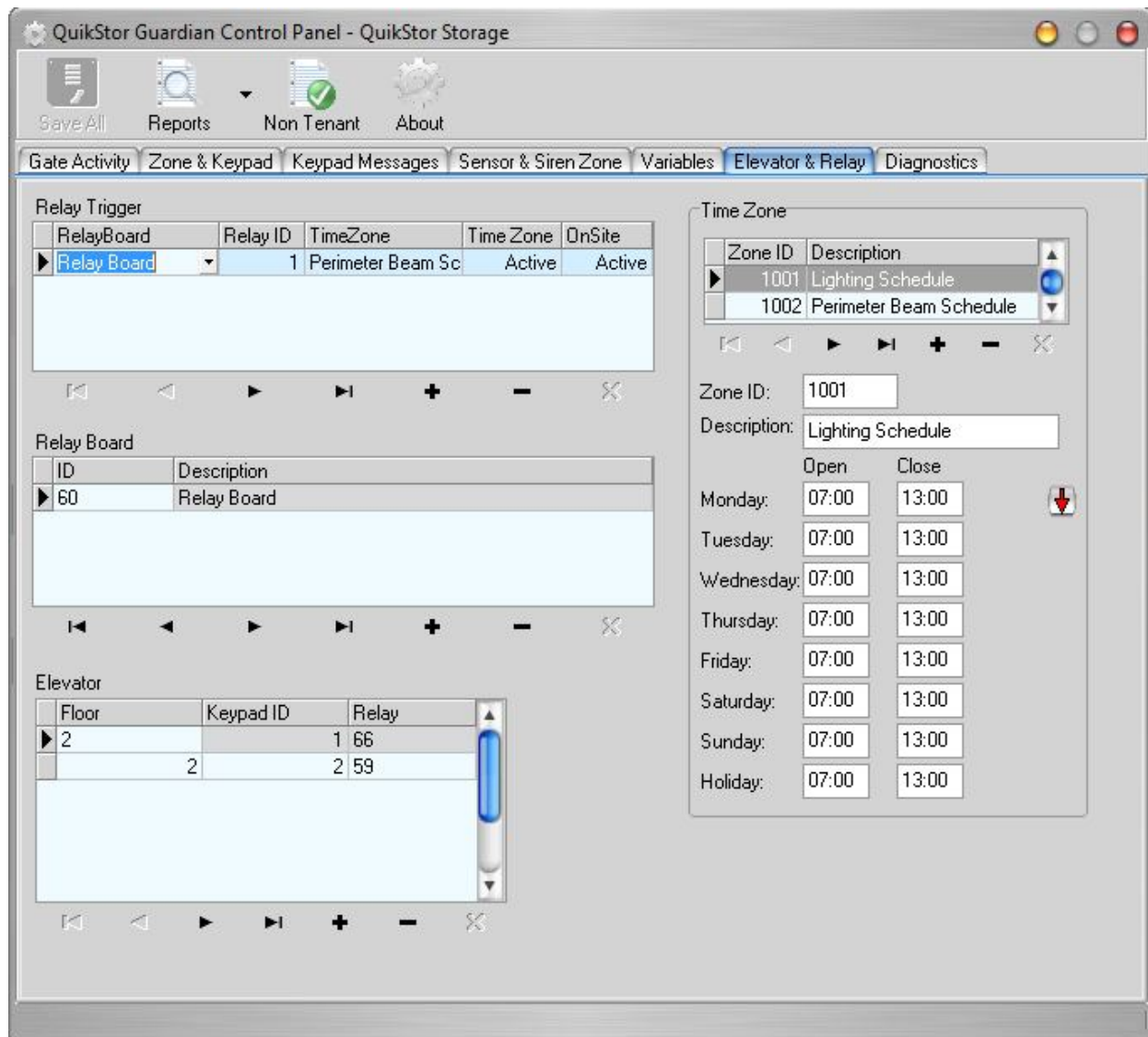
✓ <u>Diagnostics</u> – **IMPORTANT** – THIS TAB SHOULD ONLY BE ACCESSED WHEN ASKED BY A QUIKSTOR SUPPORT REPRESENTATIVE.

PERFORMING FUNCTIONS IN THIS TAB MAY INCUR UNDESIRED RESULTS, INCLUDING LOSS OF DATA AND SYSTEM INOPERABILITY!!!

One-Click Diagnostic - this button in the center of the screen runs a comprehensive diagnostic on your entire Guardian Access Control System.

