JUMPERS

This section contains the functions and default positions of all 16 jumpers within the Controller.

Refer to Figure B.1 for a Jumper-only Controller PCB graphic.

JP1 (Tx Frequency Select)

- Factory Default IN; Position 2

This jumper selects the frequency of the Tx Activation Field. Leave this jumper in Position 2. Positions 1 and 3 are only used if they are needed as an alternate TX frequency for adjacent zone rejection (see Stagger Tuning).

Table B.1 JP1	
Position	Frequency
1	130 KHZ
2	131 KHZ
3	132 KHZ

JP2 (Gain Boost)

- Factory Default OUT

This jumper controls the intensity of a signal required for tag detection.

- With this jumper OUT, signal is at factory default setting.
- With this jumper IN and the Tx Gain pot (R6) is set for reduced Tx output, a Tag being detected will force the Tx gain to full output to assure best detection. However, if the Tx Gain pot (R6) is set to maximum Tx gain, JP2 has no effect.

JP3 (Scan Lock Select)

- Factory Default N/A

This jumper was removed from REV F boards.

JP4 (Antenna Scan Select)

- Factory Default OUT

This jumper allows for multi-antenna systems.

Table B.2 JP4	
Position	For use with:
Off	Single-antenna system (X)
2-3	Two-antenna system (X, Y)
1-2	Three-antenna system (X, Y, Z)

JP5 (Supervise Interval Select)

- Factory Default IN; Position 6

This jumper selects the time interval for Rx supervisor.

Table B.3 JP5 Positions and Results	
Position	Result (Check system Once/Time Interval)
1	Test (testing purposes only)
2	Demo; Once/min (demonstration purposes only)
3	Once/ 2 Hours
4	Once/ 4 Hours
5	Once/ 8 Hours
6	Once/16 Hours
7	Disable

To test the Rx Supervise function, use the following instructions:

1. At JP5, place the Jumper in Position 1.

   If LEDs 4, 5, and 14 blink once every eight seconds, then the Rx Supervise function is working properly.

   If LEDs 4, 5, and 14 do **not** blink once every eight seconds, then the Rx Supervise function is NOT working properly (see Appendix D-1)

2. When done testing, at JP5, place the Jumper in the desired interval position.

JP6 (Scan Rate)

- Factory Default IN; Position 1-2

This jumper will set the Controller's scan speed for sequencing the Tx wand antennas. Position 1-2 is better suited for detecting persons who walk slowly through a zone. Position 2-3 is better suited for detecting persons who walk briskly through a zone. For single antenna systems it is recommended to use position 1-2.

JP7 (Extended Detection Delay)

- Factory Default IN

This jumper will increase the time that a valid Tag signal must be received before a system response is initiated.

JP8 (Detection Delay)

- Factory Default IN; Position 1-2

This jumper extends the time required for valid Tag detection. Keep the default setting.

JP9 (External Reset)

- Factory Default IN

This jumper selects which device will control the resetting of the lock.

Table B.4 JP9	
Position	Lock is reset using:
In	Door (Egress) Alarm
Out	Time setting of switch S1

JP10 (Loiter Reset)

- Factory Default IN

This jumper controls whether or not the Loiter Alarm will be automatically reset.

Table B.5 JP10	
Position	Alarm Automatically Resets?
In	Yes
Out	No

JP11 (Door Timer Extend Disable)

- Factory Default IN

This jumper determines the timing range of the Door Ajar Time potentiometer (R97).

B.6 JP11	
Position	Time Range
In	10-60 seconds
Out	65-110 seconds

JP12 (Loiter Time Extend Disable)

- Factory Default IN

This jumper determines the timing range of the Loiter Timer potentiometer (R110)

Table B.7 JP12	
Position	Time Range
In	10-60 seconds
Out	65-110 seconds

JP13 (Piezo Enable)

- Factory Default IN

This jumper controls whether the piezo is enabled or disabled.

Table B.8 JP13	
Position	Piezo is:
In	Enabled
Out	Disabled

JP14 (Bar Display Enable)

- Factory Default IN

This jumper will enable the bar display LED 13 to function for installing or testing purposes.

JP15 (TX Output LED Enable)

- Factory Default IN

This jumper will enable the Tx Output LEDs (LED1, LED2 and LED3) for installing or testing purposes.

JP16 (Door Ajar Reset)

- Factory Default IN

This jumper will determine whether the Door Ajar alarm automatically resets.

Table B.9 JP16	
Position	Door Ajar Automatically Resets?
In	Yes
Out	No

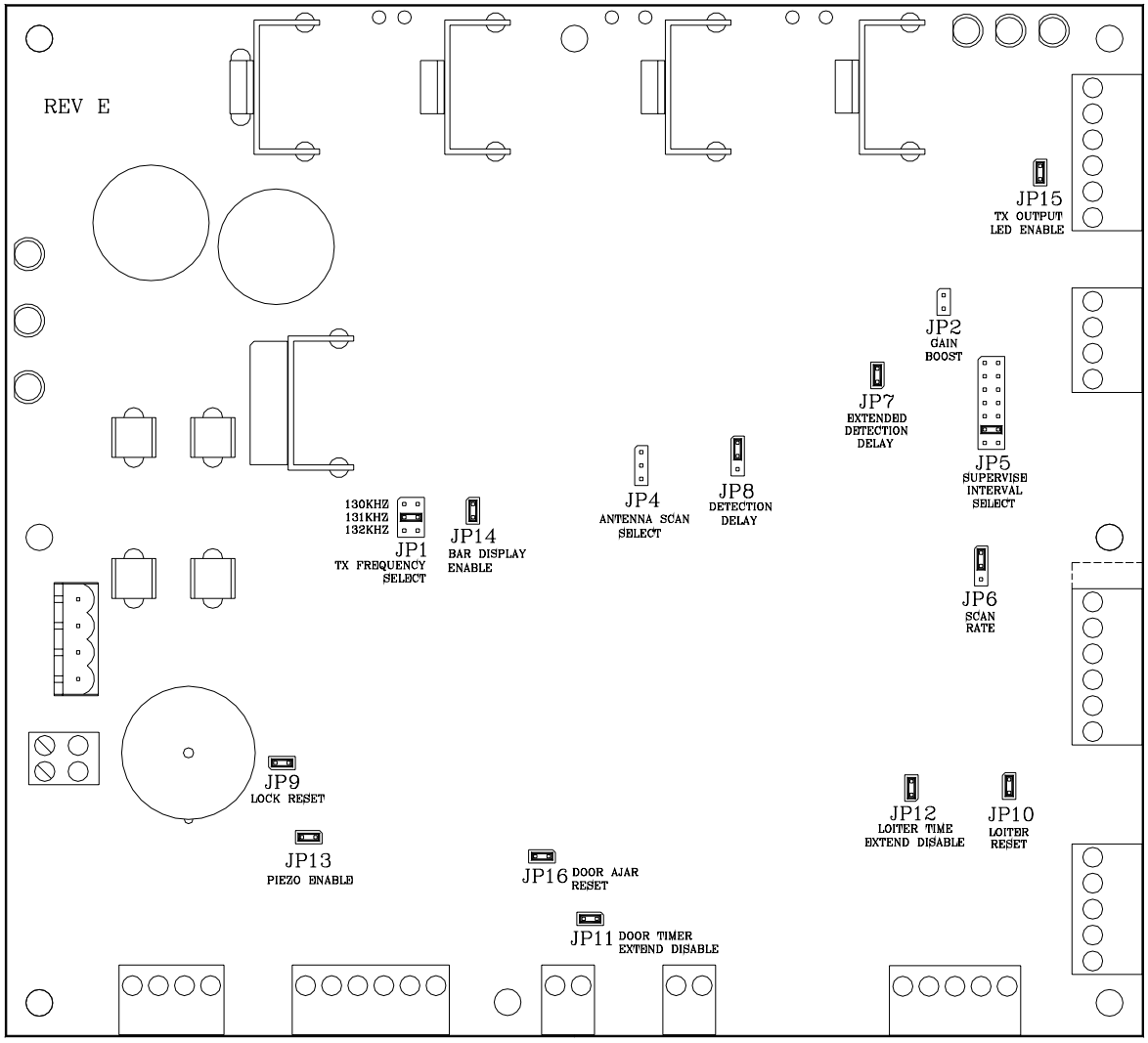


Figure B.1
Jumper-only Controller PCB

LEDs

This section contains the functions and colors of all 14 LEDs on the Controller.

Refer to Figure B.4 for a LED-only Controller PCB graphic.

Special Considerations on LED1, LED2 and LED3

LEDs 1, 2, and 3 are Tx Wand antenna output indicators.

They are enabled/disabled with jumper JP15.

The brightness of these LEDs depends upon the setting of the Tx Gain potentiometer (R6) and the proper tuning of each Tx Wand antenna.

In addition, the brightness of LEDs 2 & 3 is dependant upon the setting of the Y & Z Balance potentiometers (R4 & R12 respectively).

When more than one Tx Wand antenna is connected at any one zone and jumper JP4 is installed, LEDs 1 & 2, or LEDs 1, 2, & 3 will illuminate in sequence.

If the LEDs are not illuminating in sequence:

- Check to see if a Tag is in the zone
- Check the position of jumpers JP4 & JP15
- Check the settings of potentiometers R4, R6, & R12
- Check the Tx Wand antenna connections

LED1
(X Antenna Indicator; Steady Green)

This LED indicates the status of the "X" Tx Wand antenna.

In a one Tx Wand antenna system, this LED will be on at all time provided that the Tx Gain pot it set high enough and the Tx Wand antenna is properly tuned.

NOTE: Even if the "X" Tx Wand antenna is properly tuned, this LED can be dim or even completely out if the Tx Wand antenna is mounted too close to metal or if a metal object is placed too close to it.

LED2
(Y Antenna Indicator; Steady Green)

This LED indicates the status of the "Y" Tx Wand antenna.

In a two Tx Wand antenna system, this LED will illuminate in sequence with LED1.

NOTE: Even if the "Y" Tx Wand antenna is properly tuned, this LED can be dim or even completely out if the Tx Wand antenna is mounted too close to metal or if a metal object is placed too close to it.

LED3
(Z Antenna Indicator; Steady Green)

This LED indicates the status of the "Z" Tx Wand antenna.

In a three Tx Wand antenna system, this LED will illuminate in sequence with LED1 & LED2.

NOTE: Even if the "Z" Tx Wand antenna is properly tuned, this LED can be dim or even completely out if the Tx Wand antenna is

mounted too close to metal or if a metal object is placed too close to it.

LED4
(Valid Tag Detected; Steady Yellow)

This LED indicates the presence of a Tag in a zone.

Table B.10	
LED4 status	**Signals**
Off	No Tag(s) Present
On, steady Yellow	Tag(s) Detected

LED5
(Rx Signal Indicator; Steady Green)

This LED indicates the presence of a Tag, 418 mHZ interference in a zone or Band Removal.

This LED is lit dimly when a Tag is in the zone. If this LED lights very brightly (and there are no Tags in the zone) the Receiver is being interfered with or is misadjusted.

Table B.11	
LED5 status	**Signals**
Off	No Tag(s) Present
On, dimly, steady Green	Tag(s) Detected
On, brightly, steady Green	Zone Receiver problem

LED6
(Lock Indicator; Steady Yellow)

This LED indicates the status of the Lock(s) or Elevator Deactivation Relay. **NOTE:** Voltage from the Fire Panel Interface (FPI) must be present for this LED to function.

Table B.12	
LED6 status	**Signals**
Off	No Tag(s) present
On, steady Yellow	Tag(s) present in zone, Lock or Elevator Deactivation Relay is engaged

NOTE: LED6 will remain on (and the Locks or Elevator Deactivation Relay will remain engaged) after the Tag leaves the zone for as long as the delay time has been set.

LED7
(Alarm Indicator; Flashing Red)

This LED indicates an "open door" condition after a Tag as been detected.

Table B.13	
LED7 Status	**Signals**
Off	No Tag(s) present
On, flashing Red	Tag(s) detected and an "open door" condition

NOTES:
This LED will continue to flash red until the "open door" condition is corrected (close the door and enter a valid code into the Keypad). In hallway situations, a triggered Passive Infrared Reader (PIR) is also an "open door" condition.

LED8
(Door Ajar Indicator; Steady Red)

This LED indicates a Door Ajar condition.

Table B.14	
LED8 Status	**Signals**
Off	No Tag(s) Present
On, steady Red	Door Ajar condition

NOTES:
A Door Ajar condition occurs after a door has been open for a period of time (set by potentiometer R97 and jumper JP11).

To override this delay and make this alarm occur the moment the door is opened, connect a +12V signal to P6-pin 2 (Door Timer Override) of the Controller.

This LED will continue to illuminate steady Red until the Door Ajar condition is corrected (close the door and enter an authorized code into the Keypad).

LED9
(Loiter Indicator; Steady Yellow)

This LED indicates a Loiter condition.

Table B.15	
LED9 status	**Signals**
Off	No Tag(s) present
On, steady Yellow	Loiter condition

NOTES:
A Loiter condition is when a Tag lingers in the Tx Activation Field for longer than the set period of time (adjustable with potentiometer R110 and jumper JP12).

This LED will continue to illuminate steady Yellow until the Loiter condition is corrected (remove the Tag from the Field and enter an authorized code into the Keypad).

LED 10 (12V DC)

LED is lit steady Green when 12 VDC power is present.

LED 11 (6V DC)

LED is lit steady Green when 6 VDC is present.

LED 12 (28V DC)

LED is lit steady Green when 28 VDC is present.

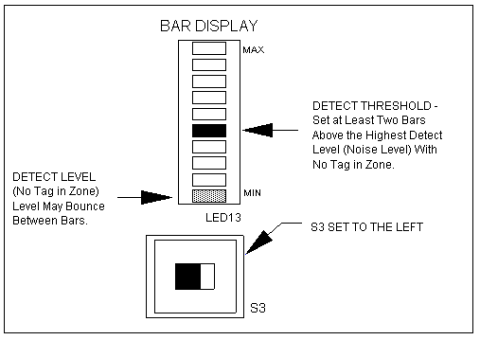
LED 13 (Bar Display)

This LED's indication depends on the position of switch S3.

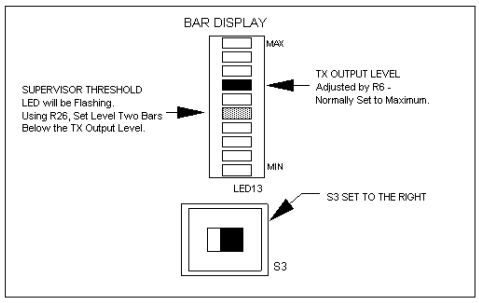
With switch S3 in the *left* position, this LED displays the received signal (with a steady Green bar) and Tag detection threshold (with a flashing Green bar).

With switch S3 in the *right* position, this LED displays the relative Tx power (with a steady Green bar) and supervisor threshold (with a flashing Green bar).

Table B.16	
S3 Position	**LED13 displays:**
Left (Figure B.2)	Received signal (steady Green bar) Tag detection threshold (flashing Green bar)
Right (Figure B.3)	Tx Power (steady Green bar) Supervisor threshold (flashing Green bar)



B.2 LED13 Normal Operation



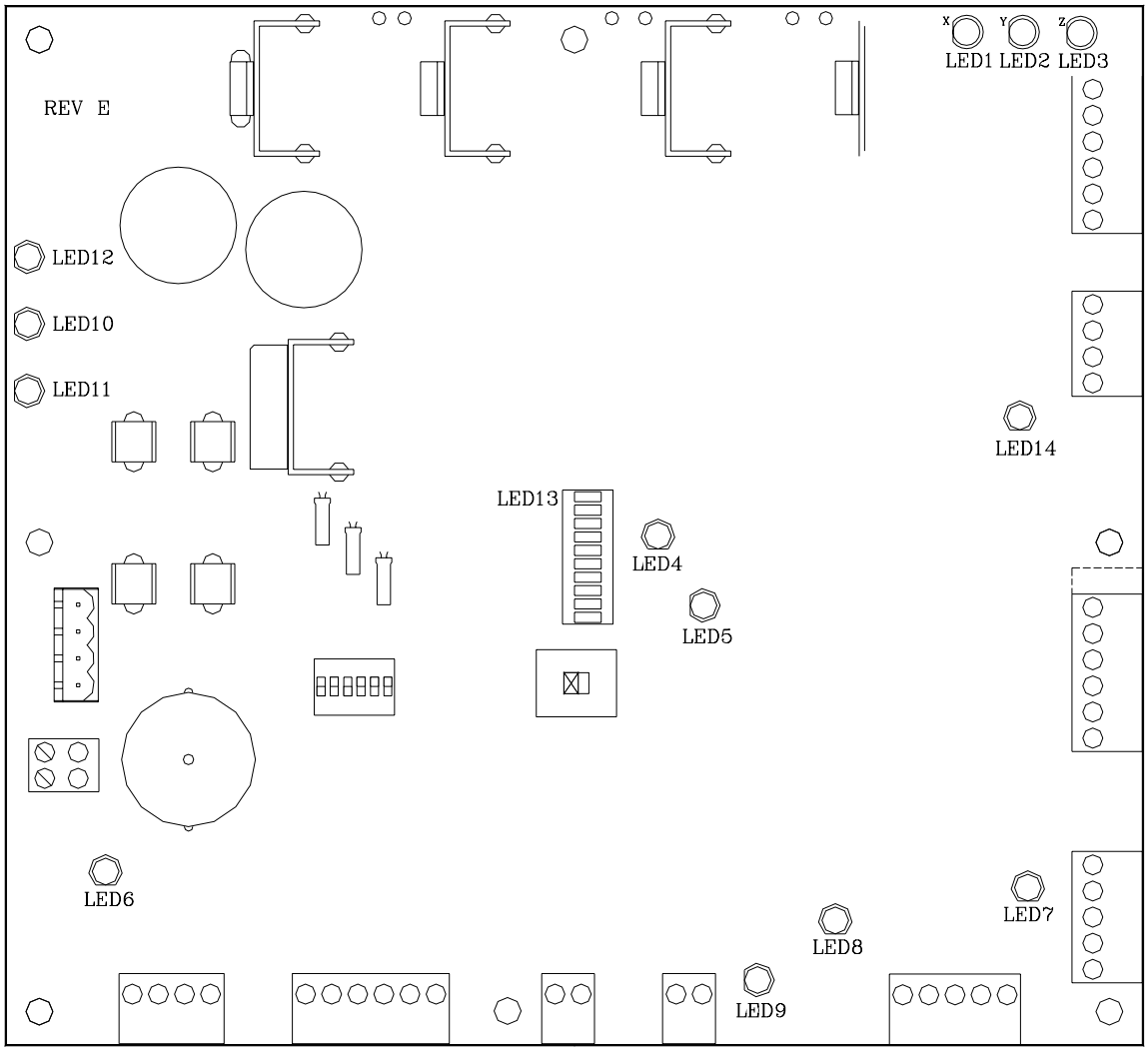
B.3 LED13 during tuning

LED 14 (Supervisor Indicator)

This LED indicates if there is a problem with the Tx Wand antenna(s) and/or Receiver(s).

Table B.17	
LED status	**Signals**
Off	No problems
On, steady Red	Tx Wand antenna-related problem
On, steady Green	Zone Receiver-related problem
On, steady Yellow	Tx Wand antenna **and** Zone Receiver-related problem

Figure B.4
LED-only Controller PCB



Potentiometers

This section contains the functions of the 7 potentiometers on the Controller.

Refer to Figure B.5 for a potentiometer-only Controller PCB graphic.

R4 (Y Balance)

- Factory Set to Maximum (clockwise)

Adjust for minimal bounce of bar display LED13 when switch S3 is in right position.

R6 (Tx Gain)

- Factory Set to Maximum (clockwise)

For normal operation, leave R6 at maximum.

For single doors or if loop Tx antennas are used, you may need to reduce the R6 to minimize overlap into hallways and/or adjacent rooms.

NOTE:
R6 (Tx Gain) must always be set *higher* than R26 (Supervisor Threshold) on LED13. Therefore, if you increase R26, you must increase the R6 accordingly.

R12 (Z Balance)

- Factory Set to Maximum (clockwise)

Adjust for minimal bounce of bar display LED13 when switch S3 is in right position.

R26 (Supervisor Threshold)

Set the flashing bar of LED13 at the second bar from the bottom.

NOTE:
R26 (Supervisor Threshold) must always be set *lower* than R6 (Tx Gain) on LED13. Therefore, if you reduce the R6, you must reduce the R26 accordingly.

R59 (Detect Threshold)

When S3 is in the left position, set R59 so that the flashing bar in LED13 is at about the 5th or 6th bar from the bottom.

If interference noise is present, the steady bar(s) will bounce. Be sure to set the flashing bar above the highest bouncing steady bar.

R97 (Door Ajar Delay)

- Factory Set to 15 seconds

Set mid scale or as desired to delay onset of Door Ajar alarm.

R110 (Loiter Delay)

- Factory Set to 15 seconds

Set mid scale or as desired to delay onset of Loiter alarm.

