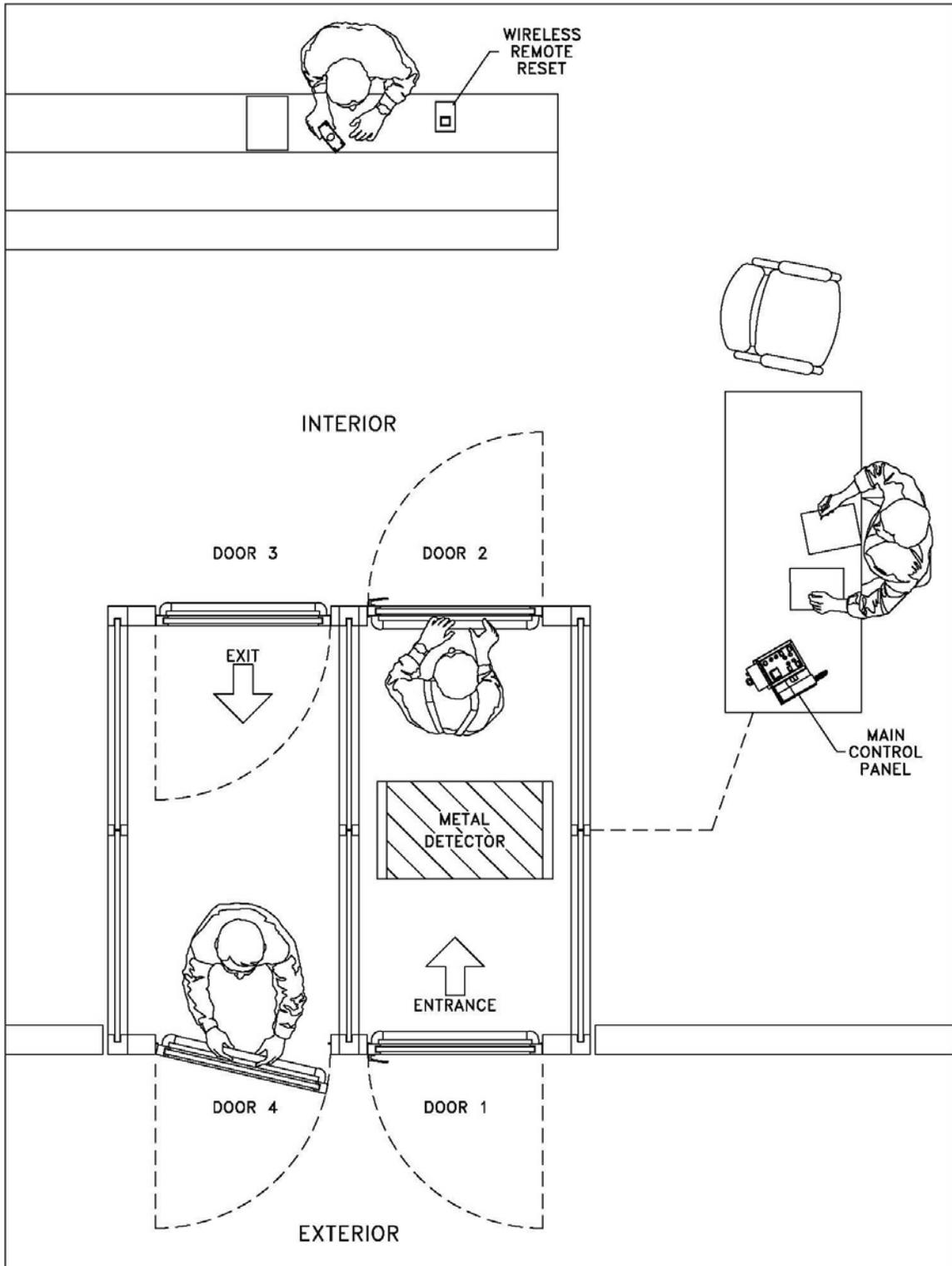


## SYSTEM DESCRIPTION and OPERATION

### ACCESS CONTROL UNIT



**DESCRIPTION:** The Security Vestibule is an advance screening system designed to identify and automatically deny entry to unauthorized people carrying weapons into secure areas. The system consists of a bullet resistant aluminum frame enclosed by bullet resistant glass, and a bullet resistive ceiling. The frame is divided into two separate compartments: one for entry and one for exit. Passage through each compartment is controlled by a set of two intercommunicating doors. Entry doors and exit doors are totally separate systems. Control of the doors is achieved through the use of magnetic locks, infrared sensors, and a metal detector.