Depending on the number of devices you have installed it may take up to 40 seconds to run all tests. When it is done it will send an email to support@quikstor.com as well as open an HTML file on your computer that you can review, print, or email to a technician.

In addition to the One-Click Diagnostic button you will find the firmware versions for the UltraConverter listed in the upper right hand side of the tab and the latest logging events from AIlcon are displayed at the bottom of the tab.

Here is a brief description of each section or button and what it does:

- **Poll for Devices** - does a scan of the Guardian network to confirm communication with connected devices

- **Reset UC –** resets the firmware of the UltraConverter

- **Port –** which port is the UltraConverter connected to on the PC

- **Sensor PIC –** this should be set to "Active" if you have wireless door alarms or "Inactive" if you do not.

(See the Diagnostics screenshot on the following page)
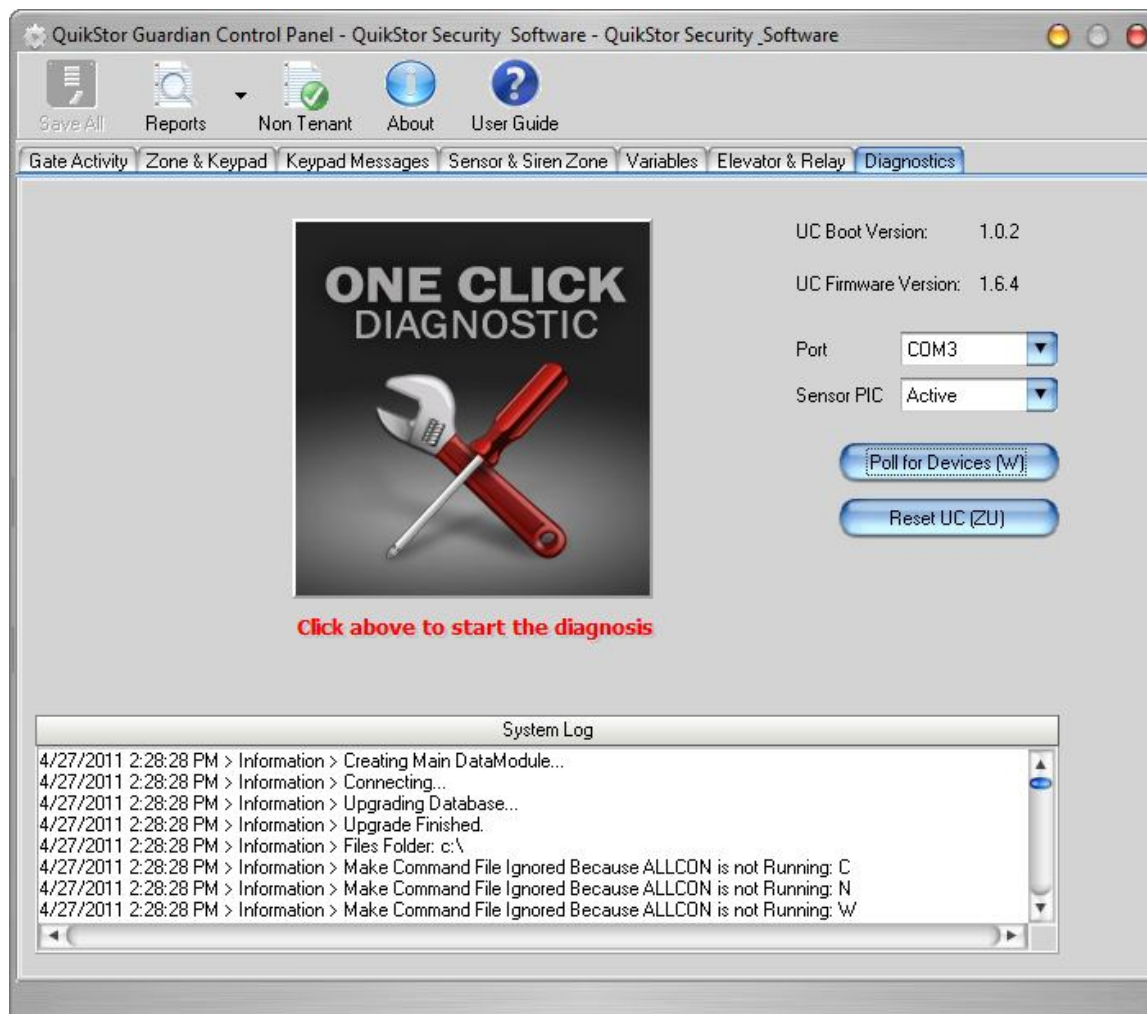
Non-QuikStor Management Software Integration

Though the tightest integration is between the Guardian Access System and QuikStor Express Management Software, we recognize that some of our clients will choose to use different management software. For those clients we built in additional features and functionality to the Guardian Control Panel, such as real-time gate/sensor activity, reports and ability to open a gate via the software.