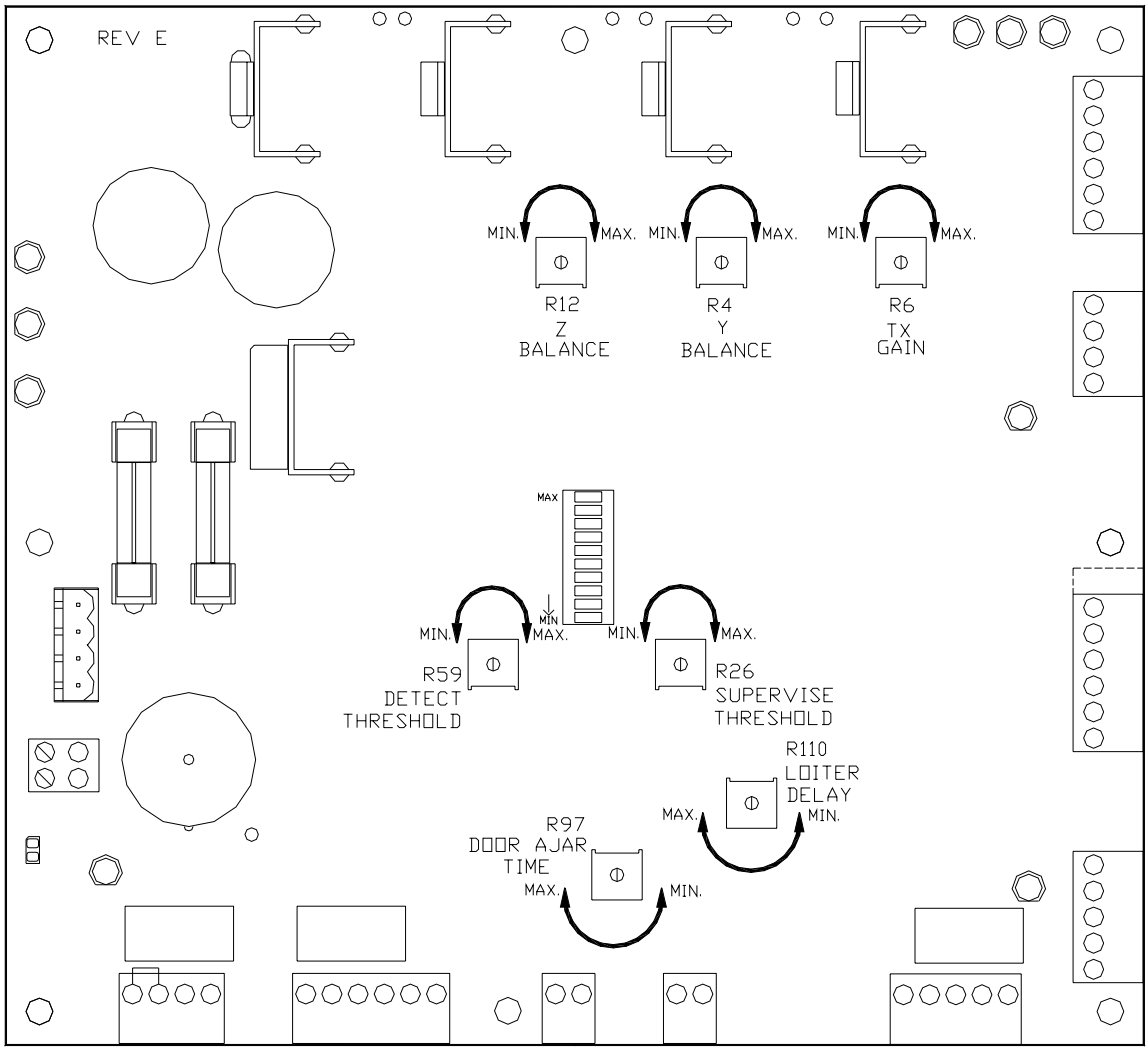


Figure B.5
Potentiometer-only Controller PCB

Switches and Fuse Replacement

This section contains the functions of the 3 Switches on the Controller as well as Fuse Replacement specifications.

Refer to Figure B.8 for a Switch and Fuse-only Controller PCB graphic.

Switches

S1 (Lock Elevator Delay)

- Factory Set from 5 to 15 seconds

Sets the delay time for how long the Magnetic Lock or Elevator Deactivation will remain engaged after a Tag leave the Tx Activation Field.

When the switches are ON, the time setting is 0 (zero) seconds. As switches are turned off, the time setting increases. The maximum time delay is approximately 120 seconds.

Table B.18						
Switch 1	**1**	**2**	**3**	**4**	**5**	**6**
Added Delay (seconds)	1	5	10	15	30	50

For example, to set the delay time for approximately 25 seconds, turn OFF switches 3 and 4.

S2 (Reset Switch)

Resets the system. Used during system testing to clear alarms, equivalent to a Keypad Reset.

S3 (Controls function of LED13)

- Tx Gain/Supervisor Adjustments
- Detection Level/Threshold Adjustments

S3 is linked to LED 13 (page B-7), which is a visual indicator during tuning Tx wand antennas (page 4-7).

Tx Gain/Supervisor Threshold Adjustments

With S3 to the right, and the Tx Gain set at, or near maximum, LED13 will indicate two things: the Tx Gain (Power Level) adjusted by pot R6, and the Supervisor Threshold, adjusted by pot R26.

Keep in mind that if the Tx Gain is reduced, the Supervisor Threshold should also be reduced, so that the flashing bar is always below the steady bar(s). If this is not set properly, the Supervisor peizo will sound. For more information, see page B-7.

Detection Level/Threshold Adjustments

With S3 to the left, LED13 indicates how closely a received signal resembles a valid Tag, and the threshold where the decision is made that it *is* a valid Tag. (Figure B.6) When a valid Tag enters the zone, the detect level will increase past the detection threshold, to indicate a Tag is in the zone (Figure B.7).

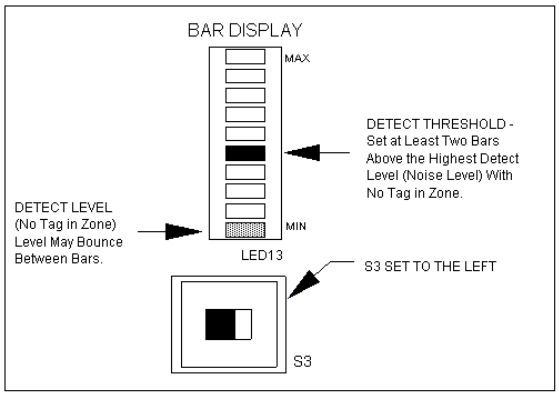


Figure B.6
LED13 Normal Operation (S3 to the Left)

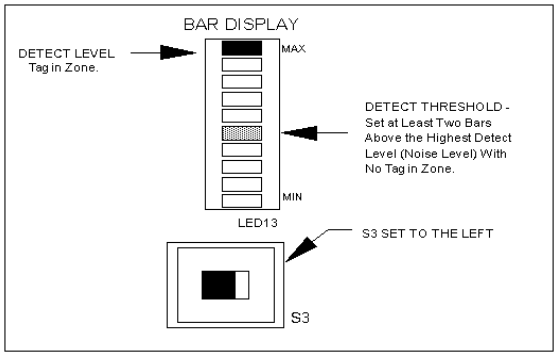


Figure B.7 LED13 Tag in Zone

Fuse Replacement

Use the following fuses when replacing:

F1 (12-14V AC)

Replace with 120V, 2.5A, Slo-Blo, 3AG Fuse

F2 (28V AC)

Replace with 250V, 1A, Slo-Blo, 3AG Fuse

F3 (Incoming Power)

Replace with 250V, 1A, Slo-Blo, 3AG Fuse

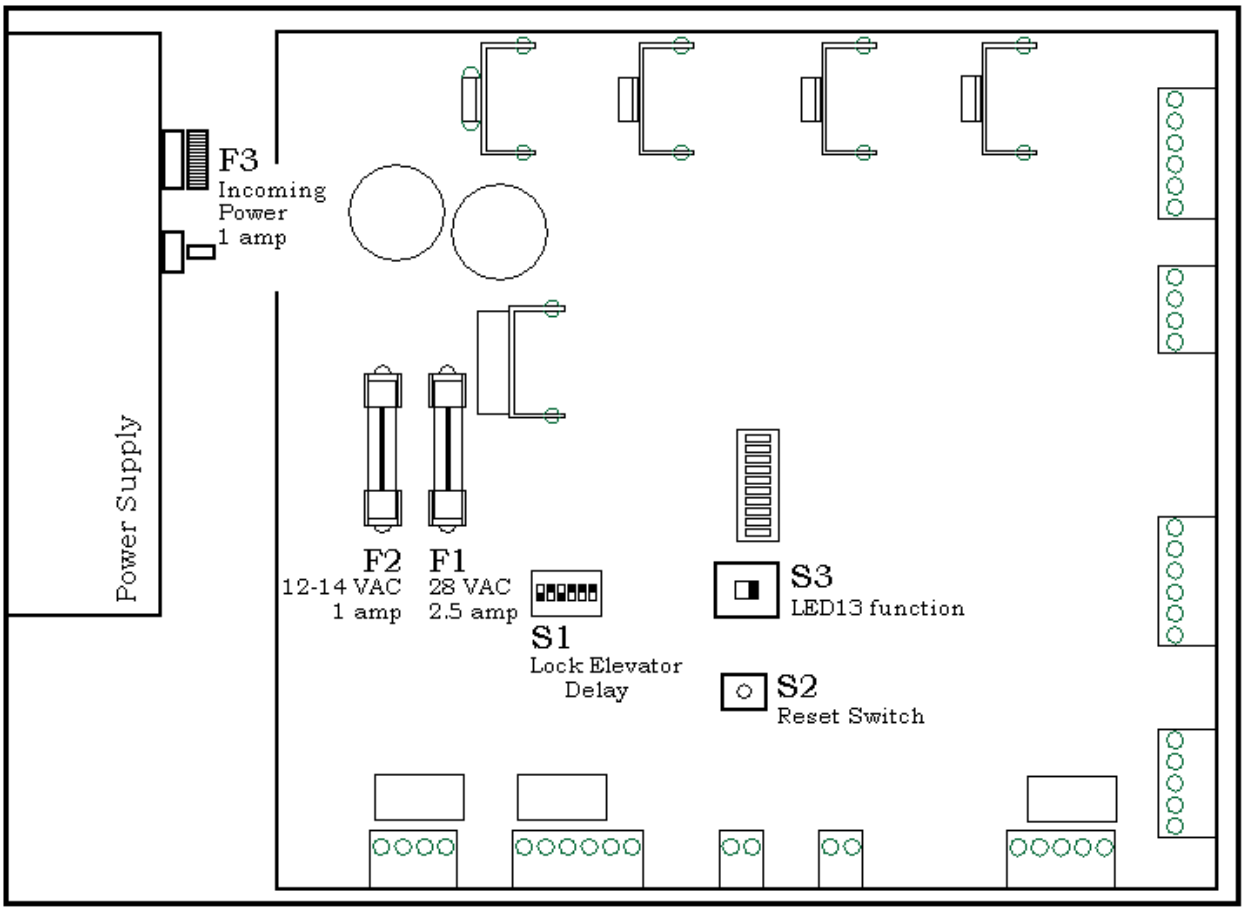


Figure B.8 Switch and Fuse Controller PCB

Installation Manual

Appendix C:

Block Diagrams

Accutech LC 1200/ES 2200/IS 3200/BR 4200 systems

Overview Packet Contents

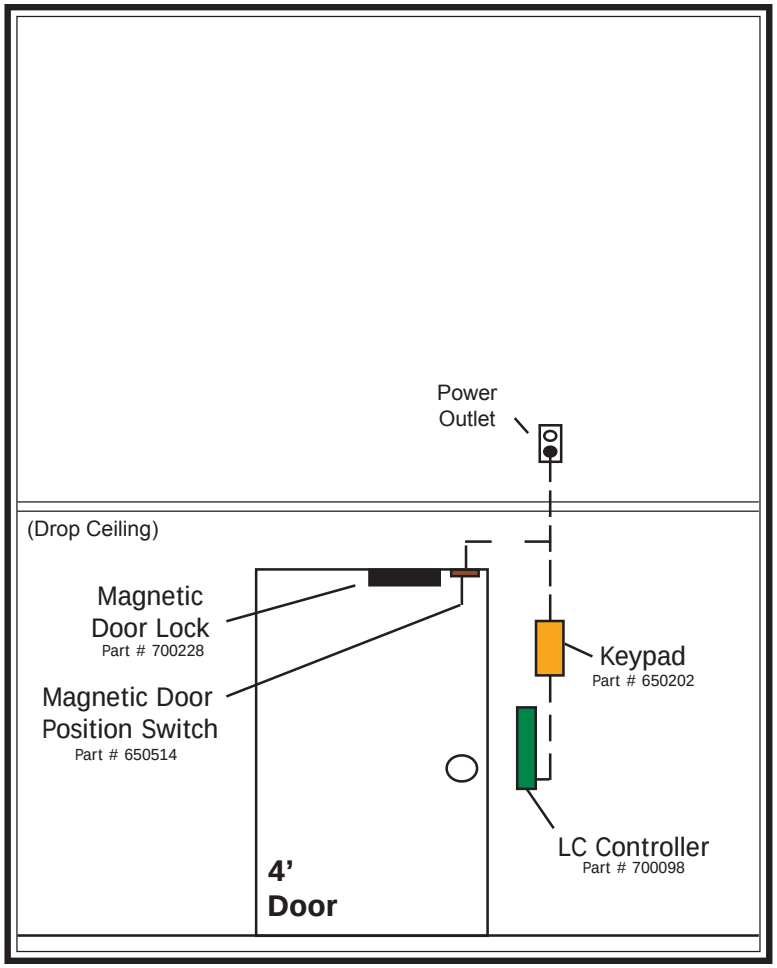
- ❑ LC 1200 - Single Door Kit (LCSD)
- ❑ LC 1200 - 4’ Elevator (LCHL)
- ❑ LC 1200 - Double Door Kit (LCDD)
- ❑ LC 1200 - Hallway (LCHL)

- ❑ ES 2200 - 4’ Single Door Unit (ESI4)
- ❑ ES 2200 – 4’ Single Door Unit (ESR4)
- ❑ IS 3200 – 4’ Single Door Unit (ESI4 + IS components)
- ❑ IS 3200 – 4’ Single Door Unit (ESR4 + IS components)

- ❑ ES 2200 – 6’-8’ Double Door Unit (ESI68)
- ❑ IS 3200 – 6’-8’ Double Door Unit (ESI68 + IS components)

- ❑ ES 2200 – 6’ Elevator Unit (ESI68E) with Elevator Deactivation
- ❑ IS 3200 - 6’ Elevator Unit (ESI68E + IS Components) with Elevator Deactivation
- ❑ ES 2200 – 6’ Elevator Unit with PIR (ESI68E)

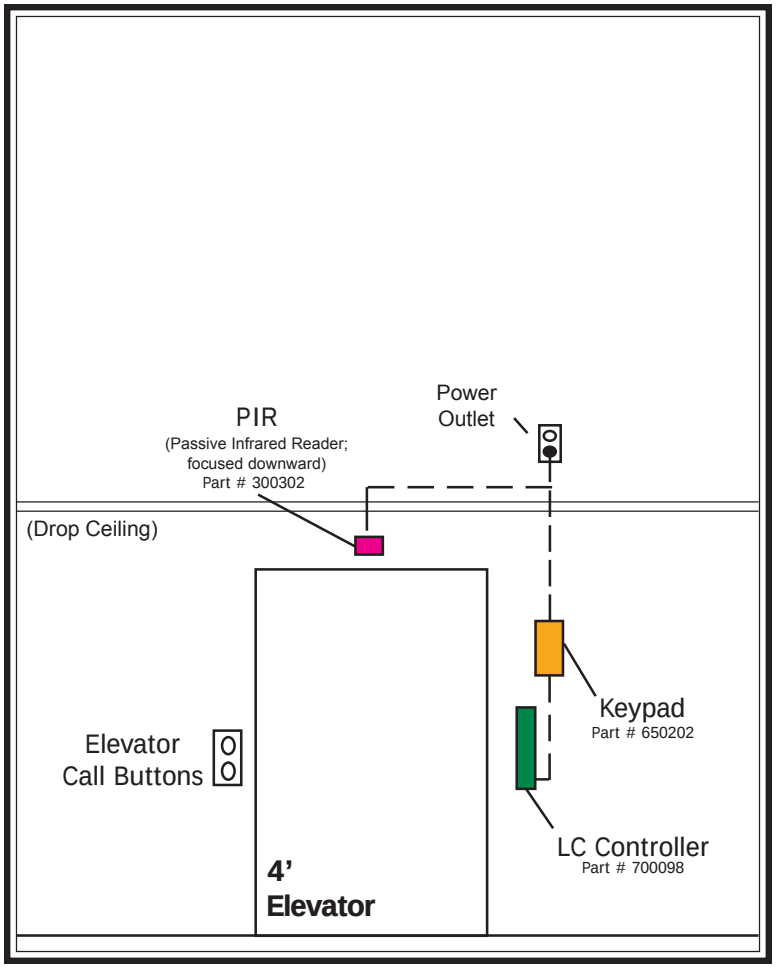
- ❑ Double Elevator Unit (ESI68DE) with Elevator Deactivation
- ❑ ES 2200 – Hallway Unit (ESI68H)
- ❑ BR 4200 Generic Facility Floor Plan
- ❑ BR Lockdown Configuration
- ❑ ES 2200 / IS 3200 Wiring Guide
- ❑ BR 4200 Wiring Guide



LCSD - LC 1200 Single Door Kit

Part # 800121 includes:

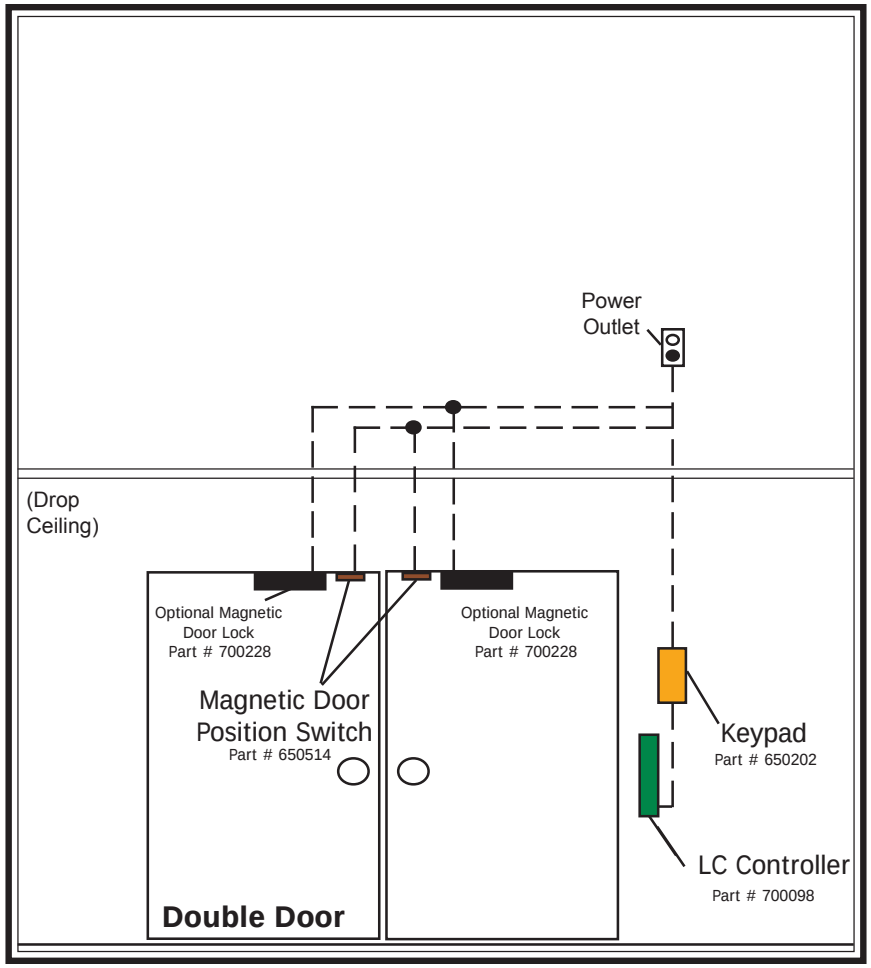
1 LC Controller (700098)
1 Keypad (650202)
1 Magnetic Contact (650514)
1 Cable Kit (700150)



LCHL - LC 1200 Elevator (or Hallway) Kit

Part # 800123 includes:

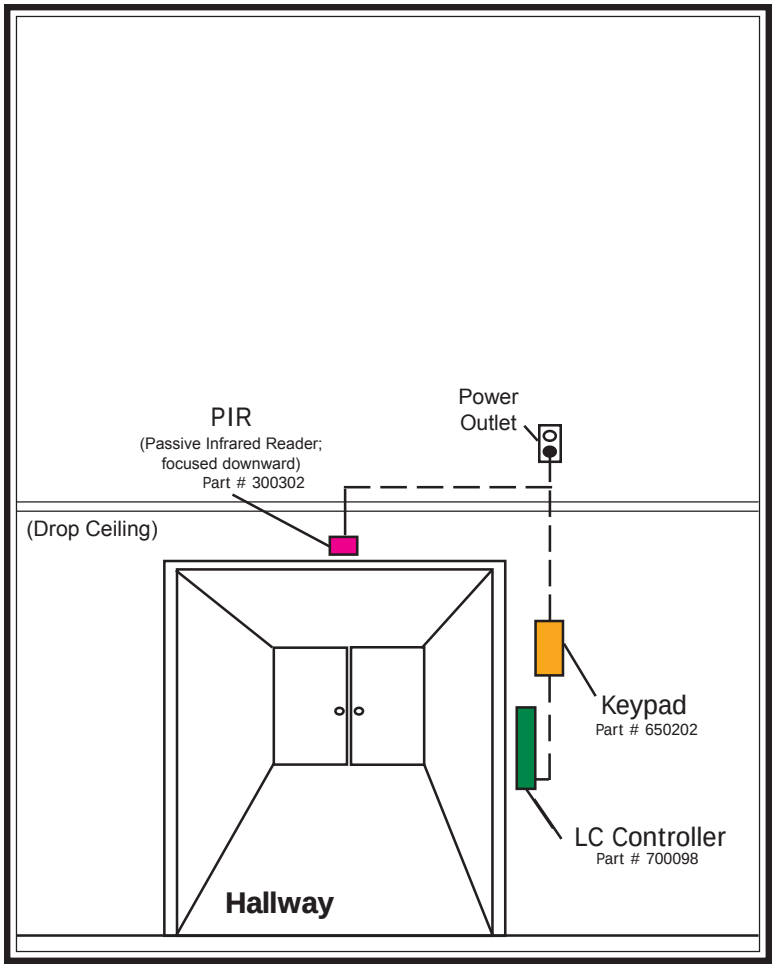
1 LC Controller (700098)
1 Keypad (650202)
1 PIR (300302)
1 Cable Kit (700150)



LCDD - LC 1200 Double Door Kit

Part # 800122 includes:

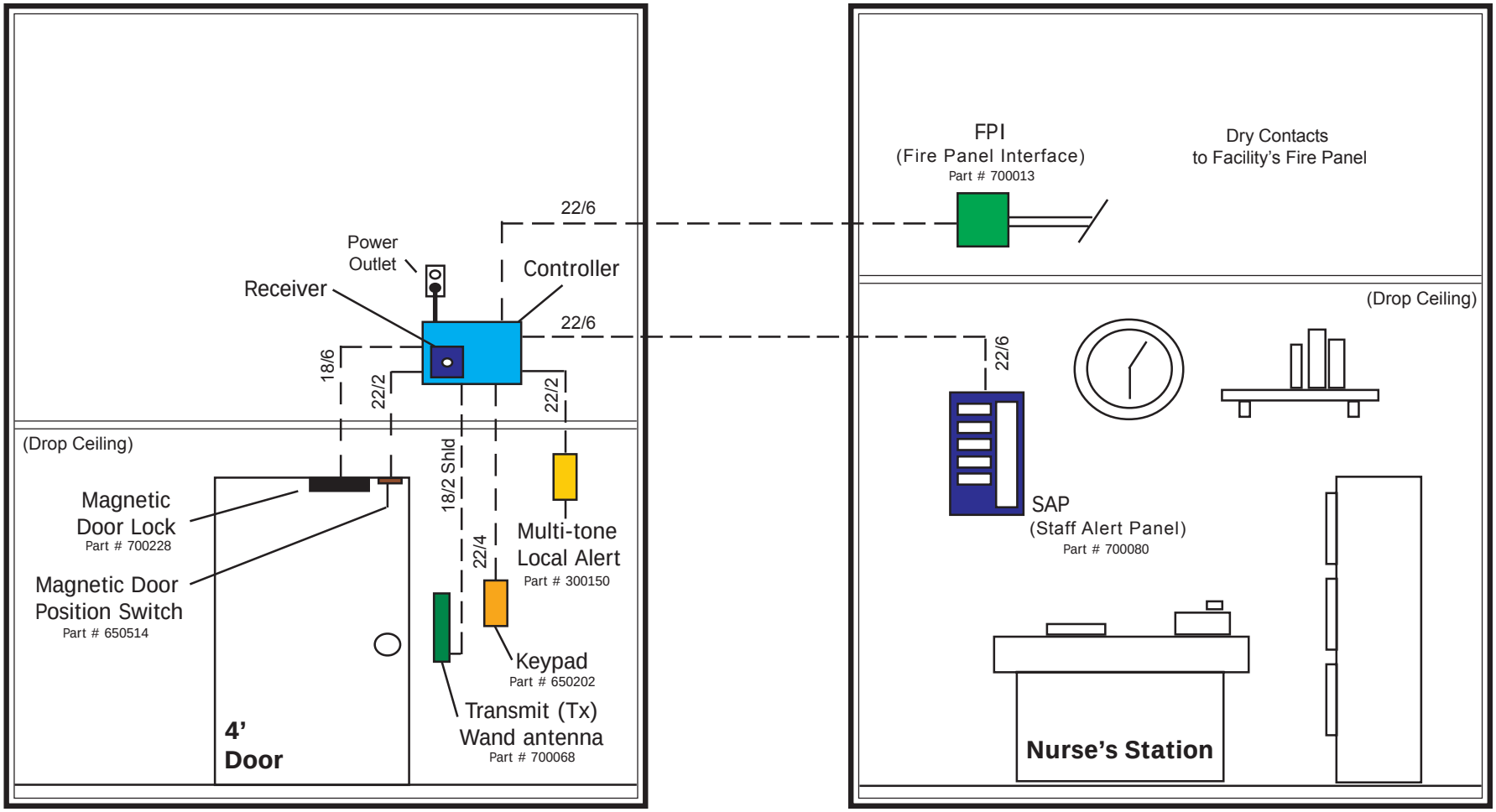
1 LC Controller (700098)
1 Keypad (650202)
2 Magnetic Contact (650514)
1 Cable Kit (700150)



LCHL - LC 1200 Hallway (Elevator) Kit

Part # 800123 includes:

1 LC Controller (700098)
1 Keypad (650202)
1 PIR (300302)
1 Cable Kit (700150)

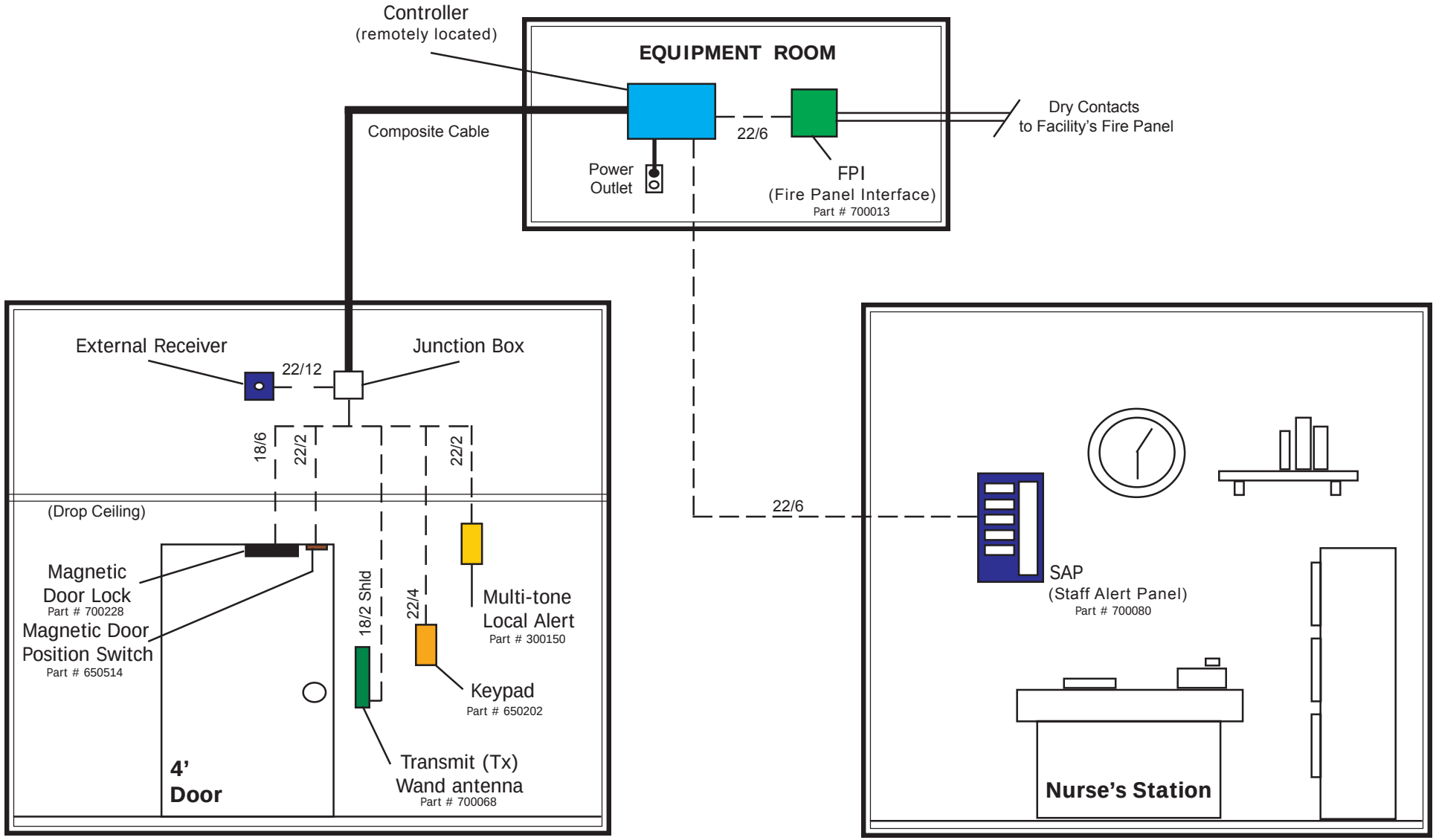


ES 2200 - Internal 4' Single Door Unit (ESI4)

The Controller is mounted at the door.
Dashed lines represent wire path; numbers indicate gauge and conductor respectively.

Part # 800104 includes:

1 Controller + RX Antenna
1 Keypad (650202)
1 Magnetic Contact (650514)
1 Cable Kit (700150)
1 Transmit Wand (700068)

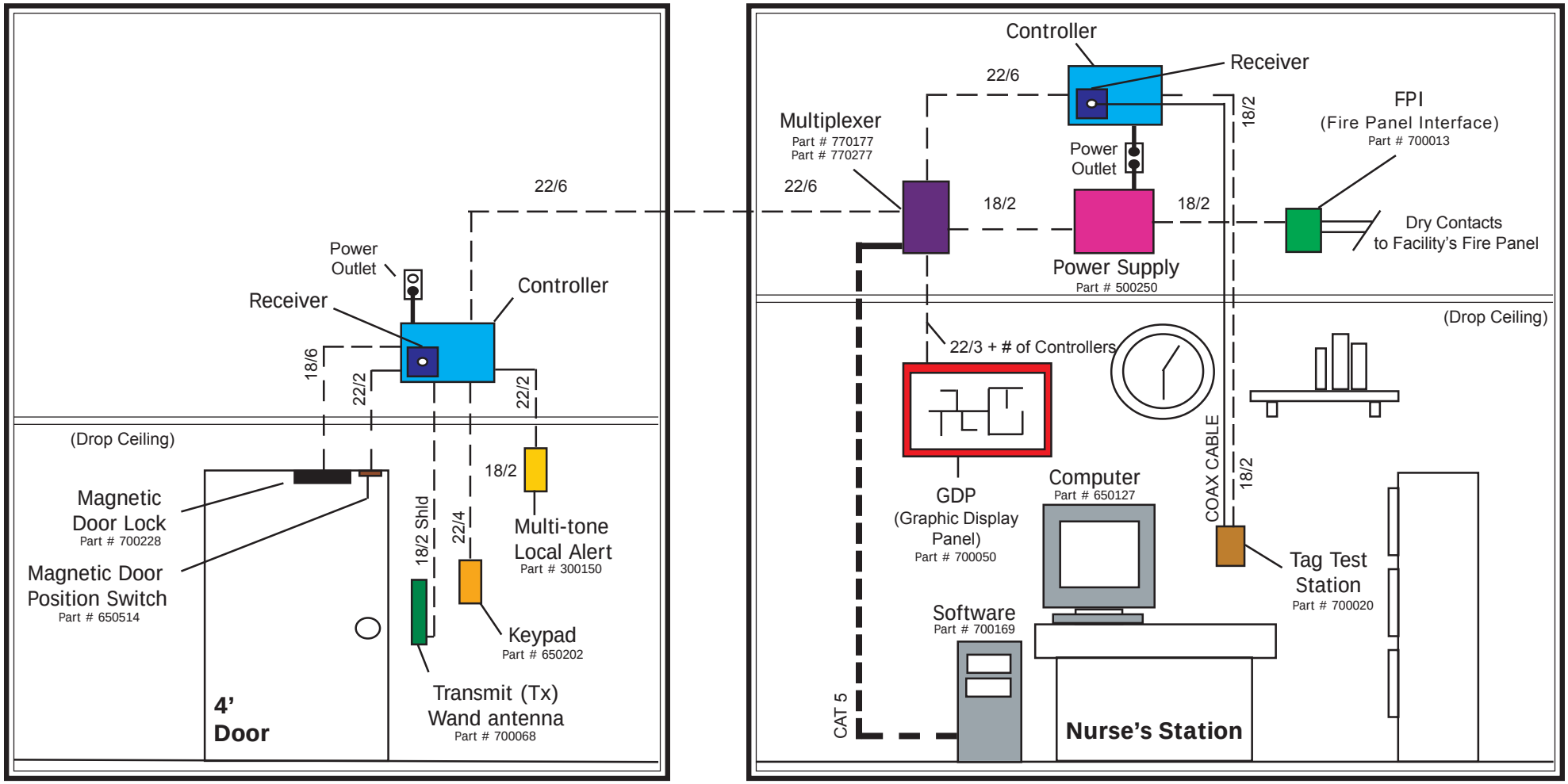


ES 2200 - Remote 4' Single Door Unit (ESR4)

The Controller is mounted remotely such as in an equipment room or utility closet.
Dashed lines represent wire path; numbers indicate gauge and conductor respectively.

Part # 800110 includes:

1 Controller + RX Antenna
1 Keypad (650202)
1 Magnetic Contact (650514)
1 Cable Kit (700150)
1 Transmit Wand (700068)

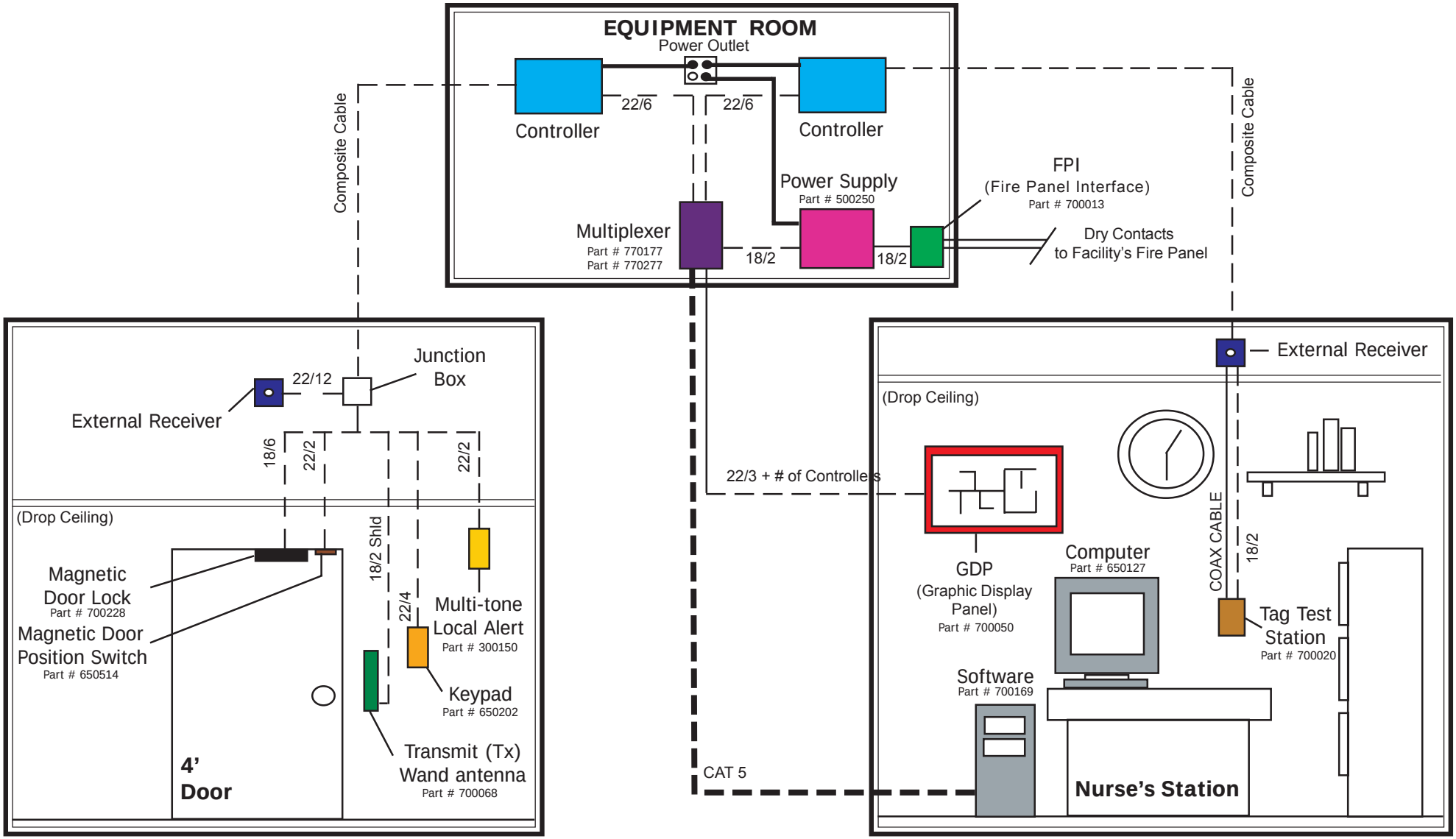


IS 3200 - Internal 4' Single Door Unit (ESI4 + IS components)

The Controller is mounted at the door.
Dashed lines represent wire path; numbers indicate gauge and conductor respectively.

Part # 800104 includes:

1 Controller + RX Antenna
1 Keypad (650202)
1 Magnetic Contact (650514)
1 Cable Kit (700150)
1 Transmit Wand (700068)

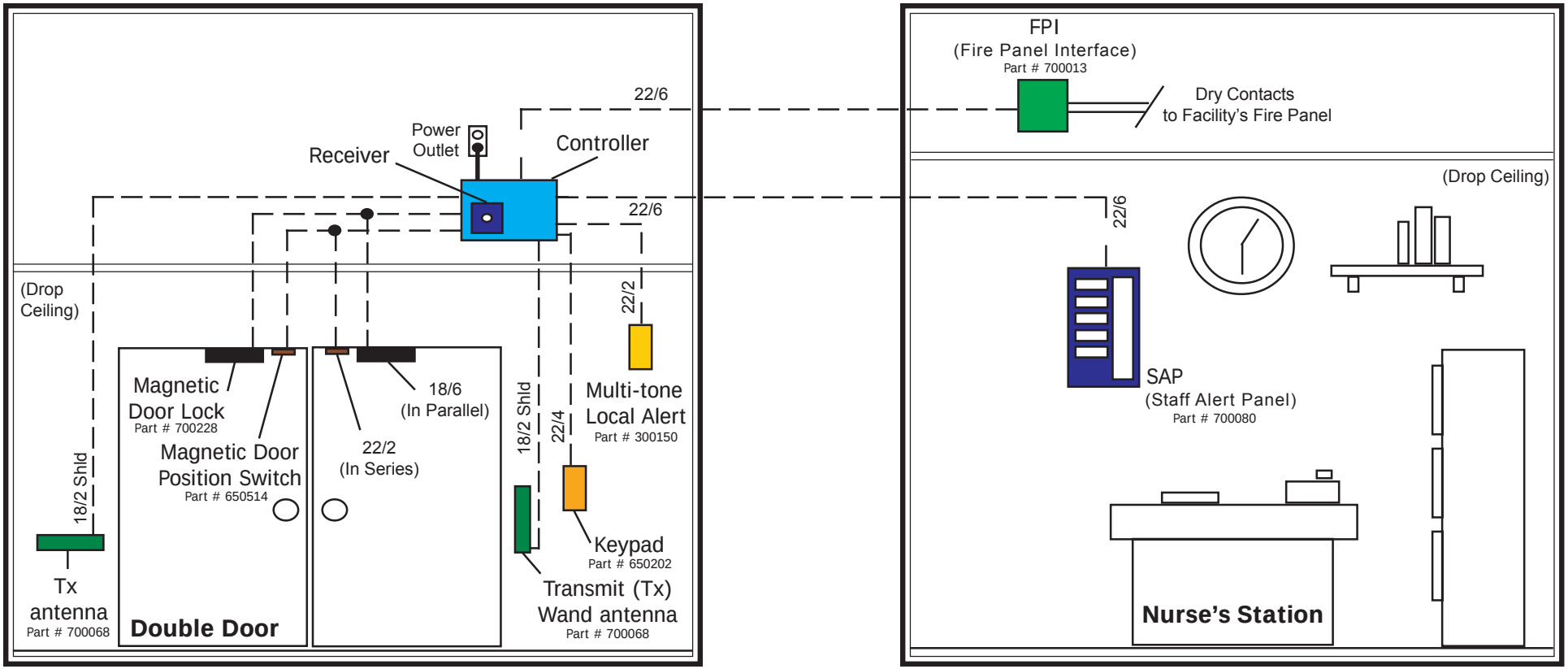


IS 3200 - Remote 4' Single Door Unit (ESR4 + IS components)

The Controller is mounted remotely such as in an equipment room or utility closet.
Dashed lines represent wire path; numbers indicate gauge and conductor respectively.