A remote control panel for the unit provides status information for the system, allows override of all its functions, and provides two way communications between the operator and the user within the entry chamber.

**OPERATION:** The Security Vestibule is designed to control access to and egress from secure areas in several stages:

1. One person is normally allowed to enter at a time
2. Each person entering is required to walk through a metal detector and to be scanned for weapons before allowed access into the secured area.
3. Anti-piggybacking devices prevent unauthorized persons from being in the entry chamber without being scanned.
4. The exit chamber permits traffic flow in the exit direction only.

**ENTRY:** To gain access to the secure area, an individual enters the unit by opening the outer door (Door D1), which is unlocked. The system's sensors identify the presence of the individual as being in the chamber area before the metal detector. This causes Door D1 to lock behind the customer as soon as it closes. The Door D1 can not longer be opened from the outside while the chamber is occupied. Door D1 is always available for exit from inside the chamber by use of an exit device.

As the person passes through the system the metal detector scans for possible metal weapons. If no suspicious item is detected, and a second person is not identified as being in the chamber but not scanned, the inner door (Dorr D2) is automatically unlocked, allowing the person to enter the secured area. A red-green (stop-go) signaling light beside the door indicates door status to the person in the chamber.

If the metal detector is activated by a mass in excess of its pre-programmed limits, the Door D2 will remain locked while a signal is sent to the unit's control panel to alert the operator of a possible security violation. No one is allowed passage through the system until they have been scanned by the metal detector. The operator has the options to request the person to leave, set up a secure re-scanning process or to override the system alarm, releasing the inner door's lock and allowing access to the individual. The decisions are based on a risk criteria established by the institution.

People entering the chamber can vacate the chamber through Door D1 at any time if the system denies them access. The person may also communicate with the operator using the two way intercom system. If the system senses the presence of un-scanned individuals, Door D2 will remain locked even if the metal detector has not been activated.

Two persons may enter at the same time, such as parents with small children, or people requiring assistance, as long as both individuals have passed the metal detector and neither has activated it. This practice is restricted to special cases for security reasons.

For special circumstances, a call button is mounted on the exterior of the entry, close to Door D1, to allow a person to notify the unit's operator that the person entering may require assistance.

**EXIT:** The exit chamber is a short, glass-enclosed passage way with two interconnected doors. The design of the system is to provide facility security by keeping one door locked and unavailable for unauthorized entry at all times and under all conditions except emergency operation. During any emergency or a delay of more than 15 seconds at either door, both doors will unconditionally unlock and allow free exit. The System requires a manual reset after any emergency deactivation of the exit system. A system of red and green LEDs installed at the exit door jambs offer visual status of the locks at each door. Signage at each door provides concise operating instructions. The attendant supervises the system and is available for instructions and questions. An optional annunciator system gives audible step-by-step instructions and status for exiting.

**NORMAL OPERATION:** To exit the secured area, the person enters the unit through the inner door (Door D3) of the exit chamber, which is unlocked. The door (door D3) locks itself upon closing. The system then automatically unlocks the outer door (Door D4) allowing the person to exit freely. Door D3 remains locked as long as the system detects the presence of people in the exit chamber. More than one person may enter the exit chamber at the same time.

When Door D4 closes, and if no further presence is detected in the exit chamber, the system locks Door D4 and unlocks door D3 to allow the next customer to exit. This process is automatic and resets itself if no alarms are activated.