To use these features simply open the Guardian Control Panel and click on the report or feature you choose to use. Beyond these functions everything else is identical as if you were running QSX, though some features may not be supported by your management software.

Trouble Shooting

If you have attempted to establish communication with the keypads and have failed, your best course of action is to check the system one component at a time. Here are some easy steps to verifying that the hardware is setup properly.

UltraConverter

- ☐ Is the USB communication cable from the UltraConverter plugged into the management computer
- ☐ Does the UltraConverter have the green LED power light on?
- ☐ Is the "Power Reversed" light on? If so, swap your power wires.
- ☐ Is the "PC Communication" light a solid green?
- ☐ Is the "System Status" light a solid green? If it is flashing red continue troubleshooting.
- ☐ Are the data communication wires firmly fastened to the terminal blocks and unbroken

Checking splices and proper terminal to wire termination

- ☐ Make sure that you have observed the proper termination guidelines from the diagrams included with this manual
- ☐ If there are any wire splices make sure that they are not broken or grounded which can cause a lack of communication to the UltraConverter
- ☐ Make sure that all data wires inside keypads are firmly terminated
- ☐ Make sure that the data wires are not grounded or broken
- ☐ Check to make sure the keypads have power
- ☐ Check the voltage at each keypad. Each keypad should have a minimum of 11.70 volts DC.

Guardian Keypad Warranty Activation

Each new Guardian keypad comes with a seven year warranty (if purchased inside of a Polycarbonate housing). This warranty includes damage that may occur from strong electrical surges, such as from lightning. To take advantage of this extended warranty you MUST fill out and return the following activation form for EACH Guardian keypad that is installed.

PLEASE NOTE: Though the Guardian keypad has an extended warranty, the UltraConverter still carries a one year warranty, but does include damage that may occur from lightning. The Surge Boards are meant to act as fuses for severe electrical surges and are NOT covered under warranty. Guardian keypads purchased in Aluminum housings are covered by a one year warranty.

Guardian Activation Form

Following are two Guardian Activation Forms to accommodate a typical two keypad gate system. If you have more than two Guardian keypads to activate you may make a photo copy of these forms or contact your QuikStor Account Representative for additional copies via email (PDF) or USPS.

Required Guardian Installation Pictures

To complete the activation of your Guardian seven year warranty, you must not only complete the following activation form but also submit pictures showing the following:

- UltraConverter installed in the office with the supplied Grounding Plug properly plugged into a 3-prong ('U' Ground) wall outlet. DO NOT plug the Grounding Plug into a power strip, surge strip, or UPS.
- Each keypad with the ID number clearly shown in the picture and the grounding wire connected to the surge board's Earth Ground screw.
- The grounding method for each keypad, such as the termination of the grounding wire to a ground rod or other acceptable grounding source.
- Wireless systems that do not utilize surge boards only need overview pictures of each keypad, and the installed UltraConverter.

Sample pictures showing what we need to see with the appropriate angles and zoom are below.

QUIKSTOR'S GUARDIAN SERIES - <u>SEVEN</u> YEAR KEYPAD WARRANTY

Every QuikStor Guardian Series keypad sold in a **Polycarbonate** housing and verified as operational and properly connected per QuikStor's documentation (requirements below) will be covered by a SEVEN year warranty including lightning damage. Should such a QuikStor keypad ever fail during the activated warranty period, a replacement unit of comparable age and condition will be shipped via UPS Ground at QuikStor's expense. The client may have the replacement keypad shipped at a faster rate at their expense.

To activate your new warranty simply complete a separate copy of this page for each keypad you wish to be warranted. This warranty becomes void if the warranted keypad, or its components, are ever attached to equipment, or wired in a manner, that was not pre-approved in writing by QuikStor management.

The client will be responsible for all warranty related installation, servicing, shipping, and handling charges. The client will be billed for this replacement until the damaged unit is returned to QuikStor. If the defective equipment is not returned within 14 days the client understands that they will be billed in full for the replacement parts. QuikStor shall have the sole and final determination if a keypad failure is covered under this warranty.