Part # 800110 includes:

1 Controller + RX Antenna
1 Keypad (650202)
1 Magnetic Contact (650514)
1 Cable Kit (700150)
1 Transmit Wand (700068)

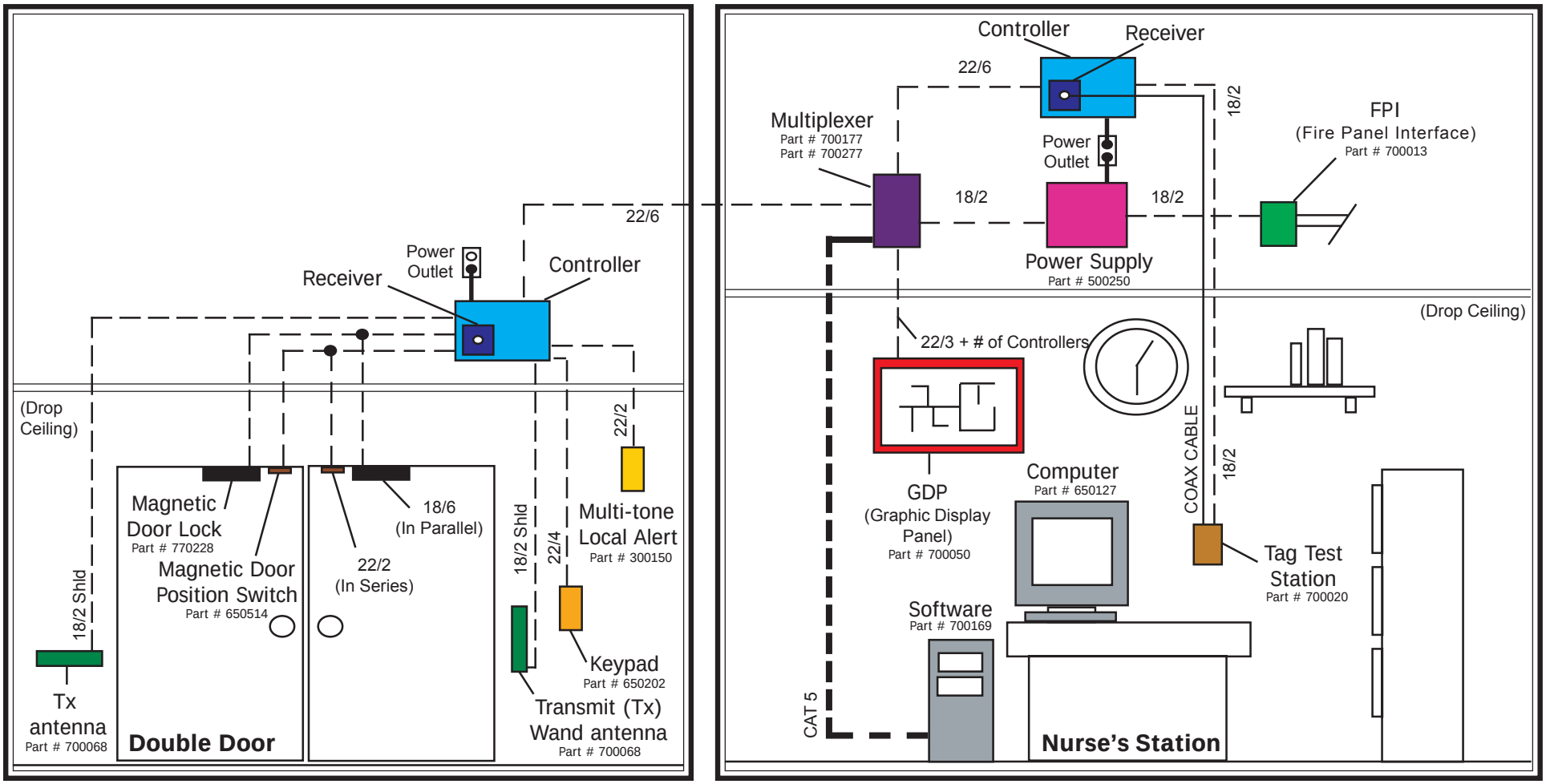


ES 2200 - Internal 6'- 8' Double Door Unit (ES168)

For double doors, two Transmit (Tx) Wand antennas are required to cover the larger opening and Magnetic Door Locks and Magnetic Door Position Switches are wired so either door opening will sound an alarm. Dashed lines represent wire path; numbers indicate gauge and conductor respectively.

Part # 800107 includes:

1 Controller + RX Antenna
1 Keypad (650202)
1 Magnetic Contact (650514)
1 Cable Kit (700150)
1 Transmit Wand (700068)

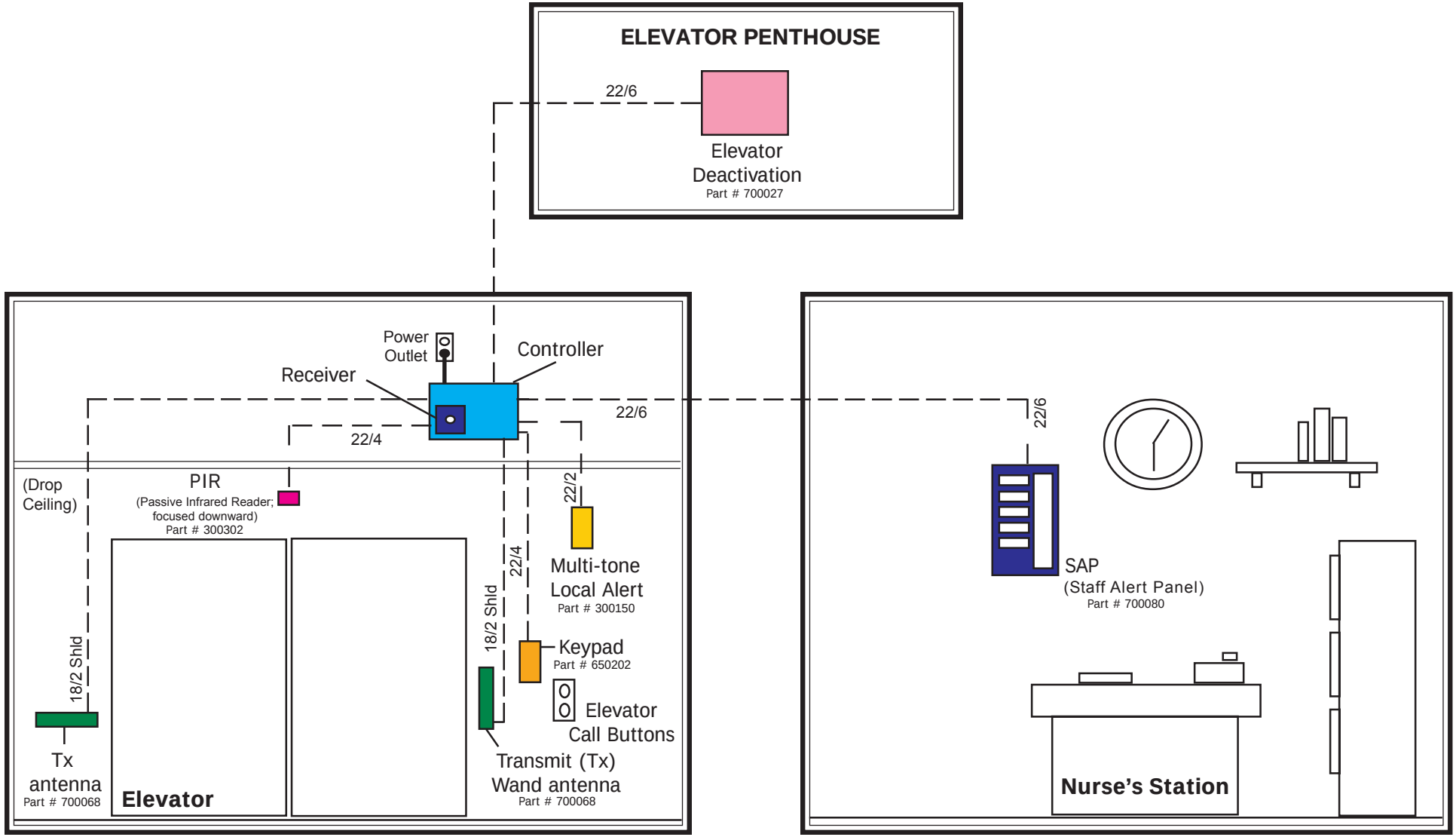


IS 3200 - Internal 6'- 8' Double Door Unit (ES168 + IS components)

For double doors, two Transmit (Tx) Wand antennas are required to cover the larger opening and Magnetic Door Locks and Magnetic Door Position Switches are wired so either door opening will sound an alarm. Dashed lines represent wire path; numbers indicate gauge and conductor respectively.

Part # 800127 includes:

1 Controller + RX Antenna
1 Keypad (650202)
2 Magnetic Contact (650514)
1 Cable Kit (700150)
2 Transmit Wands (700068)

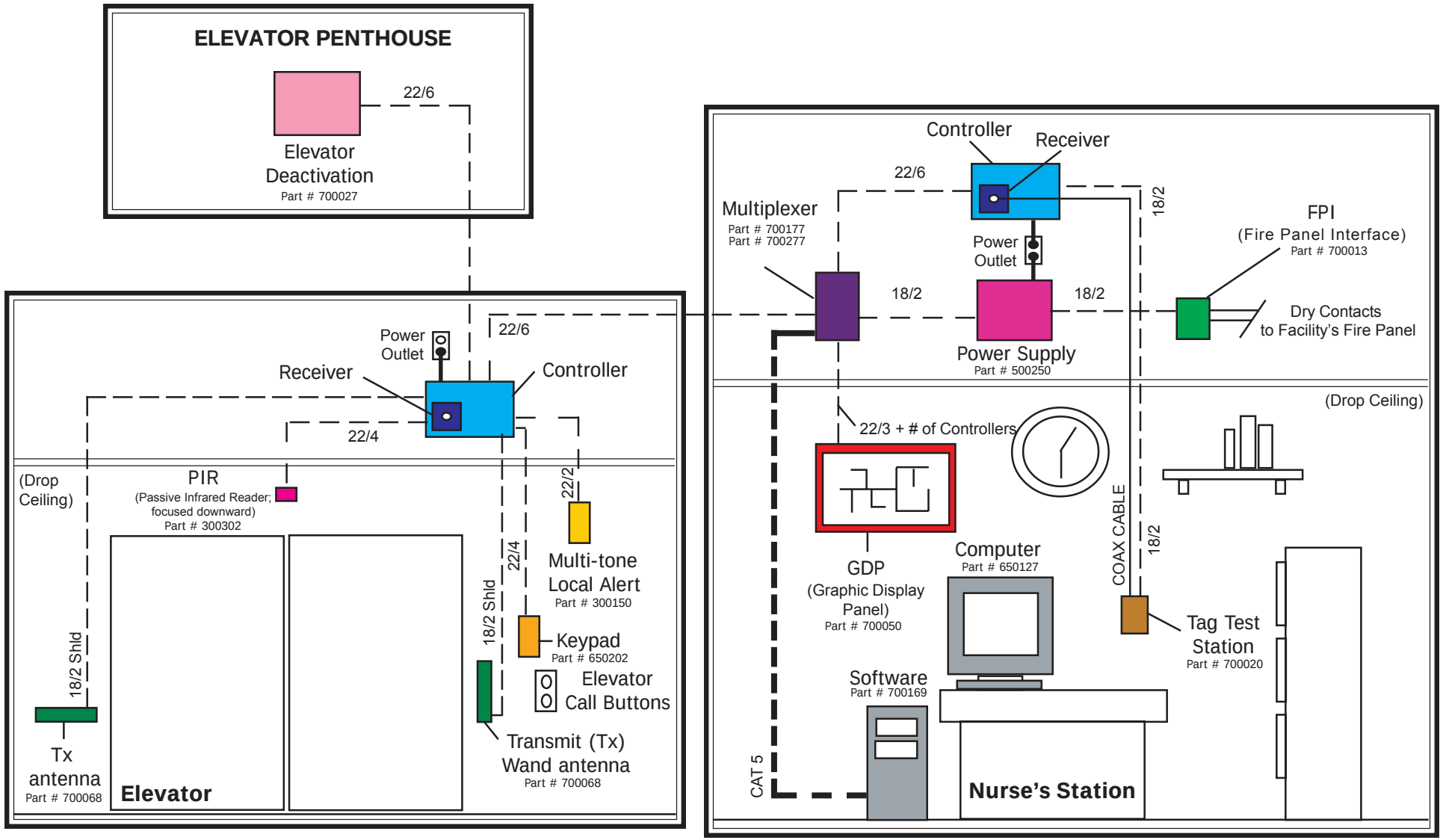


ES 2200 - Internal 6' Elevator Unit (ES168E) with Elevator Deactivation

For elevators, two Transmit (Tx) Wand antennas are required to cover the larger opening and Elevator Deactivation renders an elevator inoperative during an alarm event. Dashed lines represent wire path; numbers indicate gauge and conductor respectively.

Part # 800108 includes:

1 Controller + RX Antenna
1 Keypad (650202)
1 PIR (300302)
1 Cable Kit (700150)
2 Transmit Wands (700068)

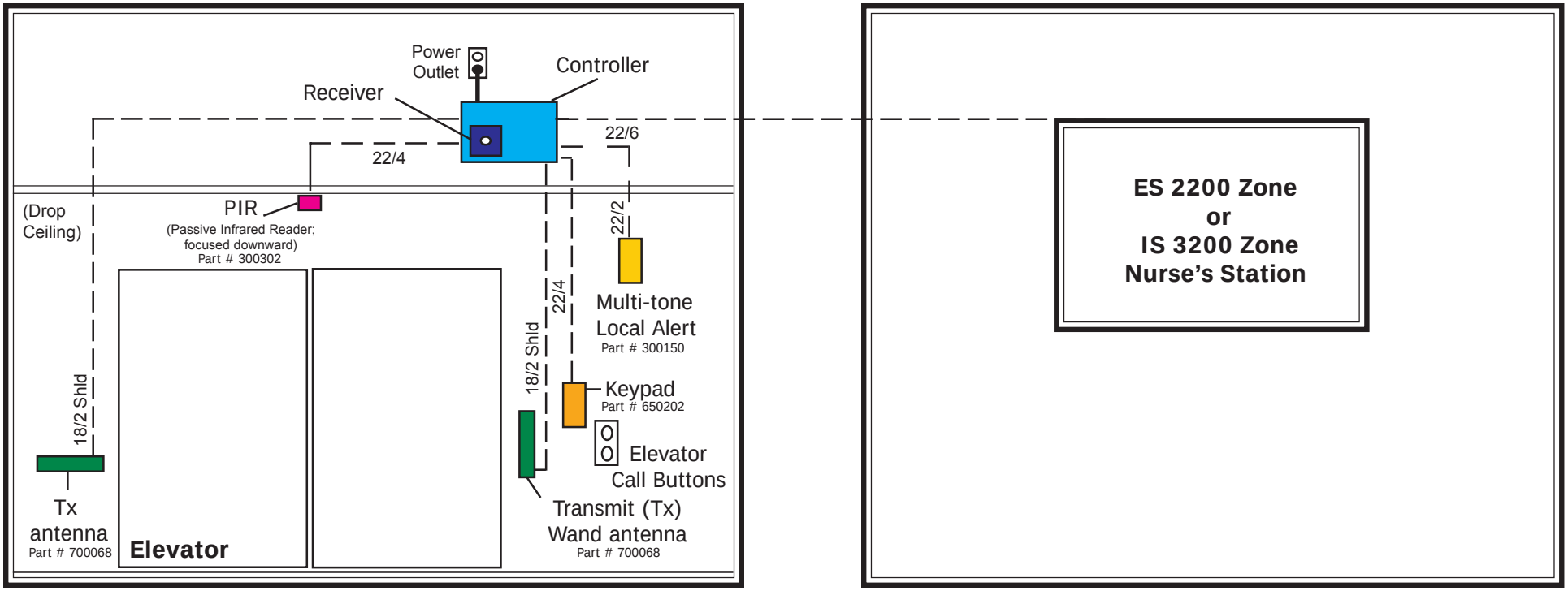


IS 3200 - Internal 6' Elevator Unit (ES168E + IS components) with Elevator Deactivation

For elevators, two Transmit (Tx) Wand antennas are required to cover the larger opening and Elevator Deactivation renders an elevator inoperative during an alarm event. Dashed lines represent wire path; numbers indicate gauge and conductor respectively.

Part # 800108 includes:

1 Controller + RX Antenna
1 Keypad (650202)
1 PIR (300302)
1 Cable Kit (700150)
2 Transmit Wands (700068)

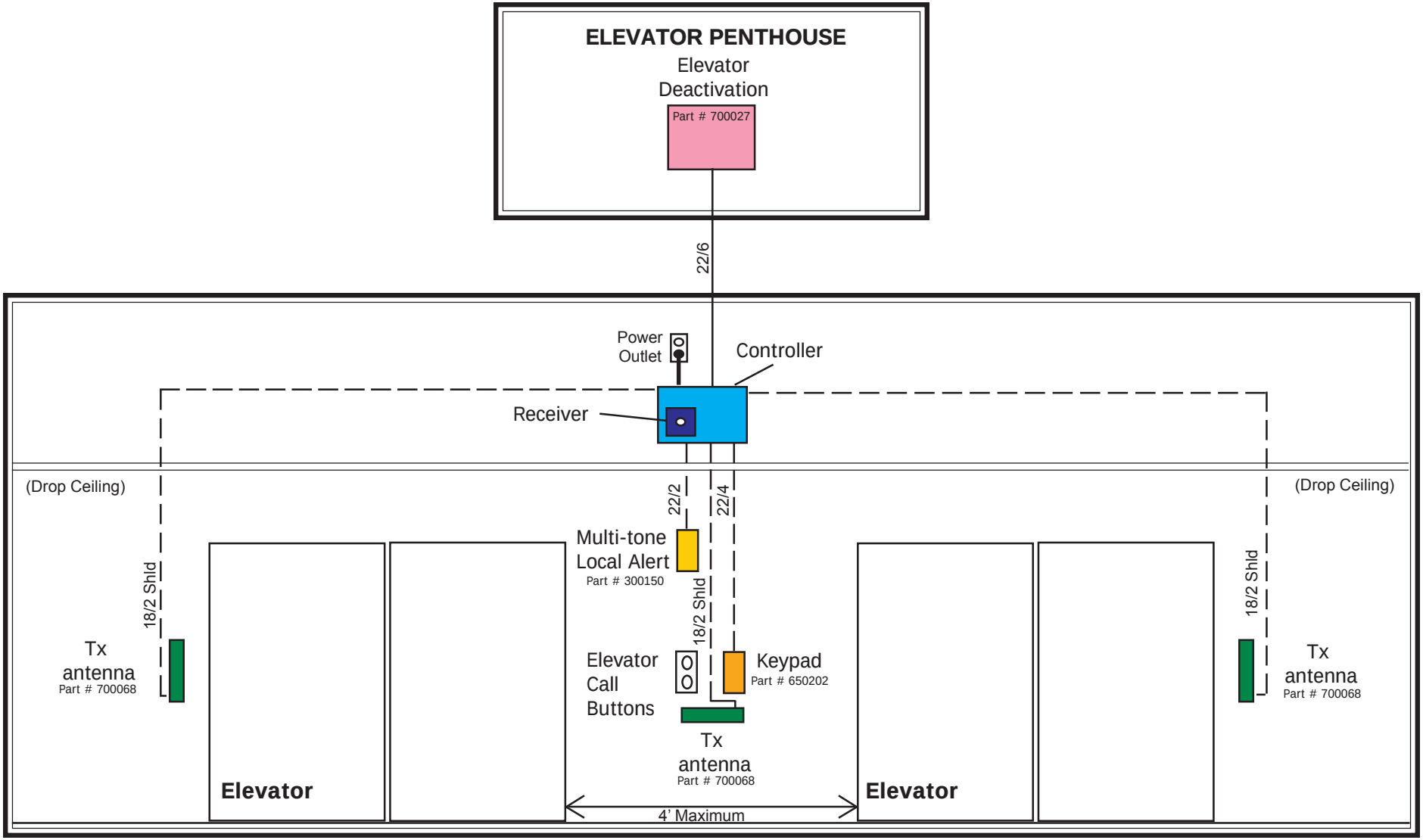


ES 2200 or IS 3200 Internal 6' Elevator Unit (ES168E) with PIR (Passive Infrared Reader) installed

As an alternative to Elevator Deactivation, a PIR mounted on the ceiling focused downward can cover an elevator.