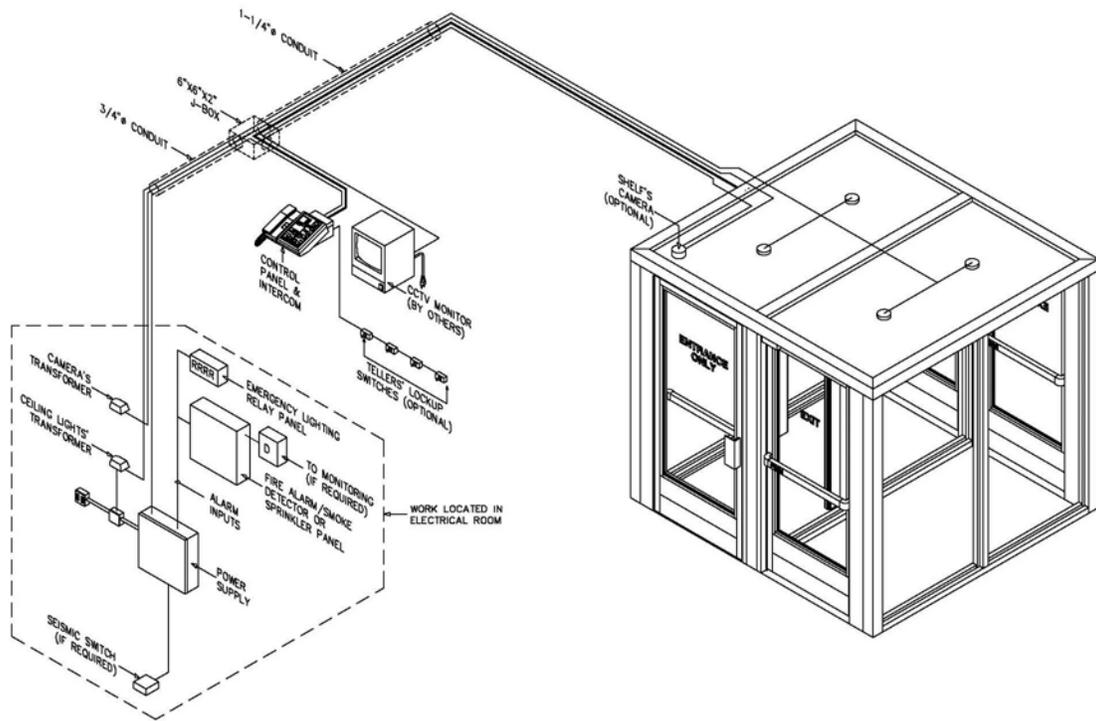
**NORMAL DEACTIVATIONS** The ACU will immediately deactivate under the following circumstances:

1. When normal building power that it is connected to is turned off.
2. When emergency lighting is initiated
3. By attendant, at an approved switch location, who is in direct eyesight of the vestibule

**ADDITIONAL OVERRIDES FOR THE SYSTEM:** The ACU system may be overridden and allow both exit doors to be opened at the same time immediately by any of the following:

1. Connected smoke detection system when available in the building. Manual reset of the vestibule requires the alarm issue to be resolved and reset first.
2. Connected fire alarm system when available in the building. Manual reset of the vestibule requires the alarm issue to be resolved and reset first.
3. Connected fire sprinkler system when available in the building. Manual reset of the vestibule requires the alarm issue to be resolved and reset first.
4. Connected optional earthquake sensing alarm equipment when available in the building. Manual reset of the vestibule requires the alarm issue to be resolved and reset first.
5. By attendant, at an approved switch location, who is in direct eyesight of the vestibule.

SYSTEM COMPONENTS DRAWING



**DOOR LOCKS:** Door locking through the use of electromagnetic locking devices with a minimum holding force of 600 lbs. Lock comes in a stainless steel case fully sealed with resin and all ferrous metal surfaces are plated to military standards to make it tamper and weather proof. Immediate release upon loss of power

**DOOR CLOSERS:** Concealed closer at each door with cast iron cylinders. Closer fluid maintains its viscosity between -32 degrees F. ant +120degrees F. No seasonal adjustments required. Independent regulator for general speed, latch speed and back check.