- ✓ List the 1-10 digit serial number of ONE QuikStor Guardian Series keypad that you would like to activate under this warranty agreement. This number is printed on a small white sticker located on the top of the circuit boards far right edge. **Keypad serial #** _ _ _ _ _ _ _ _ _ _

- ✓ For this keypad, initial every step that you have personally witnessed to be true. This warranty is not in effect if any step has been skipped, not initialed, or was done incorrectly.

- ✓ The surge board's "Earth Ground" connection has a securely installed grounding wire of gauge 12 AWG or larger and is connected to a grounding source not more than 6' from the keypad circuit board. An approved grounding source is a properly installed grounding rod or the base of the keypad stand. **Initials:** _____

- ✓ The keypad has the GND drain wire properly connected to the keypad Surge Board but does NOT have the GND wire connected to another keypad or to the UltraConverter. **Initials:** _____

<u>What is not covered under this warranty?</u> – this warranty does not cover physical abuse, vandalism or damage caused by vehicles. The warranty only covers the actual keypad circuit board, though QuikStor, at its own discretion, may send a replacement housing to facilitate replacement. The Surge Board is NOT covered under warranty as it is designed to act like a fuse to protect your keypad investment from severe surges. The UltraConverter in the office is covered under our standard one year warranty with the same policy for the Surge Board as with the keypads. In no way will QuikStor be held responsible for any damage or injury to person or property. QuikStor's sole responsibility under this warranty is to provide a replacement keypad circuit board. The seven year warranty begins at the time of activation as described in this agreement. The warranty period does not start over after a replacement keypad is provided by QuikStor and is only in effect from the activation date. If a site experiences a device failure (other than Surge Boards), QuikStor may require that an electrician or lightning professional evaluate the grounding.

Provide printed (or digitally emailed) photographs detailing every wire connection noted above and label each picture with your facility name and keypad serial number. Your keypad warranty is activated once these pictures, a signed copy of this agreement and a printed or faxed QuikStor gate activity report (listing at least 20 consecutive accepted access codes) are delivered to, and signed-off, by senior QuikStor management.

By signing and dating this page, you agree to all the above terms listed herein

Facility Name: _____ Facility Address: _____

_____   _____   _____
Client - Printed Name   **Today's Date**   **Client - Signature**

_____   _____   _____
QuikStor - Printed Name   **Today's Date**   **QuikStor - Signature**

QuikStor Security and Software
6613 Valjean Avenue Van Nuys, CA 91406
Tel:1-800-321-1987 Fax: 818-501-5785

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QUIKSTOR'S GUARDIAN SERIES - <u>SEVEN</u> YEAR KEYPAD WARRANTY

Every QuikStor Guardian Series keypad sold in a **Polycarbonate** housing and verified as operational and properly connected per QuikStor's documentation (requirements below) will be covered by a SEVEN year warranty including lightning damage. Should such a QuikStor keypad ever fail during the activated warranty period, a replacement unit of comparable age and condition will be shipped via UPS Ground at QuikStor's expense. The client may have the replacement keypad shipped at a faster rate at their expense.

To activate your new warranty simply complete a separate copy of this page for <u>each</u> keypad you wish to be warranted. This warranty becomes void if the warranted keypad, or its components, are ever attached to equipment, or wired in a manner, that was not pre-approved in writing by QuikStor management.

The client will be responsible for all warranty related installation, servicing, shipping, and handling charges. The client will be billed for this replacement until the damaged unit is returned to QuikStor. If the defective equipment is not returned within 14 days the client understands that they will be billed in full for the replacement parts. QuikStor shall have the sole and final determination if a keypad failure is covered under this warranty.

- ✓ List the 1-10 digit serial number of ONE QuikStor Guardian Series keypad that you would like to activate under this warranty agreement. This number is printed on a small white sticker located on the top of the circuit boards far right edge. **Keypad serial #** _ _ _ _ _ _ _ _ _ _

- ✓ For this keypad, initial every step that you have personally witnessed to be true. This warranty is not in effect if any step has been skipped, not initialed, or was done incorrectly.

- ✓ The surge board's "Earth Ground" connection has a securely installed grounding wire of gauge 12 AWG or larger and is connected to a grounding source not more than 6' from the keypad circuit board. An approved grounding source is a properly installed grounding rod or the base of the keypad stand. **Initials:** _____

- ✓ The keypad has the GND drain wire properly connected to the keypad Surge Board but does NOT have the GND wire connected to another keypad or to the UltraConverter. **Initials:** _____

<u>What is not covered under this warranty?</u> – this warranty does not cover physical abuse, vandalism or damage caused by vehicles. The warranty only covers the actual keypad circuit board, though QuikStor, at its own discretion, may send a replacement housing to facilitate replacement. The Surge Board is NOT covered under warranty as it is designed to act like a fuse to protect your keypad investment from severe surges. The UltraConverter in the office is covered under our standard one year warranty with the same policy for the Surge Board as with the keypads. In no way will QuikStor be held responsible for any damage or injury to person or property. QuikStor's sole responsibility under this warranty is to provide a replacement keypad circuit board. The seven year warranty begins at the time of activation as described in this agreement. The warranty period does not start over after a replacement keypad is provided by QuikStor and is only in effect from the activation date. If a site experiences a device failure (other than Surge Boards), QuikStor may require that an electrician or lightning professional evaluate the grounding.