Part # 800108 includes:

1 Controller + RX Antenna
1 Keypad (650202)
1 PIR (300302)
1 Cable Kit (700150)
2 Transmit Wands (700068)

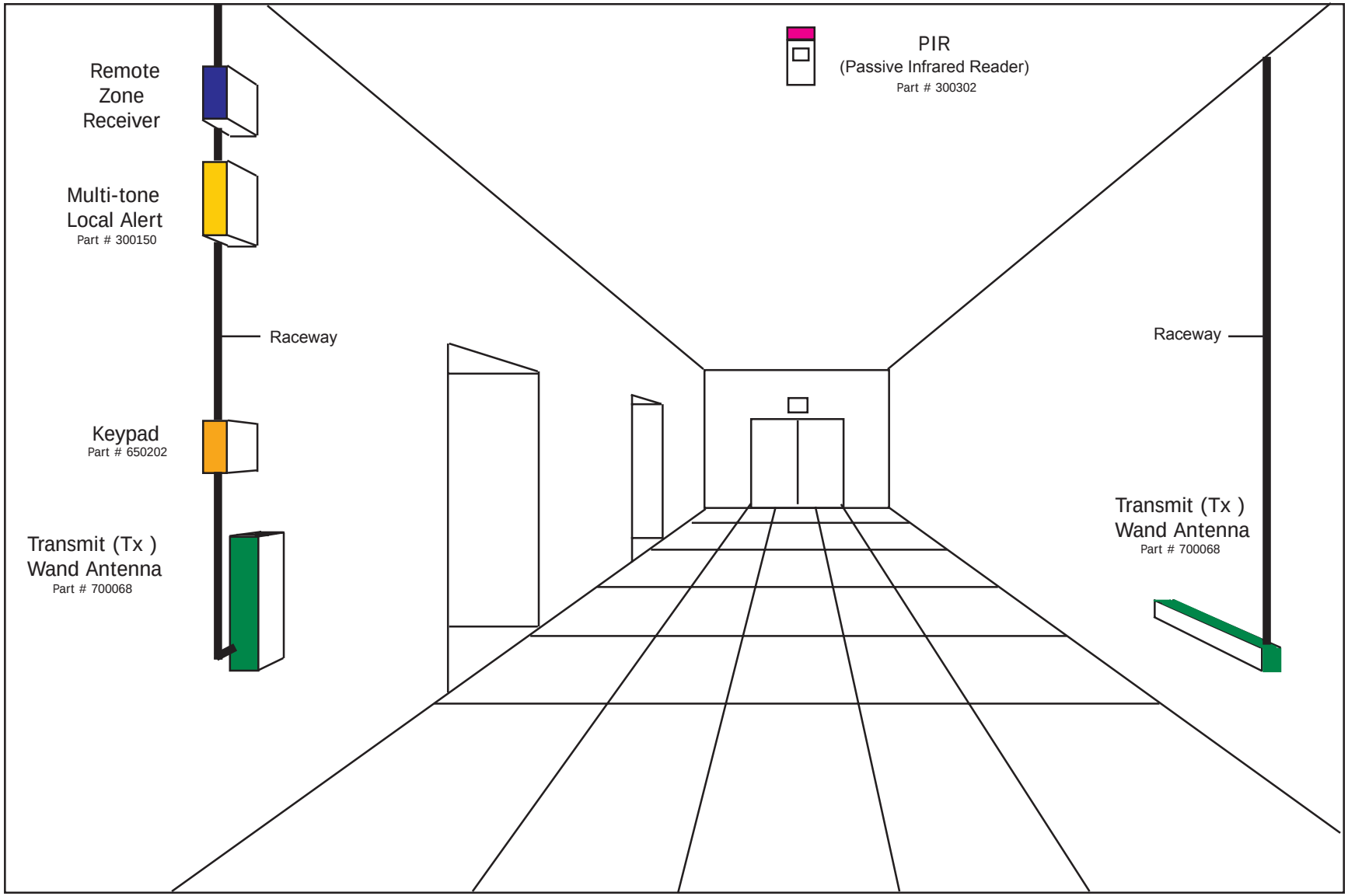


Internal Double Elevator Unit (ES168DE) with Elevator Deactivation

For multiple elevators in close proximity to each other, three Transmit (Tx) Wand antennas are required to cover the larger opening. Elevator Deactivation renders an elevator inoperative during an alarm event. Dashed lines represent wire path; numbers indicate gauge and conductor respectively.

Part # 800120 includes:

1 Controller + RX Antenna
1 Keypad (650202)
2 PIR (300302)
1 Cable Kit (700150)
3 Transmit Wands (700068)



ES 2200 or IS 3200 Remote Hallway Unit (ESR68H)

Using a remote Zone Receiver and/or PIR, a hallway opening (or any other passageway) can be a monitored zone. Wiring can be run from components to the Controller (not shown) through panduit, PVC, or plastic raceway (shown) but not metal conduit.

Part # 800115 includes:

1 Controller + RX Antenna
1 Keypad (650202)
1 PIR (300302)
1 Cable Kit (700150)
2 Transmit Wands (700068)

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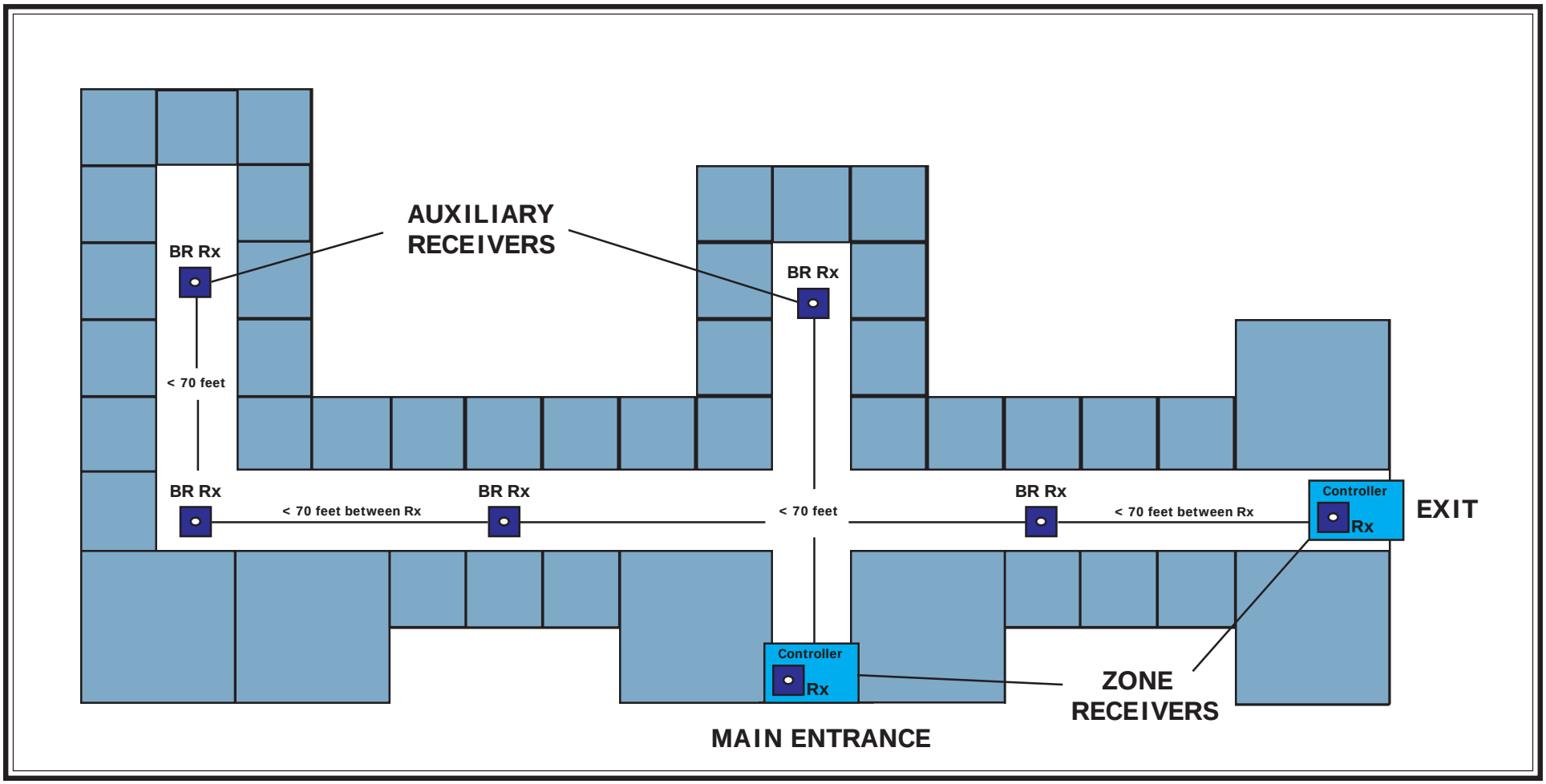
REV.B



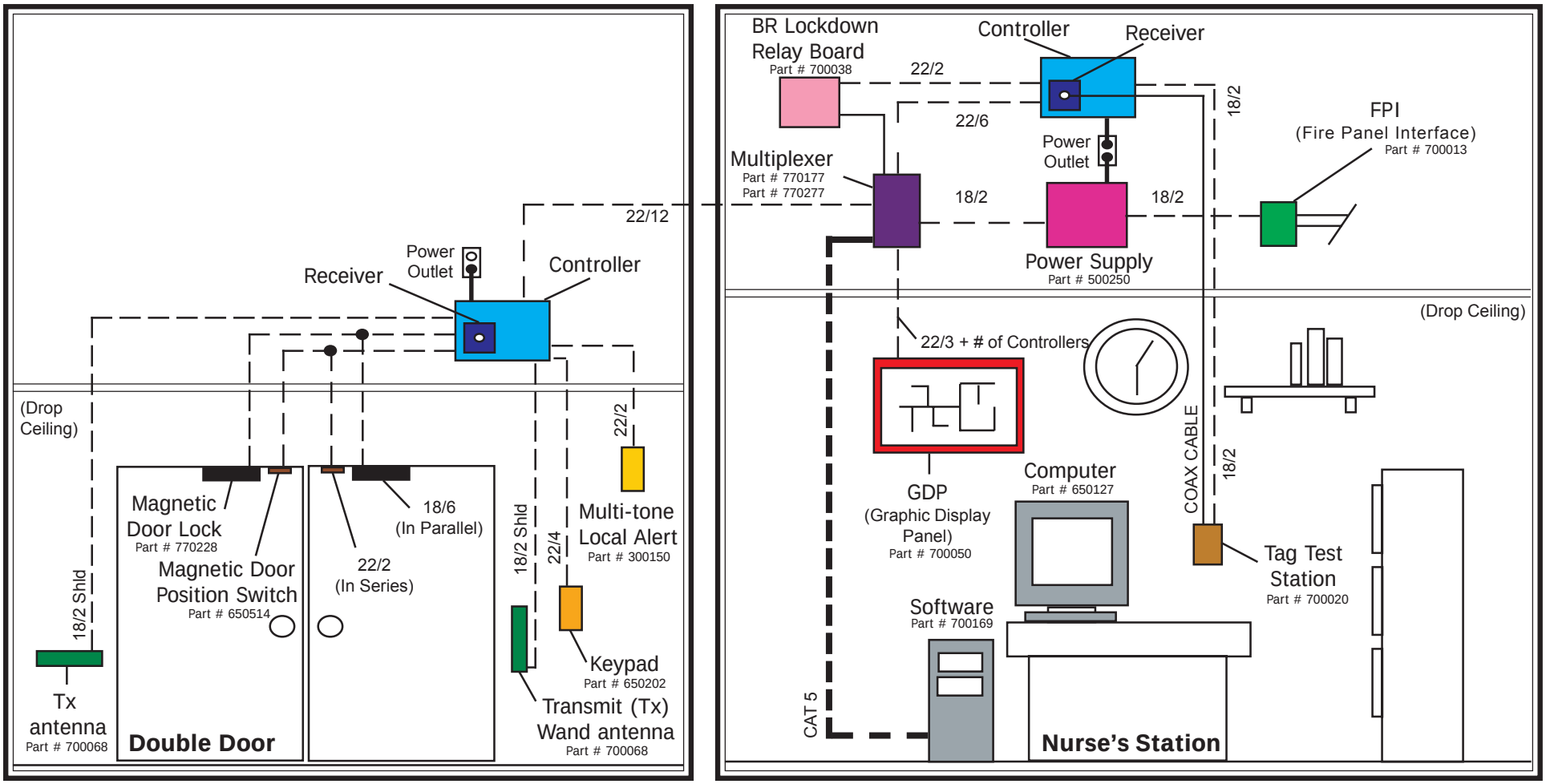
BR 4200 Generic Facility Floor Plan

In a BR 4200 system, Zone Receivers (Rx) and Auxiliary Receivers (BR Rx) are placed strategically throughout a facility. Receivers monitor 40 feet outward in every direction; therefore, they should be positioned approximately 70 feet apart. The distance between BR Receivers is also dependant upon a facility's structure (e.g. concrete/metal lathe as opposed to drywall walls). Zone Receivers monitor both zone events and Band Removal events. Auxiliary Receivers only monitor Band Removal events.

BR Rx

Part # 670076

BR LOCKDOWN CONFIGURATION (see Chapter 21 for more information)



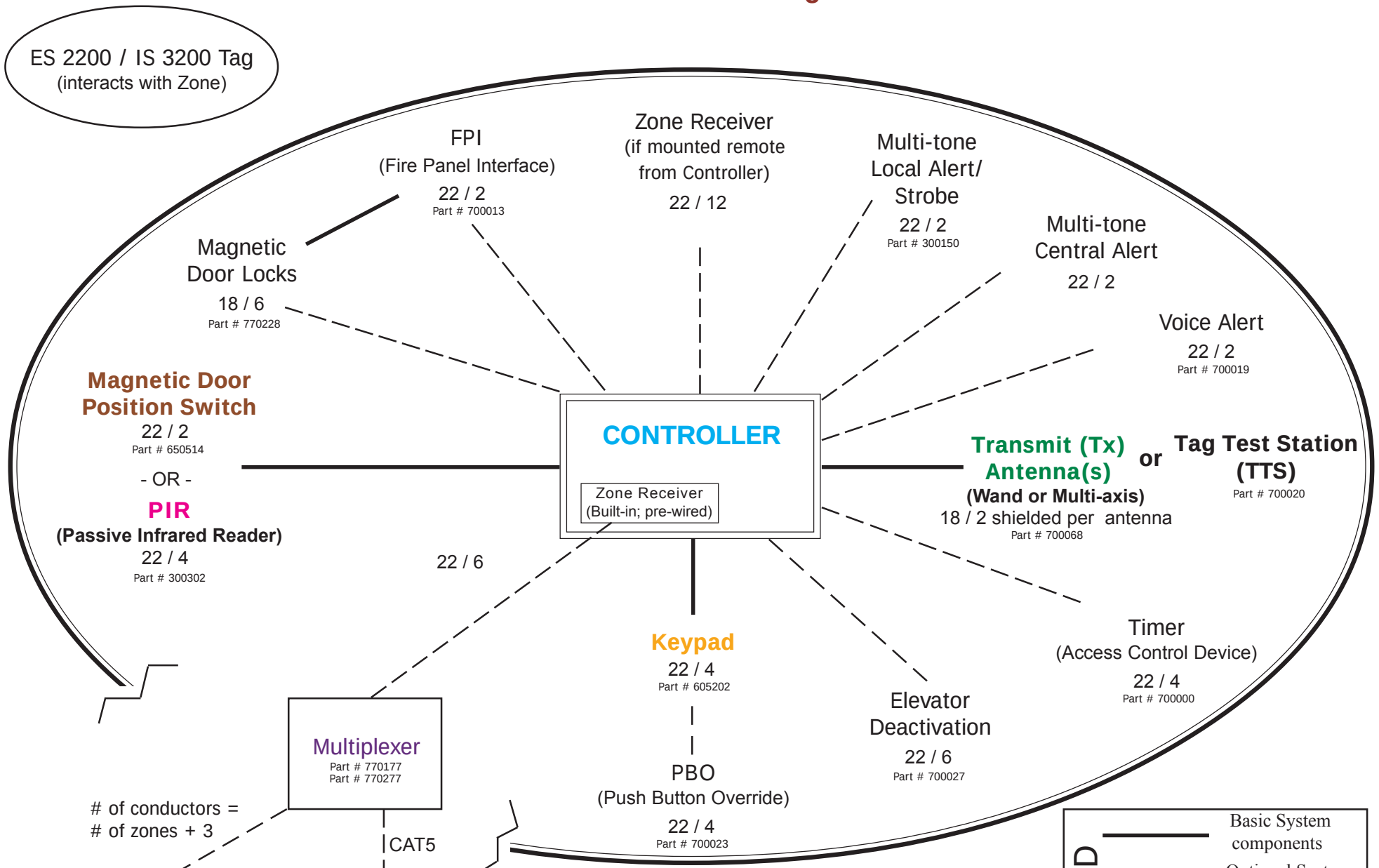
BR LOCKDOWN - Internal 6'- 8' Double Door Unit (ESI68 + IS components)

For double doors, two Transmit (Tx) Wand antennas are required to cover the larger opening and Magnetic Door Locks and Magnetic Door Position Switches are wired so either door opening will sound an alarm. Dashed lines represent wire path; numbers indicate gauge and conductor respectively.

Part # 800107 includes:

1 Controller + RX Antenna
1 Keypad (650202)
2 Magnetic Contacts (650514)
1 Cable Kit (700150)

ES 2200 / IS 3200 Wiring Guide



800-356-2671 | **Accutech** | www.accutech-ics.com

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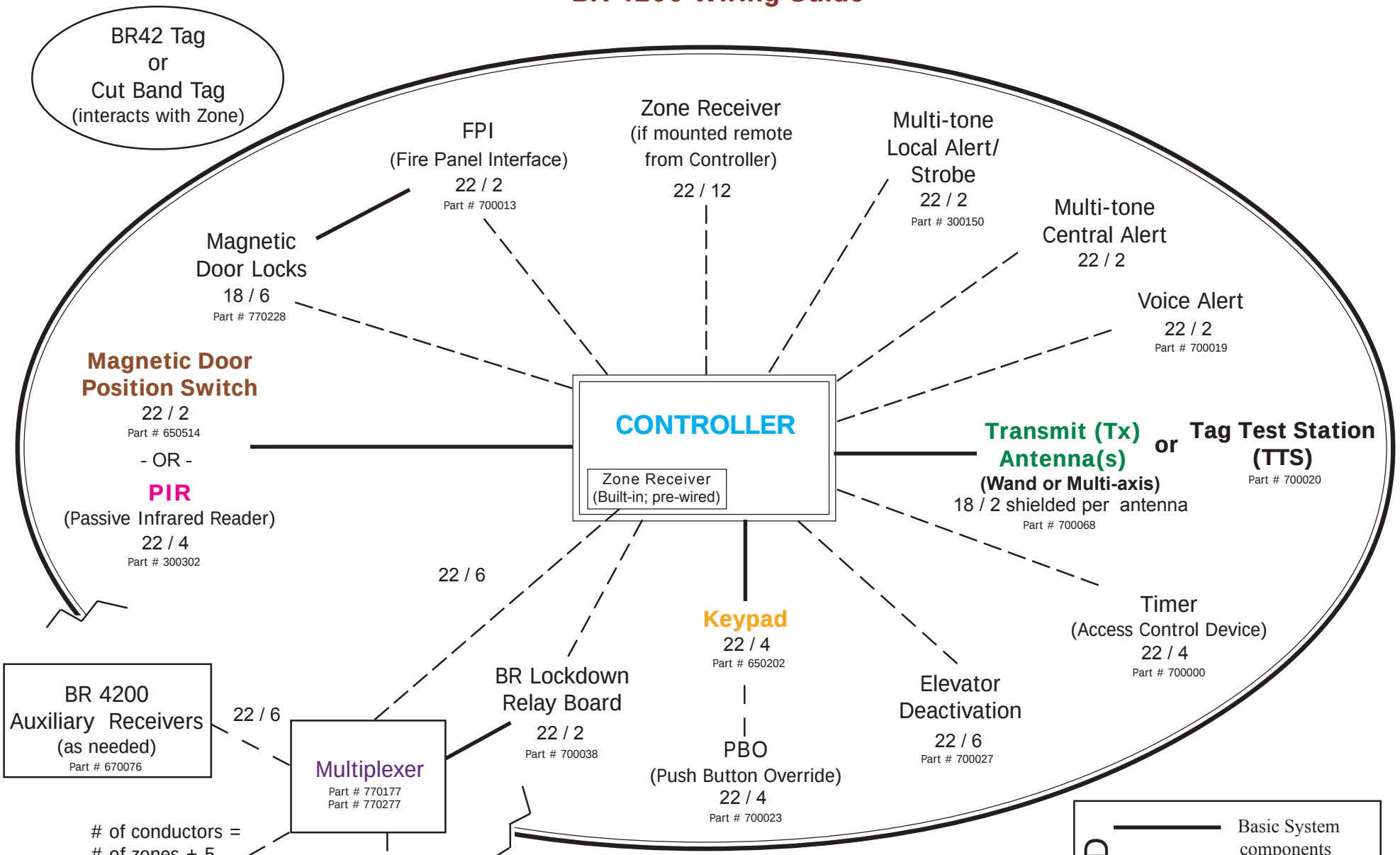
REV.B

BR 4200 Wiring Guide



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LEGEND

Basic System components

Optional System components

XX / X gauge/conductor

*Depending on zone configuration, some cable may be multi-sourced

DOC.970083
REV.B

Installation Manual

Appendix D:

Troubleshooting

Troubleshooting

This section contains solutions to possible system problems. As many system components (and therefore functions) are interrelated you may be referred back and forth to different sections to complete the troubleshooting.