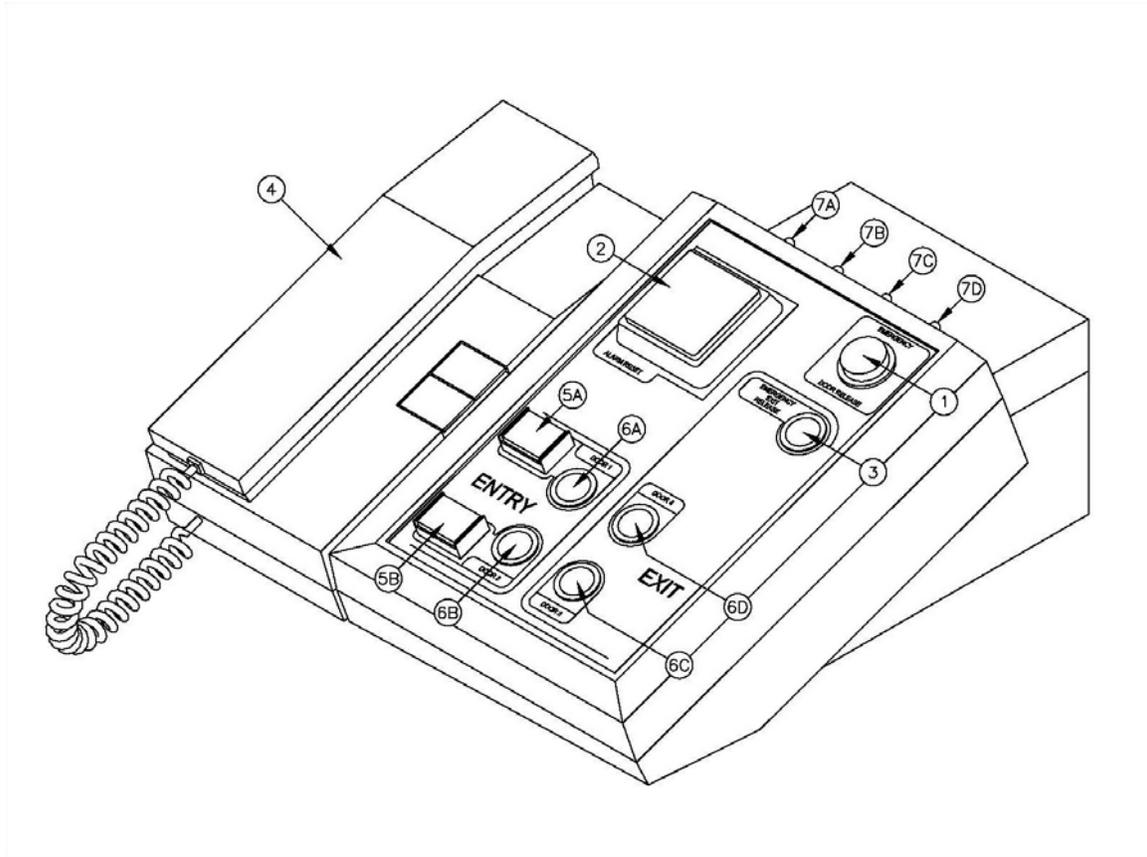
**PRESENCE SENSOR:** Active infrared motion and presence sensing, using near infrared reflection method. 18 zone detection area.

**METAL DETECTOR:** Digital signal processing analysis for sharp discrimination between dangerous metal objects and personal effects. New generation antennas and digital filtering to reduce the electromagnetic interference to a minimum, Wide range of sensitivity dynamics to meet different operational requirements. Unit adjustment restrictions for unauthorized personnel. Interface with computers and modems through an RS -232 connector. Low intensity magnetic field emitted. Unit carries Certificate of being harmless to pace makers, other life support equipment and pregnant women, non-damaging to magnetic media.

**INTERCOM:** Open voice, chime tone answering system for communication between vestibule operator and individuals inside entry compartment for identification and assistance. Exterior mounted call button to request assistance from the operator prior to entering.

**LOCK STATUS LIGHTS:** LED lights (Also called traffic lights), colored to indicate lock status at all doors. Red indicates that the door is locked and further forward progress is blocked. Green indicates that the door is unlocked and available for operation. The lights are mounted on the latch side door frame, at eye line.

**CONTROL PANEL:** Main control console provides centralized monitoring and management of vestibule operation with main shut-off, door locking, doors and sensors indicators, and alarm override. Immediate release of all doors upon unit shut down. Unit must be manually re started.



1	MASTER SWITCH	Deactivates all unit operations. A RED light indicates that the unit is OFF and all doors are unlocked, allowing free entry and exit.	5A	DOOR 1 MANUAL LOCKING SWITCH	Allow Operator to lock a specific door and keep it closed. An unlighted switch indicates that door is functioning automatically (default). A GREEN light denotes that the switch has been activated to maintain the door locked.
			5B	DOOR 2 MANUAL LOCKING SWITCH	
2	ALARM RESET SWITCH	Resets the alarm when metal detector has been activated, allowing Door 2 to open. A GREEN light & an audio signal indicates an active alarm.	6A	DOOR 1 LOCK INDICATOR	Displays the current lock status of the specific door. A GREEN light indicates a securely locked door. An unlighted indicator denotes an unlocked door that may be opened.
			6B	DOOR 2 LOCK INDICATOR	
			6C	DOOR 3 LOCK INDICATOR	
			6D	DOOR 4 LOCK INDICATOR	
3	EMERGENCY EXIT RELEASE INDICATOR	A RED blinking light & audio signal warn the operator that the Emergency Exit Release has been activated and both exit's doors may be open.	7A	ZONE 1 SENSOR INDICATOR	Displays the current presence sensor status of the specific zone. A GREEN light indicates a person or object detected in the specific zone.
			7B	ZONE 2 SENSOR INDICATOR	
			7C	ZONE 3 SENSOR INDICATOR	
			7D	ZONE 4 SENSOR INDICATOR	
4	INTERCOM HANDSET	Allow two way communication between operator and person(s) inside the unit's entry. To operate, pickup handset and talk normally.			

SYSTEM COMPONENTS DRAWING