Provide printed (or digitally emailed) photographs detailing every wire connection noted above and label each picture with your facility name and keypad serial number. Your keypad warranty is activated once these pictures, a signed copy of this agreement and a printed or faxed QuikStor gate activity report (listing at least 20 consecutive accepted access codes) are delivered to, and signed-off, by senior QuikStor management.

By signing and dating this page, you agree to all the above terms listed herein

Facility Name: _____ Facility Address: _____

_____ _____ _____
Client - Printed Name **Today's Date** **Client - Signature**

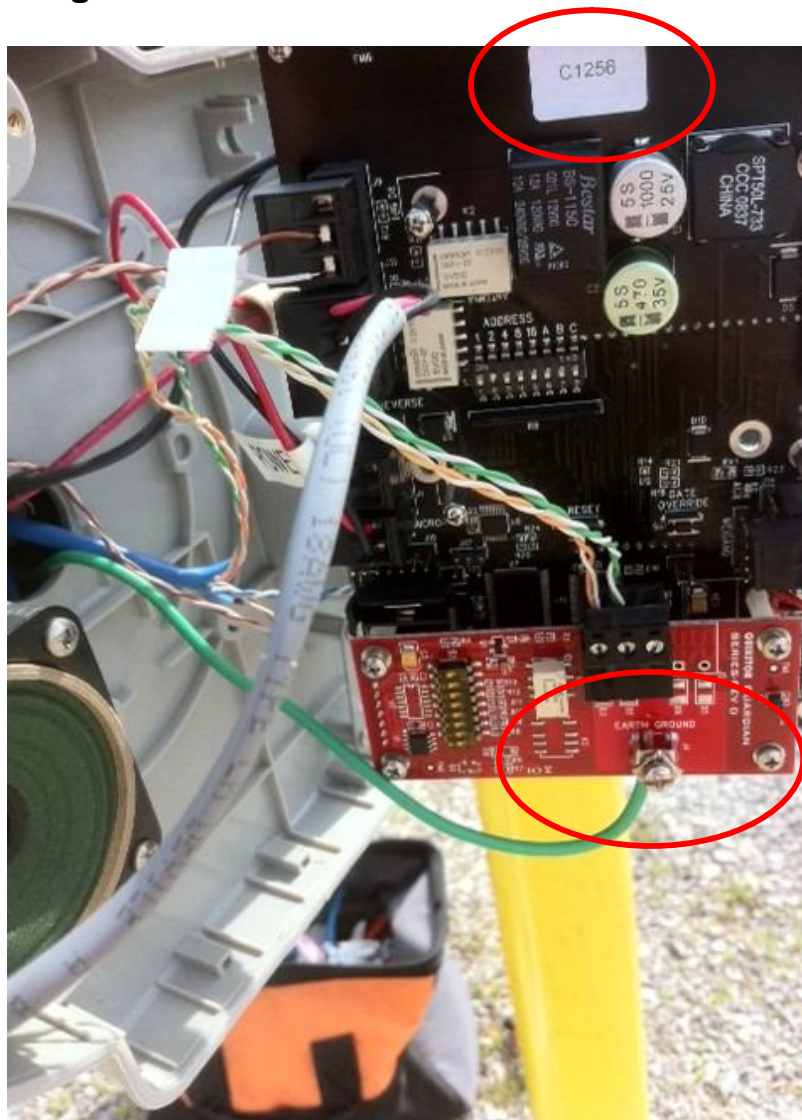_____ _____ _____
QuikStor - Printed Name **Today's Date** **QuikStor - Signature**

UltraConverter mounted in the office and properly grounded

Keypad Picture showing the ID and Ground Wire attached to the Surge Board's Earth Ground

Keypad grounding wire connecting to a ground rod

Still have questions? Call us!

QuikStor Technical Support Department
1.800.321.1987 Support Line
1.818.501.5785 FAX
Support @quikstor.com