Use the headings to locate your problem. Follow the solution list down until the problem is remedied. You may not need to perform all solutions.

KEY:

Heading	
Question(s) **A** **B** **C**	**Solution(s)** **A** **B** **C**

BEFORE YOU START…	
▪ Check all connections and wiring of affected component(s) ▪ Verify 110V AC power to the Controller ▪ Verify Controller unit is in On position	

No Tx indicator (LED 1, 2 or 3 is out)	
Is antenna tuned correctly?	See Tuning procedure (page 4-7)
Is Tx Gain set too low?	Increase the Tx Gain (pot R6)
Is antenna mounted on or near metal?	Move antenna minimum 3 inches from any metal or install a spacer block
Is antenna damaged?	Replace antenna (from another zone or a spare)
Is cable broken or pinched?	Check for broken or pinched cable
If still no Tx indicator…	Tx may be blown on Controller board

No Rx (LED14 is Green)	
Is the Receiver tuned correctly?	See Tuning procedure (page 5-6)
Is the cable broken or pinched?	Check for broken or pinched cable
Is the Receiver damaged?	Replace Receiver (from another zone or a spare)
Is the Receiver antenna damaged?	Replace Receiver antenna (from another zone or a spare)
Is Receiver getting power?	Verify 12V DC (or 6V DC if ES 2000 Receiver)
If still no Rx indicator…	Rx may be blown on Controller board

Tags (no detection)	
Tag is not detected	Use a TAD to verify Tag is turned on and functioning properly
Tag (turned on, functioning) is not detected	See "No Tx indicator" section
	See "No Rx" section

False Tag Detection (nuisance alarms)	
Is another zone setting this zone into alarm?	Implement Stagger Tuning (page 4-6)
Are patient rooms adjacent to monitored zone?	Reduce Tx wand antenna sensitivity (page 4-7)
	Reduce Receiver sensitivity (page 5-6)

Keypad	
Does not reset	Verify code
	Was incorrect code entered 3 times? If so, Keypad will lockout user for 90 seconds (Green LED blinks during this time)
	Verify proper wiring and voltage
	Replace Keypad (from another zone or a spare)

Tx Supervise alarming (LED14, steady Red)	
Are metal carts in front of antennas?	Remove metal carts from area
Is antenna damaged?	Replace antenna (from another zone or a spare)
Is cable broken or pinched?	Check for broken or pinched cable
Is the antenna(s) tuned properly?	See Tuning procedure (page 4-7)
Is Tx Supervise threshold set too high?	See Tuning procedure (page 4-7)

Door Ajar indicator alarming (LED8, steady Red)	
Is door propped open?	Check
Is door traffic high zone?	Extend Door Ajar delay time (see page 22-1)
Is monitored zone an Elevator/Hallway with a PIR ?	Disconnect Door Ajar feature by removing wire to Receiver on both ends

Loiter indicator alarming (LED9, steady Yellow)	
Is patient in monitored zone?	Address situation
Is patient in room next to monitored zone?	Reduce Tx wand antenna sensitivity (page 4-7)

No functions working	
If none of these features are working…	Check output on Controller with DMM. If outputs are good, check wiring and connections. If any outputs are not functioning, Controller may need replacing.

Lock Operation Verification	
From Controller:	1. Verify 12V AC output at P10 2. Label and remove wires in P4 connector 3. Jumper "Fire +V In" to "Fire +V Out) 4. With a Tag in monitored zone, use an ohmmeter to check for a closed contact across "Lock N.O." and "Lock Comm" 5. When you remove Tag from zone, this contact should then open 6. If these actions do not occur then the Controller board is defective 7. If board tests good, continue to "At Lock:"
At 3101 Lock:	1. Verify 12V AC at Pins 1 & 2 (Green LED1 should be on in non-energized state) 2. Using a jumper wire or needle-nose pliers, jumper Pin 3 to Pin 4. (This should energize the Lock; the Green LED1 will change to Red) 3. Use a jumper wire or needle-nose pliers to short Pins 5 & 6. (This will de-energize or reset Lock; LED1 will turn off for as long as pins 5 & 6 see a closed contact) 4. **NOTE:** LED2 should be lit at all times, if it is flashing or not illuminated then the Lock board is defective.

LED14 (Supervisor Indicator)

LED14 (Supervisor Indicator) indicates if there is a problem with the system's Tx wand antenna(s) and/or Receiver(s).

LED14 is a visual indicator of supervisor status; therefore you can troubleshoot without having to listen to the piezo buzzer alarm. You may silence the piezo buzzer alarm by removing jumper JP13 on the Controller.

NOTE: If LED14 indicates any sort of problem, before moving to more advanced troubleshooting steps, first check all wire connections on the Controller, the Tx wand antenna(s), the Receiver(s) and any splices at junction boxes.

LED14 Status, Color	Type of Problem	Refer to	Caused By
Off	n/a	n/a	n/a
On, Yellow	Tx wand antenna **and** Receiver-related problem	Yellow section	▪ Improper Wiring ▪ Improper Tuning ▪ Tag in the zone ▪ Metal Nearby ▪ Improper setting of pots (R4, R6, R12, R26) ▪ Faulty Tx wand antenna or Receiver
On, Green	Receiver-related problem	Green section	▪ Improper Wiring ▪ Tag in the zone ▪ Improper setting of pots (R4, R6, R12, R26) ▪ Faulty Receiver
On, Red	Tx wand antenna-related problem	Red section	▪ Metal Nearby ▪ Improper Wiring ▪ Improper Tuning ▪ Faulty Tx wand antenna

LED14 Status: Yellow

When LED14 displays Yellow it indicates a Tx wand antenna problem **and** a Receiver-related problem. Follow the Green section first (to rule out a Tx wand antenna problem) and then, if necessary, the Red section second.

LED14 Status: Green

When LED14 displays Green it indicates a Receiver-related problem.

To remedy this condition, use the following instructions:

1. Check for and remove any Tags that are in the zone or adjacent zones
2. On the Controller, move jumper JP5 to position 1 and wait 20 seconds
   NOTE:
   If system is working properly, LED14 will flash Green once every 8 seconds.
   If the system in not working properly, LED 14 will be steady Green for 8 seconds and then off for one second.

If LED14 continues to be Green for 8 seconds and then off for one second:

4. On the Receiver, check potentiometer R19 for proper setting (page 5-6)

If LED14 continues to be Green for 8 seconds and then off for one second:

5. Receiver may be faulty; swap with known working or spare
6. If still a problem, consult your Accutech Representative

LED14 Status: Red, one Tx Wand antenna

If LED1 is dim or off:

1. Check the "X" Tx Wand antenna for:
    - Damage
    - Proper Wiring (page 4-4)
    - Metal nearby (in wall or objects)
    - Proper Tuning (page 4-7)

If LED1 is bright:

2. On the Controller, reconnect P2 (Receiver)
3. Move jumper JP5 to position 1 and wait 20 seconds

If LED1 goes off, reset jumper JP5 and potentiometer R26 to their proper settings (see Appendix for info on JP5 and R26)

If LED1 remains Red, Tx wand antenna may be faulty; swap with known working or spare

If still a problem, consult your Accutech Representative

LED14 Status: Red, two Tx Wand antennas

In a two Tx wand antenna system, LED1 and LED2 should illuminate alternatively.

1. Make sure jumper JP4 is in position 2-3

If LED1 ("X" antenna indicator) and LED2 ("Y" antenna indicator) are **not** illuminating alternatively:

2. Check the "X" and "Y" Tx Wand antennas for:
    - Metal nearby (in wall or objects)
    - Damage
    - Proper Wiring (page 4-4)
    - Proper Tuning (page 4-7)

If LED1 and LED2 are **not** illuminating alternatively and LED2 is bright:

4. Reconnect P2 (Receiver) on the Controller
5. Move jumper JP5 to position 1 and wait 20 seconds

If LED2 goes off, reset jumper JP5 and potentiometer R26 to their proper settings (see Appendix for info on JP5 and R26)

If LED2 remains Red, Consult your Accutech Representative.

LED14 Status: Red, three Tx wand antennas

In a three Tx Wand antenna system, LED1, LED2 and LED3 should illuminate alternatively.

1. Make sure jumper JP4 is in position 1-2

If LED1 ("X" antenna indicator), LED2 ("Y" antenna indicator) and LED3 ("Z" antenna indicator) are **not** illuminating alternatively:

2. Check the "X", "Y" and "Z" Tx Wand antennas for:
    - Metal nearby (in wall or objects)
    - Damage
    - Proper Wiring (page 4-4)
    - Proper Tuning (page 4-7)

If LED 1, 2 and 3 are **not** illuminating alternatively and LED3 is bright:

3. Reconnect P2 (Receiver) on the Controller
4. Move jumper JP5 to position 1 and wait 20 seconds

If LED3 goes off, reset jumper JP5 and potentiometer R26 to their proper settings (see Appendix for info on JP5 and R26)

If LED3 remains Red, Consult your Accutech Representative.

Installation Manual

Appendix E:

Product Cut Sheets

ACCUTECH
RFID-ENABLED SECURITY PRODUCTS
Security Systems made for Life.

CUT SHEETS

- 3000 Magnetic Lock
- Accutech 3101 Magnetic Lock
- Accutech Software
- Automatic Door Deactivation
- BR 4200 Auxiliary Receiver
- BR42 Tag
- Central Alarm
- Composite cable
- Controller
- Elevator Deactivation
- ES 2200 System Tags
- Fire Panel Interface (FPI)
- Graphic Display Panel (GDP)
- IS 3200 System Tags
- Keypad
- LED Tag
- Local Alarm
- Magnetic Switch
- Multi-Tone Local Alarm (MTLA)
- Multiplexer
- Push Button Override (PBO)
- Passive Infrared Reader (PIR)
- Power Supply
- PTAD
- Staff Alert Panel (SAP)
- Speakers
- Tag Activator/Deactivator (TAD)
- Tag Test Station (TTS)
- Timer
- Tx wand antenna
- Voice Alarm
- Zone Receiver

Innovative Control Systems Inc.
10125 South 52nd Street Franklin, WI 53132
[800.356.2671] [Fax 414.423.4448]
www.accutech-ics.com

CUT SHEET: 3000 Magnetic Lock

The 3000 Magnetic Lock will engage when the zone Controller detects a Tag in the Tx Activation Field. The Lock will remain engaged as long as the Tag is in the Tx Activation Field. When the Tag leaves the Tx Activation Field, the Lock will disengage after an adjustable period of time (0-120 seconds).

SAFETY FEATURES:

The Lock will **NOT** engage (or will disengage) when the facility's Fire Alarm is activated or power is lost.

ELECTRICAL:

Operating Voltage: 12 or 24V AC/DC
Current Consumption at 12V: .42 amp
Current Consumption at 24V: .21 amp
Cable: non-shielded 18-gauge, 2-conductor

MECHANICAL:

Lock Size: 1-1/2" x 2-3/4" x 11"
Armature Size: 1-1/2" x 2-3/8" x 3-5/8"
Finish: US28 Satin Aluminum with clear anodize
Mounting Hardware: 5 #10 PNHD Self Tapping Screws 1" long
Weight: 9 US pounds

OPERATING CHARACTERISTICS:

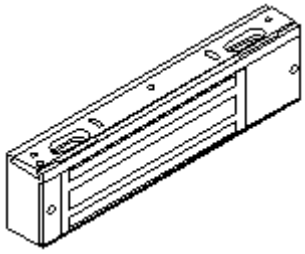
Holding Force: 1500 pounds

ENVIRONMENTAL:

Operating Temperature: 32º to 120º Fahrenheit
Intended for indoor use only.

DUTY CYCLE:

Rated for continuous use.



3000 Magnetic Lock

UL Listed:
GWXT.R15538

Model Number: ML
Part Number: 700218

Due to existing UL listing (above), not required to be listed under UL 294 (BP9480)

CUT SHEET: Accutech 3101 Magnetic Lock

WARNING: The Accutech 3101 Magnetic Lock is custom-designed to our specifications and should not be purchased directly from the manufacturer.

The 3101 Magnetic Lock will engage when the zone Controller detects a Tag in the Tx Activation Field. The Lock will remain engaged as long as the Tag is in the Tx Activation Field. When the Tag leaves the Tx Activation Field, the Lock will disengage after an adjustable period of time (0-120 seconds).

SAFETY FEATURES:

The Lock will **NOT** engage (or will disengage) when the facility's Fire Alarm is activated or power is lost.

The 3101 Magnetic Lock also incorporates Delayed Egress Circuitry that complies with N.F.P.A. 101 Life Safety Codes 5-2.1.6.1. If engaged, the Lock will release within 15 seconds (after 1-3 second nuisance delay) whenever a maintained force (less than 15 pounds required) is applied to the door. An audible tone enunciates both countdown and release. When the Lock releases, the red LED will turn solid green and the alarm will sound continuously.

ELECTRICAL:

Operating Voltage: 12 V AC
Current Consumption: 450 mA
Cable: non-shielded 18-gauge, 6-conductor

MECHANICAL:

Lock Size: 3" x 2 ¾" x 11"
Armature Size ½" x 2-5/16" x 7-3/8"
Standard Finish: Satin Aluminum-US28
Mounting Hardware: 5 #10 PNHD Self Tapping Screws 1" long
Weight: 11 US pounds

Accutech 3101 Magnetic Lock

Model Number: MLE
Part Number: 700228

OPERATING CHARACTERISITICS:

Holding Force: 1200 pounds

Once locked, the Lock will disengage when any of the following conditions occur:

- All Tags leave the Tx Activation Field
- A Keypad Reset
- A PBO is activated
- The facility's fire alarm is activated.
- Power is removed from the Lock.
- The Central Override is activated.
- When a maintained force (less than 15 pounds required) is applied to the door for an adjustable period of time (1-3 seconds).

Lock LED status during normal operation:

- Green – Power indicator
- Red – Lock engaged (Tag detected in zone)
- Red blinking – Egress countdown (15-30 seconds adjustable)
- No Power To LED – Escort function or Reset

UL Listed:

- **FWAX.SA9532**
- **Auxiliary Locks listed 2N98**
- **Special Arrangements listed 1M59**

Due to existing UL listing (above), not required to be listed under UL 294 (BP9480)

ENVIRONMENTAL:

Operating Temperature: 32º to 120º Fahrenheit
Intended for indoor use only.

DUTY CYCLE:

Rated for continuous use.

CUT SHEET: Accutech Software

Accutech Security Systems are NOT computer-dependant.
The Software is for reporting purposes only and does not affect nor control the physical Accutech Security System.

The Accutech Software is installed on each monitoring PC and is used to display incoming event information. Using the facility's floor plan as the background, zone-specific icons (i.e., doors, elevators, stairwells, hallways, and BR 4200 Auxiliary Receivers) are placed at each monitored zone's location and become animated when an alarm occurs.

KEY FEATURES:

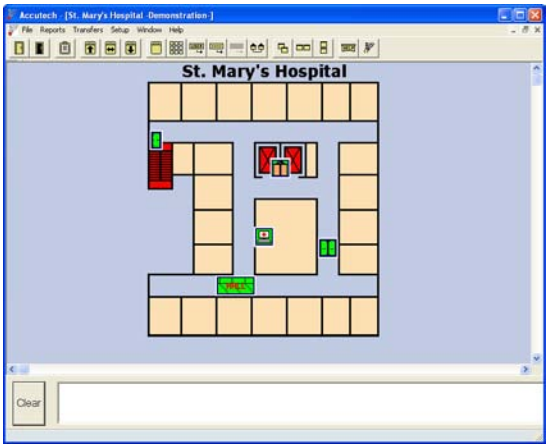
- Floor plans can be monitored locally or remotely.
- Customizable event handling (displaying, logging, clearing)
- Password protected operations
- Tags are assigned to specific patients, residents, infants, or assets.
- Customizable printable Reports (sort by start/end date, event type, zone, and/or patient)

MINIMUM SYSTEM REQUIREMENTS:

- 1.80 GHz processor
- 17" CRT Monitor (capable of displaying 1024x768 pixels in 16-bit high color)
- 20 GB Hard Drive
- 1 GIG DDR2 RAM
- Integrated Video
- 32x CD-ROM Drive
- Keyboard
- Mouse
- Mouse Pad
- Speakers (or integrated sound)
- Windows 2000 SP4 or Windows XP SP2
- **1 Serial 9pin COM PORT**

RECOMMENEDED:

- 2.33 GHz processor or higher, 1333 FSB
- 17" LCD Flat Panel Monitor (capable of displaying 1280 x1024 pixels in 32-bit high color)
- 80 GB Hard Drive
- 2 GIG DDR2 RAM, Non-ECC, 887 MHz
- Integrated Video
- 24x CD-RW/DVD Combo Drive
- USB Keyboard
- USB Mouse
- Mouse Pad
- Speakers (or integrated sound)
- Windows XP SP2
- **1 Serial 9pin COM PORT**



Software Screenshot example

Model Number: SW
Part Number: 700169

If networking multiple computers:

- 10/100 Network Interface Card (NIC) in each PC
- Cross over cable, if networking only 2 Accutech PCs10/100 Workgroup Switch or Hub, if networking more than 2 Accutech PCs

CUT SHEET: Automatic Door Deactivation

In automatic door applications (doors that open via a motion sensor or push paddle), the Accutech System can deactivate this feature when a Tag enters a monitored zone's Tx Activation Field.

ELECTRICAL:

Operating Voltage: 12V DC
Current Consumption: 120 mA maximum
Contact Rating: 100 mA / 12V DC
Cable: need minimum 22-gauge, 6-conductor

MECHANICAL:

Construction: Metal case
Enclosure size: 6.00" x 6.00" x 4.00"
Enclosure weight: 3.85 US pounds

OPERATING CHARACTERISTICS

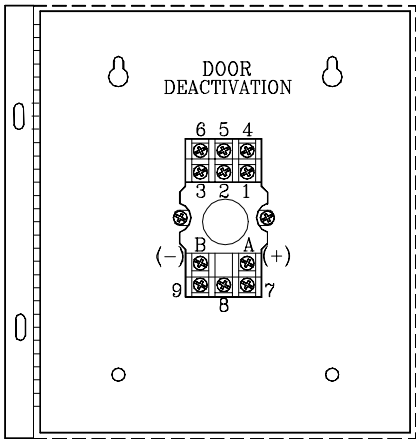
Dry contacts are provided for the automatic door company's use.

ENVIRONMENAL:

Operating Temperature: 32º to 120º Fahrenheit
Intended for indoor use only.

DUTY CYCLE:

Rated for continuous use.



Automatic Door Deactivation

Model Number: ADD
Part Number: 700033

UL Listed 294 (BP9480)
Access Control Accessory

CUT SHEET: BR 4200 Auxiliary Receiver

BR 4200 Auxiliary Receivers only monitor Band Removal and Band Compromise events. They monitor approximately 40 feet outward in every direction; therefore, they should be positioned 70 feet apart to avoid confusion about the location of a Band Removal alarm.

When choosing the location and number of Auxiliary Receivers, be sure to consider the following:

- the facility's structure (i.e., concrete/metal lathe as opposed to drywall walls or foil-backed ceiling tiles).
- keep a minimum distance of 4 feet away from fluorescent lighting and air handling equipment.
- Band Removal alarms can be generated anywhere within a facility, not just exit points; this includes bathrooms, visiting areas, storage rooms, and laundry rooms.

ELECTRICAL:

Operating Voltage: 12V DC regulated
Current Consumption: 50 mA maximum
Cable: needs minimum 22-gauge, 6-conductor

MECHANICAL:

Size: Mounted in a 4" x 4" x 2" electrical box.
*Allow 7" depth for clearance of the BNC Rubber Duck antenna
Weight: 1 lb. 4.5 oz. total (Rx + Box + Duck)

OPERATING CHARACTERISTICS:

Transmit Frequency: 418 MHz
Receive Frequency: 418 MHz
Frequency range: 40 feet radius (360º)

Jumpers settings:

JP1 (SS)	Off
JP2 (Rx Test)	Off
JP3 (Tag D)	Off
JP4 (BR)	On
JP5 (Reset)	Off

ENVIRONMETNAL:

Operating Temperature: 32º to 120º Fahrenheit
Intended for indoor use only.

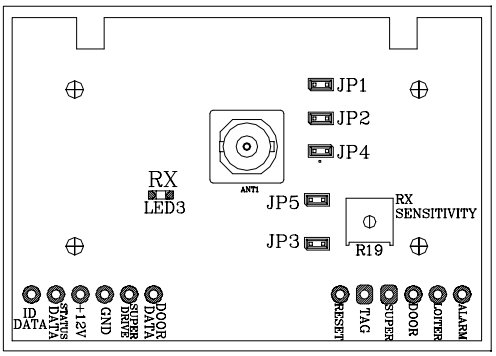
DUTY CYCLE:

Rated for continuous use.

BR 4200 Auxiliary Receiver

Model Number: ESRR
Part Number: 670076

UL Listed 294 (BP9480)
Access Control Accessory



BR 4200 Auxiliary Receiver (PCB)

CUT SHEET: BR42 Tag

BR42 Tags, only used in BR 4200 Systems, are small wristwatch-sized devices worn by an infant.
They feature Intelli-Band Technology, which will alarm if the band is loosened, cut, saturated, removed, or tampered with.
BR42 Tags are assigned to a specific infant via the Tag Test Station and Accutech Software. Once assigned, the computer associates a name, room number, and any other pertinent information about the infant with that Tag.

ELECTRICAL:

BR42 Tags operate by internal battery.
The Tags have been engineered for greater than 12 months usage and can be activated/deactivated with a TAD.

Model Number: BR
Part Number: 670015

UL Listed 294 (BP9480)
Access Control Accessory

MECHANICAL:

Size: 1¼" x 1¾" x ¾"
Weight (with band): 1 ounce

OPERATING CHARACTERISTICS:

Transmit Frequency: 418 MHZ
Receive Frequency: 128-133 kHz

ATTACHMENT:

BR42 Tags are attached to infants with an elastic cloth band (Latex-free). The BR42 band has conductive fiber stripes that must be in contact with both the infant's skin and the gold contacts on the Tag. The band must be routed properly through the Tag case for the system to function properly. Tags are typically attached to a wrist or ankle. For smaller infants, placing the Tag around the thigh is also acceptable.

MAINTENANCE:

- BR42 Tags are reusable but they **must** be thoroughly cleaned and sanitized between applications.
  Acceptable cleaning methods:
  Antibacterial wipes or Hydrogen peroxide (wipe, do not soak)
- BR42 Tag bands are for one-time use only.
- If the band becomes soiled, replace the band and clean the Tag.

TESTING:

There are 4 ways that you can test BR42 Tags:

- Enter a monitored zone (Alarm may sound)
- Remove the band (Alarm will sound)
- With a TAD
- With a PTAD

STORING:

To preserve battery life and prevent nuisance alarms, BR42 Tags should be turned off with a TAD, stored away from sources of electrical noise, and stored in a metal container with lid. Extra Tag bands should be stored in a clean and dry environment.

ENVIRONMENTAL:

Operating Temperature: 32º to 120º Fahrenheit
Intended for indoor use only.

CUT SHEET: Central Alarm

The Central Alarm is a multi-tone alarm. It consists of a Tone Generator that drives speakers located throughout the facility. There are eight different tones available. You may choose to assign a separate tone for each zone, or multiple zones to just one tone. The Central Alarm is located in its own enclosure and contains its own power supply, a Tone board, a Relay board and terminal strips.

ELECTRICAL:

Power Requirements: 120V AC, 15 amp circuit
Current Consumption: 1.3 amps maximum
Zone alarm input: 12V DC

MECHANICAL:

Construction: Metal case
Enclosure size: 12.50" x 12.50" x 3.75"
Weight (including enclosure): 12 US pounds

OPERATING CHARACTERISITICS:

Alarm Output: up to 115db at 10 feet with
12V DC/variable
Speakers: 8 ohms, 15 watts
Maximum Load: 5 speakers

Eight Distinctive Channels and Sounds

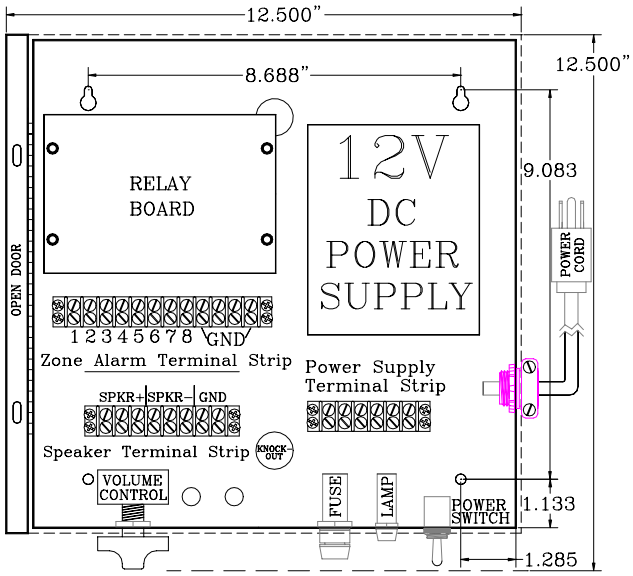
- Rapid Yelp
- Standard Yelp
- Hi-Lo sweep
- European Hi-Lo
- Steady
- Pulsing Horn
- Steady Horn
- Unique Synthesized Bell

ENVIRONMENTAL:

Operating Temperature: 32º to 120º Fahrenheit
Intended for indoor use only.

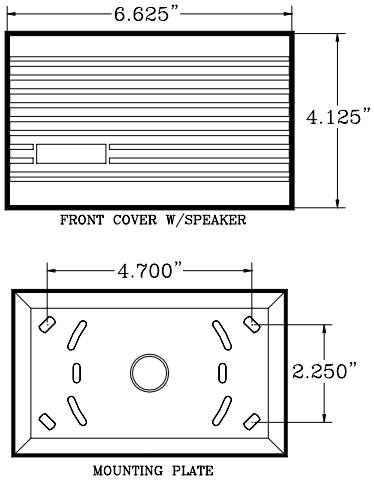
DUTY CYCLE:

Rated for continuous use.



Central Alarm

Model Number: CA3
Part Number: 700026



8 ohm Speaker with Mounting Plate

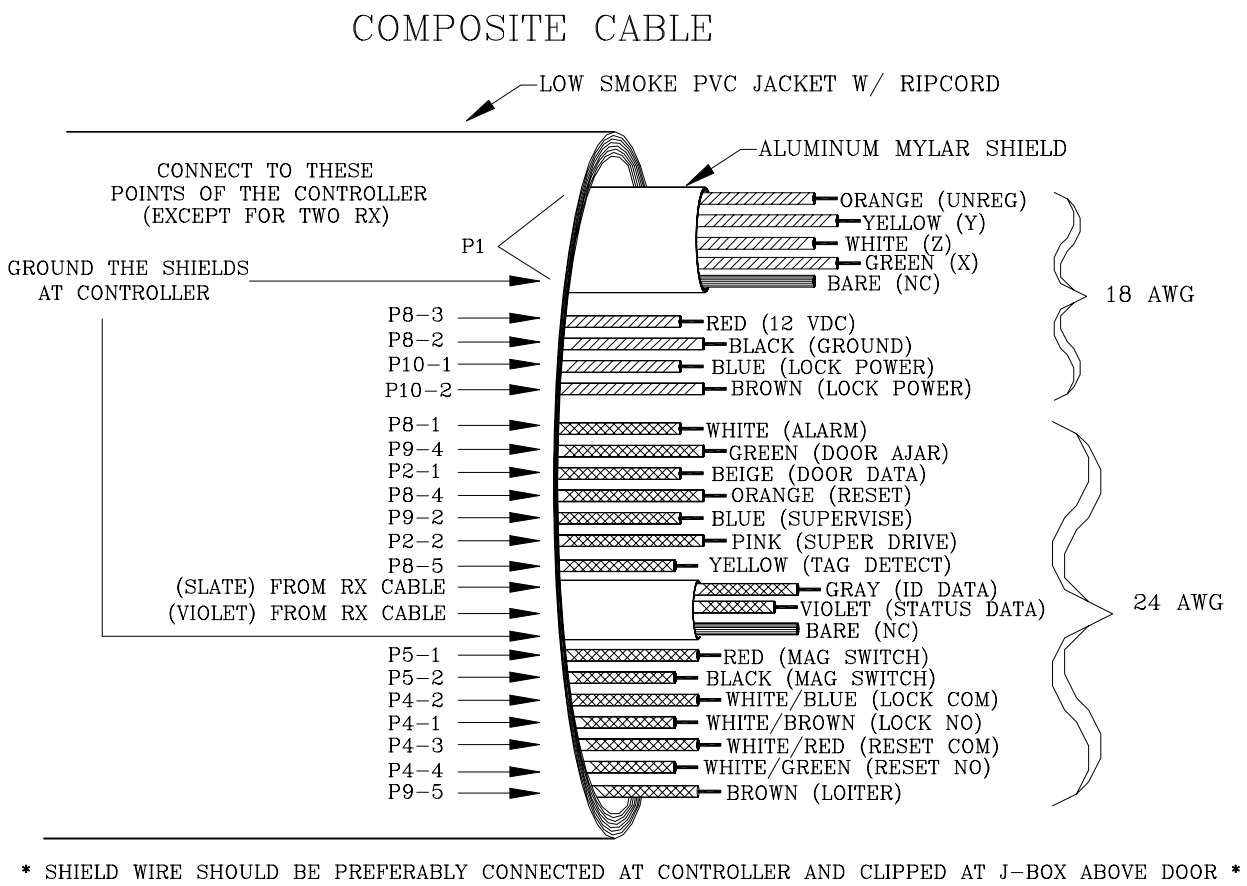
CUT SHEET: Composite Cable

Accutech Composite Cable is designed for wire runs from the Controller to a junction box when the Controller is mounted away from the zone and is plenum rated.

SPECIFICATIONS:

- A four-element Plenum-rated composite cable
- Element 1: 18 gauge 4 conductor shielded Mid-Cap (Color code: orange, yellow, white, green)
- Element 2: 18 gauge 4 conductor non-shielded (Color code: red, black, blue, brown)
- Element 3: 24 gauge 2 conductor shielded (Color code: gray, violet)
- Element 4: 25 gauge 14 conductor non-shielded (Color code: white, green, beige, brown, orange, blue, pink, yellow, red, black, white/blue, white/brown, white/red, white/green)
- Each element is individually wrapped with a clear mylar binder and all elements are cabled together
- Jacket Material: Low Smoke Polyvinylchloride (PVC)
- Jacket color: yellow
- Jacket Ripcord: Yes
- Jacket Print: "18 AWG 4C SHIELDED + 18 AWG 4C + 24 AWG 2C + 24 AWG E171202 (UL) CL3P OR CMP C (UL) 75 ° www.accutech-ics.com 800-356-2671"
- Ascending/Descending Footage Markers
- Diameter: nominal 0.386"
- Made in accordance with UL Subject 444, NEC Type CMP

Model Number: CC
Part Number: 200371



Composite Cable

CUT SHEET: Controller

The Controller coordinates and controls all of the devices and functions of the Accutech Systems. It can be located at the zone (above the drop ceiling) or remotely (in an equipment room).

ELECTRICAL:

Power Requirements: 120V AC, 1.0 amp
*A dedicated 15-amp circuit with emergency backup is recommended.

MECHANICAL:

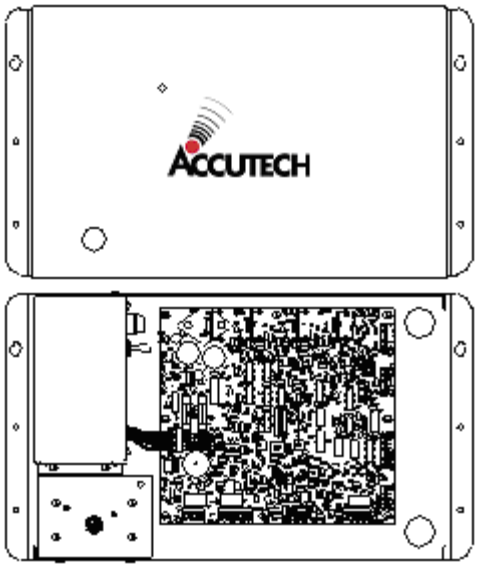
Construction: Metal Case
Enclosure size: 16.00” x 9.60” x 3.25”
Weight (including enclosure/Receiver): 11 US pounds

OPERATING CHARACTERISITICS:

Operating Temperature: 32º to 120º Fahrenheit
Intended for indoor use only.

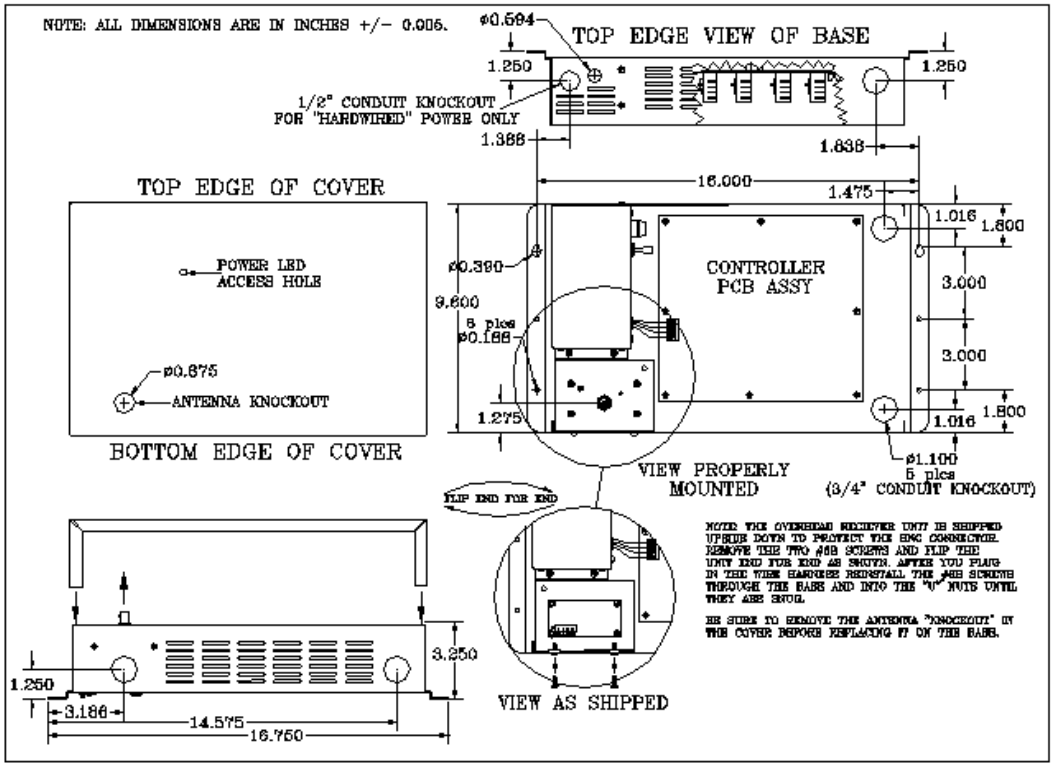
DUTY CYCLE:

Rated for continuous use.



Model Number: ESI or ESR
Part Number: 700035

UL Listed 294 (BP9480)
Access Control Unit



Controller Dimensions

CUT SHEET: Elevator Deactivation

Elevator Deactivation Circuitry is designed to prevent someone (or an asset) wearing an Accutech Tag from using an elevator to leave a monitored floor. Using Relays enclosed in the Elevator Deactivation Relay Cabinet, the Elevator Company is able to interface with the Accutech System.

Therefore:

- If a Tag enters a monitored elevator zone, the elevator's call button on that floor will be deactivated (Call buttons on other floors are unaffected and no one is restricted from coming to the floor).
- When a Tag is in the zone (or approaches the zone) and the elevator doors are open, an alarm will sound and the elevator doors will remain open.
- If the elevator car is en route to the floor when a Tag approaches the zone, the elevator will arrive on the floor, the door(s) will open, and the system will alarm.

ELECTRICAL:

Operating Voltage: 12V DC
Current Consumption: 120 mA maximum
Contact Rating: 100 mA / 12V DC
Cable: need minimum 22-gauge, 6-conductor

MECHANICAL:

Construction: Metal case
Enclosure size: 7.80" x 8.25" x 3.75"
Enclosure weight: 3.5 US pounds

OPERATING CHARACTERISITICS:

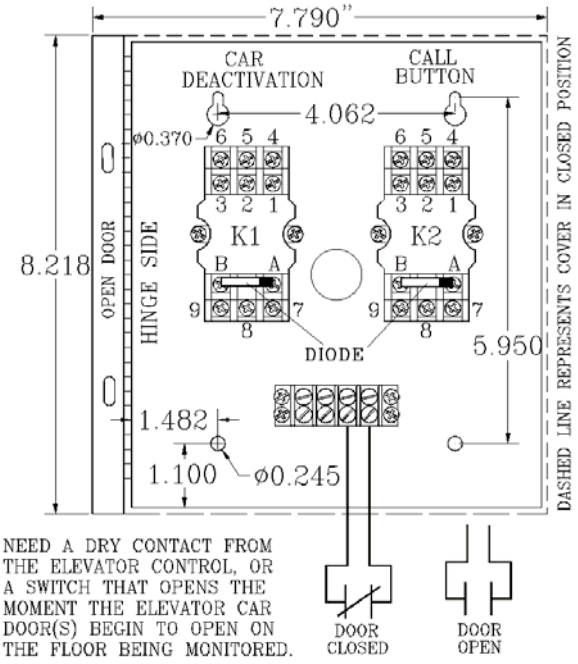
- Dry Contacts supplied by Elevator Company for door switch
- 12V DC Alarm Voltage energizes K1 Relay to deactivate the Car when a Tag is detected and the elevator door is open.
- 12V DC Tag Detect Voltage energizes K2 Relay to deactivate the Call Button when a Tag is detected.

ENVIRONMENTAL:

Operating Temperature: 32º to 120º Fahrenheit
Intended for indoor use only.

DUTY CYCLE:

Rated for continuous use.



Elevator Deactivation

Model Number: ED
Part Number: 700027

UL Listed 294 (BP9480)
Access Control Accessory

CUT SHEET: ES 2200 System Tags

ES 2200 System Tags are small wristwatch-sized devices worn by a resident or attached to an asset. When a resident or patient enters a Tx Activation Field, the Tag sends a signal to the zone Controller via the Receiver. The zone Controller processes this information for appropriate control action or response (e.g., sounding alarms, locking doors).
Available in LT (Long Term) or SB (Slotted Back) cases. LT Tags are used for resident care. SB Tags are used on small infants and assets. "22" and "32" refer to the program running inside the Tag. The 22 program is meant strictly for ES systems. The 32 program can be used in either ES or IS systems and displays a low battery condition.

ELECTRICAL:

ES 2200 System Tags operate by internal battery. The Tags have been engineered for greater than 12 months usage and can be activated/deactivated with a TAD.

MECHANICAL:

LT Size: 1¼" x 1½" x ½"
SB Size: 1½" x 1½" x ½"
LT/SB Weight (with band): 0.5 ounce

OPERATING CHARACTERISTICS:

Transmit Frequency: 418 MHZ
Receive Frequency: 128-133 kHz

ATTACHMENT:

ES 2200 System Tags are attached with a nylon-mesh-reinforced vinyl band. The band is designed to resist tearing caused by pulling or chewing on the band. However, if the band becomes frayed or torn it will need to be replaced. In long-term applications, the band should be replaced periodically for cleanliness. Tags are typically attached to a wrist or ankle.

MAINTENANCE:

- ES 2200 System Tags are reusable but they **must** be thoroughly cleaned and sanitized between applications.
  Acceptable cleaning methods:
  Antibacterial wipes or Hydrogen peroxide (wipe, do not soak)
- ES 2200 Tag bands are for one-time use only.
- In long-term applications, periodically replace the bands and clean the Tags.

TESTING:

There are 3 ways that you can test ES 2200 System Tags:

- Enter a monitored zone (Alarm may sound)
- With a TAD
- With a PTAD

STORING:

Ideally, to preserve battery life and prevent nuisance alarms, ES 2200 System Tags should be turned off with a TAD, stored away from sources of electrical noise, and stored in a metal container with lid. Extra Tag bands should be stored in a clean and dry environment.

Model Number: LTY
Part Number: 77E018

Model Number SBY
Part Number 77EO16

UL Listed 294 (BP9480)
Access Control Accessory

VISUAL PULSE LED:

The Visual Pulse LED indicates the Tag's current mode

LED Light Pattern ○ off ● on	Tag LED Status
LT, SB Tags	
None	Tag is off.
○●○●○●○●○●○●○●○●○●	Active, not in zone
●●●●●●●●●●●●●●●●	Active, in zone
BR, CB Tags	
None	Tag is off.
○●○●○●○●○●○●○●○●○●	Active, not in zone, non-Band Alarm
●●●●●○●●●●●○●●●●●○	Active, in zone (may be in Band Alarm)
○●○●○●●●○●○●○●●●○●	Active, not in zone Band Alarm mode,

ENVIRONMENTAL:

Operating Temperature: 32º to 120º Fahrenheit
Intended for indoor use only.

CUT SHEET: Fire Panel Interface (FPI)

The Fire Panel Interface (FPI) ensures, in the event of a fire, the Magnetic Lock(s) and/or Elevator Deactivation Circuitry will be disengaged. Accutech follows NFPA codes and regulations. Therefore, in the event of a fire, all Accutech restraints will be disabled (audial and visual alarms remain intact).

For each FPI unit used, one set of dry contacts will be needed from the facility's fire panel.
Each FPI unit provides dry contact outputs for up to eight Controllers.

ELECTRICAL:

Operating Voltage: 12V DC
Current Consumption: 120 mA maximum
Contact Rating: 2 amps/24V DC
Cable: needs minimum 22-gauge, 2-conductor
non-shielded to each Controller

MECHANICAL:

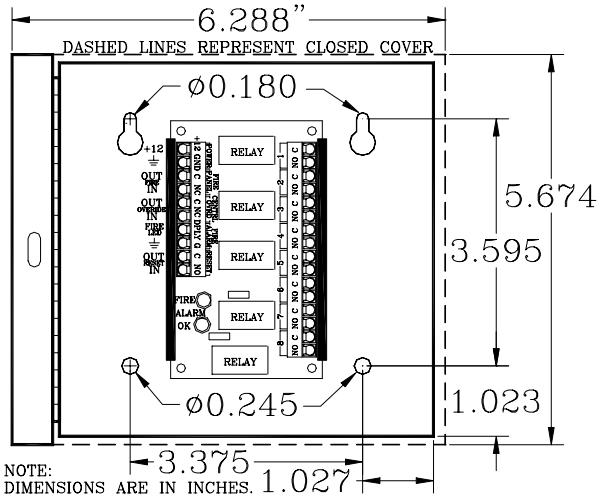
Enclosure size: 6.29" x 5.68" x 2.00"
Weight: 25 ounces

OPERATING CHARACTERISTICS:

Fire Panel Alarm State: Open contacts
Contact State: N.O. during alarm state
N.C. during operating state

ENVIRONMENTAL:

Operating Temperature: 32º to 120º Fahrenheit
Intended for indoor use only.



Fire Panel Interface (FPI)

Model Number: FPI
Part Number: 700013

UL Listed 294 (BP9480)
Access Control Accessory

CUT SHEET: Graphic Display Panel (GDP)

A Graphic Display Panel (GDP) provides the staff with a visual representation of the floor being monitored. GDPs are custom-made to a facility's floor plan and notify staff when an alarm or event occurs in a monitored zone through a piezo buzzer and alarm-specific LEDs. Each monitored zone is labeled and marked with an LED that will light to indicate that an Alarm Condition has occurred for that particular zone. In addition, a "Fire Alarm" LED will light on the display if the fire circuit is activated.

ELECTRICAL:

Operating Voltage: 12V DC
Current Consumption: 60 mA per 8-zone board
Cable: Dependant on number of zones + 3

MECHANICAL:

Sizes available: 11"x17", 13"x19", custom
Weight: dependant on size, number of zone (approximately 5 US pounds)

OPERATING CHARACTERISTICS:

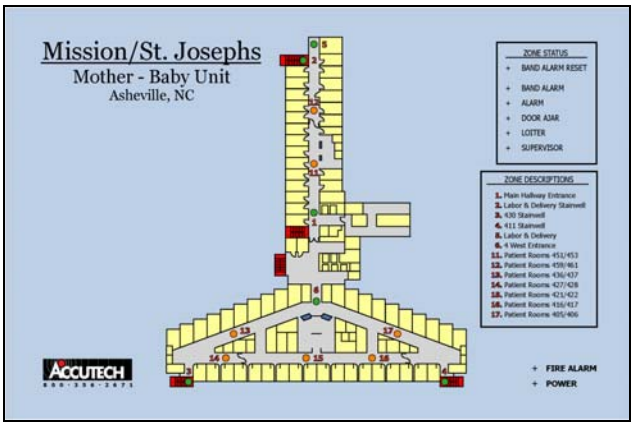
Pre-selected color themes or custom color matching available.
Built-in Sounder

ENVIRONMENTAL:

Operating Temperature: 32º to 120º Fahrenheit
Intended for indoor use only.

DUTY CYCLE:

Rated for continuous use.



Graphic Display Panel (GDP) example

Model Number: GDP
Part Number:
700050 (1-16 zone; 11"x17")
700052 (17-32 zone; 11"x17")
700061 (1-16 zone; 13"x19")
700062 (17-32 zone; 13"x19")
700063 (33-48 zone; 13"x19")

UL Listed 294 (BP9480)
Access Control Accessory

CUT SHEET: IS 3200 System Tags

IS 3200 System Tags are small wristwatch-sized devices worn by a resident, infant, or attached to an asset. When a resident or patient enters a Tx Activation Field, the Tag sends a signal to the zone Controller via the Receiver. The zone Controller processes this information for appropriate control action or response (e.g., sounding alarms, locking doors).
IS 3200 System Tags are assigned to a specific infant via the Tag Test Station and Accutech Software. Once assigned, the computer associates a name, room number, and any other pertinent information about the infant with that Tag.
Available in a LT (Long Term) case. "22" and "32" refer to the program running inside the Tag. The 22 program is meant strictly for ES systems. The 32 program can be used in either ES or IS systems and displays a low battery condition.

ELECTRICAL:

IS 3200 System Tags operate by internal battery.
The Tags have been engineered for greater than 12 months usage and can be activated/deactivated with a TAD.

MECHANICAL:

Size: 1¼" x 1½" x ½"
Weight (with band): 0.5 ounce

OPERATING CHARACTERISTICS:

Transmit Frequency: 418 MHZ
Receive Frequency: 128-133 kHz

ATTACHMENT:

IS 3200 System Tags are attached with a nylon-mesh-reinforced vinyl band. The band is designed to resist tearing caused by pulling or chewing on the band. However, if the band becomes frayed or torn it will need to be replaced. In long-term applications, the band should be replaced periodically for cleanliness. Tags are typically attached to a wrist or ankle.

MAINTENANCE:

- IS 3200 System Tags are reusable but they **must** be thoroughly cleaned and sanitized between applications.
  Acceptable cleaning methods:
  Antibacterial wipes or Hydrogen peroxide (wipe, do not soak)
- IS 3200 Tag bands are for one-time use only.
- In long-term applications, periodically replace the bands and clean the Tags.

TESTING:

There are 3 ways that you can test IS 3200 System Tags:

- Enter a monitored zone (Alarm may sound)
- With a TAD
- With a PTAD

STORING:

Ideally, to preserve battery life and prevent nuisance alarms, IS 3200 System Tags should be turned off with a TAD, stored away from sources of electrical noise, and stored in a metal container with lid. Extra Tag bands should be stored in a clean and dry environment.

ENVIRONMENTAL:

Operating Temperature: 32º to 120º Fahrenheit
Intended for indoor use only.

UL Listed 294 (BP9480)
Access Control Accessory

Model Number: LTY
Part Number: 771018 (LTY)

UL Listed 294 (BP9480)
Access Control Accessory

Model Number: SBY
Part Number: 771016 (SBY)

UL Listed 294 (BP9480)
Access Control Accessory

CUT SHEET: Keypad

The Keypad is used to escort residents through a monitored zone and to reset zone equipment once an alarm has occurred. Up to 56 different (3 to 8 digit) user codes can be used to reset the alarm and to activate the Escort function.

ELECTRICAL:

Operating Voltage:
- UL rated at 12V DC
- Manufacturer rated at 9 to 16V DC

Stand-by Current Drain: 15 mA typical
Current Drain with outputs active: 55 mA typical
Contacts: 10 A / 30V AC/DC
Cable: minimum 22-gauge, 4-conductor

MECHANICAL:

Size: 4-5/8" x 2-7/8" x 1-3/8"
Weight: 4.3 ounces
Mounting: Flush or Surface Mount
*Metal box not recommended

OPERATING CHARACTERISTICS:

Power Failure: EEPROM retains programmed data during power failures.
Relay Control: Programmable 1-98 seconds

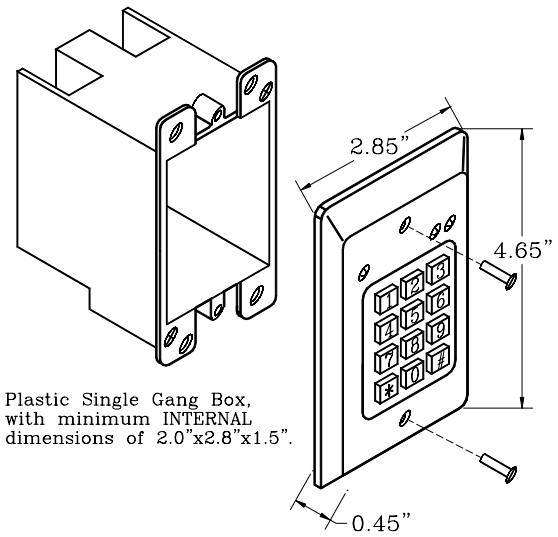
LED Status:
- Green – Escort or Reset
- Yellow – Power
- Red - Alarm

ENVIRONMENTAL:

Operating Temperature: 32º to 120º Fahrenheit
Intended for indoor use only.

DUTY CYCLE:

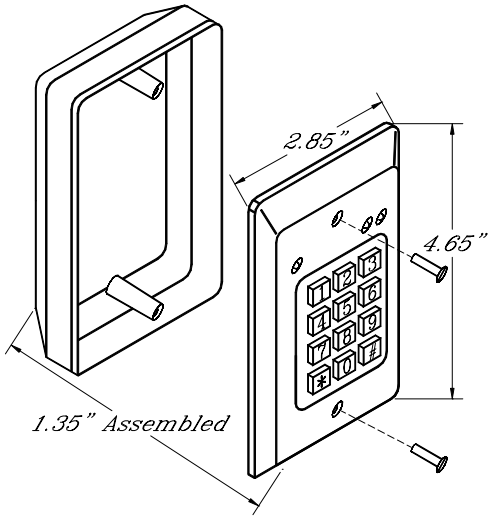
Rated for continuous use.



Keypad (Flush Mount)
(box not included)

Model Number: KD
Part Number: 650202

UL Listed 294 (BP9480)
Access Control Accessory



Keypad (Surface Mount)

CUT SHEET: LED Tag

DISCLAIMER: Due to each facility's unique environment, a LED Tag cannot give an *exact* measurement of zone coverage; it can only give an *estimation* of zone coverage. Furthermore, at this time, the LED Tag is not able to test Auxiliary Band Removal Receivers.

A LED Tag is used to verify proper zone coverage during installation, adjustment, or testing of a monitored zone.

Proper zone coverage fully protects the intended area (door, elevator, hallway, or any other passageway) without extending into other areas (in front, in back, on sides, above, and beneath the intended area).

Monitored zones emit a Tag-activating signal called the Tx Activation Field. When a Tag enters a zone's Tx Activation Field, the system will detect the Tag and take appropriate action response.

A LED Tag can enter and detect a zone's Tx Activation Field without causing alarms making it a quick and easy way to verify proper zone coverage. This is not only useful in ensuring complete zone coverage but also in locating areas where a Tx Activation Field may be extending into common areas and causing nuisance alarms.

ELECTRICAL:

LED Tags operate by internal battery.
The Tags have been engineered for greater than 12 months usage and can be activated/deactivated with a TAD.

MECHANICAL:

Size: 1½" x 1½" x ½ "
Weight: 1 ounce

OPERATING CHARACTERISTICS:

LED on: Indicates 131 kHz signal present
(Tx Activation Field)

MAINTENANCE:

Keep the Tags dry and never submerge them.
Acceptable cleaning methods:
Antibacterial wipes or Hydrogen peroxide (wipe, do not soak)

TESTING:

There are 3 ways that you can test LED Tags:

- Enter a monitored zone (LED will light)
- With a TAD
- With a PTAD

STORING

Ideally, to preserve battery life, LED Tags should be turned off with a TAD, stored away from sources of electrical noise, and stored in a metal container with lid.

ENVIRONMENTAL:

Operating Temperature: 32º to 120º Fahrenheit
Intended for indoor use only.

LED Tag

Model Number: LED
Part Number: 660008

CUT SHEET: Local Alarm

The Local alarm, a sounder, is intended to attract attention near the monitored zone.

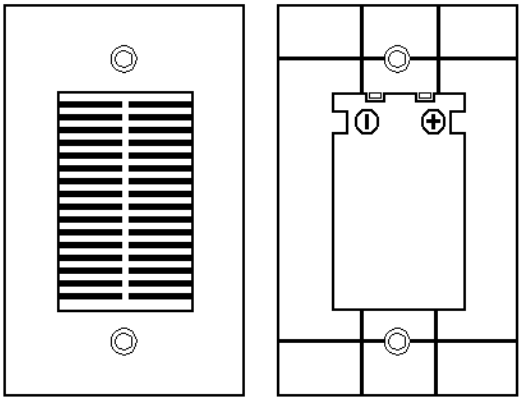
ELECTRICAL:
Operating Voltage: 12V DC nominal
Alarm Signal Current: 20.8 mA
Cable: needs minimum 22-gauge, 2-conductor

MECHANICAL:
Mounting variations (not provided):
Handy box: 4" x 2-1/8" (approx.)
Switch box: 3" x 2" (approx.) with conduit knockouts.
Masonry box: 3-3/4" (approx.) with ½" and ¾" concentric knockouts.
Nonmetallic Switch box: 3-3/4" x 2-5/16" (approx.)

OPERATING CHARACTERISTICS:
Sound Pressure Level at 10 feet: 85 db

ENVIRONMENTAL:
Operating Temperature: 32º to 120º Fahrenheit
Intended for indoor use only.

DUTY CYCLE:
Rated for continuous use.



Local Alarm

Model Number: LA
Part Number: 700216

UL Listed:
ULSZ.S4011

Due to existing UL listing (above), not required to be listed under UL 294 (BP9480)

CUT SHEET: Magnetic Switch

The Magnetic Switch is used on doors when alarm activation is not desired unless the door is opened.

ELECTRICAL:

Operating Voltage: 150V DC maximum
Contact Rating: 3 watts
Maximum Switch Voltage: 30V AC/DC
Switching Current: 0.5 amps DC
Cable: needs minimum 22-gauge, 2-conductor

MECHANICAL:

Size: 2.50" x 0.80" x 0.60"
Weight: 1.2 ounces
Color: Brown
Surface mounted (Flush available)

OPERATING CHARACTERISITICS:

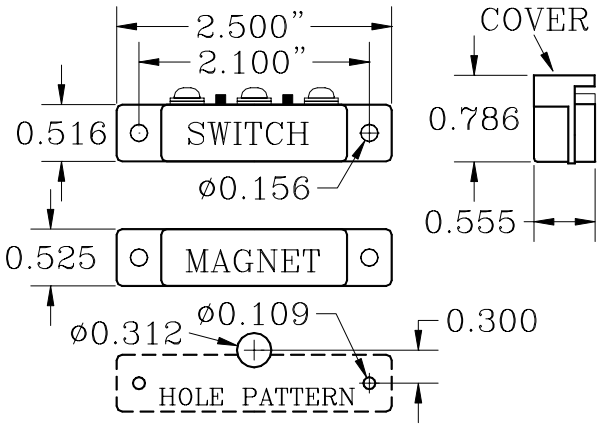
Contacts: N.O., N.C., and Common
Initial contact resistance: 100 ohms maximum
Operating Time: 1.0 ms maximum
Bounce Time: N.C. leg 1.5 ms maximum
N.O. leg 1.0 ms maximum
Release Time 0.5 ms maximum
Maximum Operating Frequency: 200 Hz
Insulation resistance: 1 x 10 ohms maximum
Electrostatic capacitance: 1.5 pF maximum

ENVIRONMENTAL:

Operating Temperature: 32º to 120º Fahrenheit
Intended for indoor use only.

DUTY CYCLE:

Rated for continuous use.

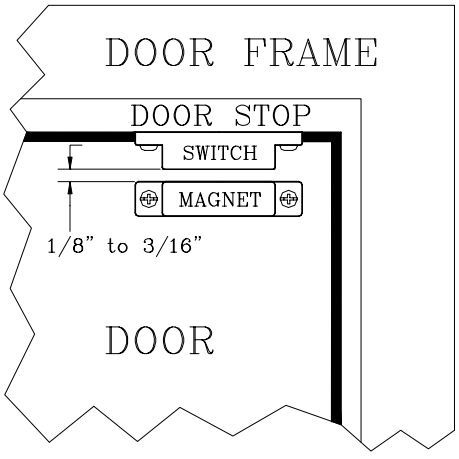


Magnetic Switch

Model Number: MCSM
Part Number: 650514

UL Listed:
AMQV.BP2343

Due to existing UL listing (above), not required to be listed under UL 294 (BP9480)



Magnetic Switch Placement

CUT SHEET: Multi-Tone Local Alarm (MTLA)

A Multi-Tone Local Alarm (MTLA), a wall-mount electronic chime, is intended to attract attention and offers sixteen different field-selectable chime tones, each with three volume settings and can be used to replace the Local Alarm.

ELECTRICAL:

Operating Voltage: 12 or 24V DC
Current Consumption Range*:
18-31 mA @ 12V DC
31-61 mA @ 24V DC
*Dependant upon tone selection and voltage
Cable: needs minimum 22-gauge, 2-conductor

MECHANICAL:

Size: 5.00" x 5.63" x 2.25" (with mounting plate)
Weight: 0.5 US pounds
Mounting: 2" x 4" or 4" x 4" back box

OPERATING CHARACTERISITICS:

Sound Output: 12V DC - 54dBA
24V DC – 60dBA

Field-selectable tones

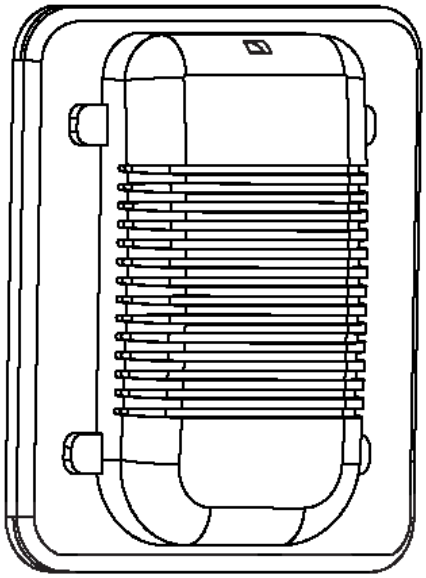
- Repeating 1 second chime
- Repeating ¼ second chime
- Temporal 3 chime
- Single stroke chime
- Continuous / 3kHz
- Continuous / 500 kHz
- Temporal 3 / 3kHz
- Temporal 3 / 500 Hz

ENVIRONMENTAL:

Operating Temperature: 32º to 120º Fahrenheit
Intended for indoor use only.

DUTY CYCLE:

Rated for continuous use.



Multi-Tone Local Alarm

Model Number: MTLA
Part Number: 300150

UL Listed:
ULSZ.54011
Meets UL 464 requirements for private mode

Due to existing UL listing (above), not required to be listed under UL 294 (BP9480)

CUT SHEET: Multiplexer

The Multiplexer, used only in IS 3200 and BR 4200 Systems, relays event information sent from the Controller and Receivers to Graphic Display Panel(s) and to PCs with the Accutech Software. The Multiplexer comes inside a Controller case; this case can accommodate up to 2 Multiplexer boards (16 Zones).

ELECTRICAL:

Operating Voltage: External 12V DC regulated power supply, Emergency backup located within 6 feet of the Multiplexer recommended
Current Consumption: 350 mA per 8-zone board
Output: RS232

MECHANICAL:

Construction: Metal case
Size: 16.00" x 9.60" x 3.25"
Weight: 10 US pounds (2 Multiplexers in enclosure)

ENVIRONMENTAL:

Operating Temperature: 32º to 120º Fahrenheit
Intended for indoor use only.

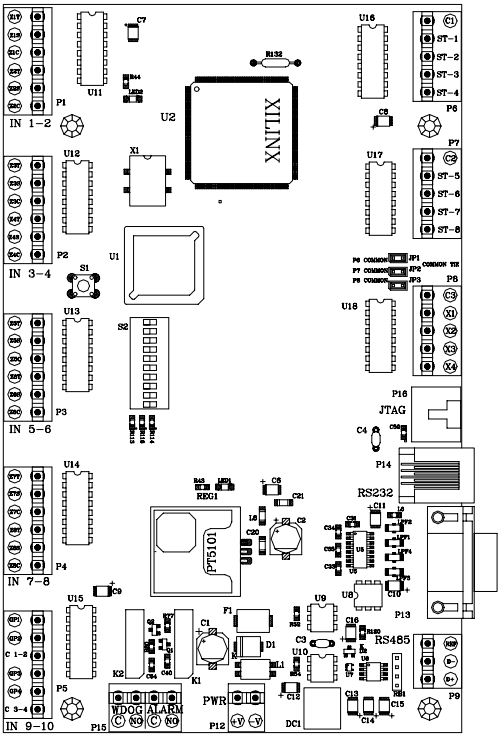
DUTY CYCLE:

Rated for continuous use.

Multiplexer

Model Number: MX18, MX916
Part Number:
770177 (MX18),770277 (M916)

UL Listed 294 (BP9480)
Access Control Accessory



A Multiplexer board

CUT SHEET: Push Button Override (PBO)

The Push Button Override (PBO) triggers the Keypad's Escort or Reset function; this option allows access through a monitored door from the non-Keypad side of the door.

ELECTRICAL:

Operating Voltage Range: 2 to 13V DC
Stand-by Current Drain: 15mA typical
Current Drain with outputs active: 55 mA typical
Cable: needs minimum 22-gauge, 4-conductor

MECHANICAL:

Size: 4-5/8" x 2-7/8" x 1-3/8"
Weight: 4.3 ounces
Mounting: Flush or Surface mount
*Metal box not recommended

OPERATING CHARACTERISTICS

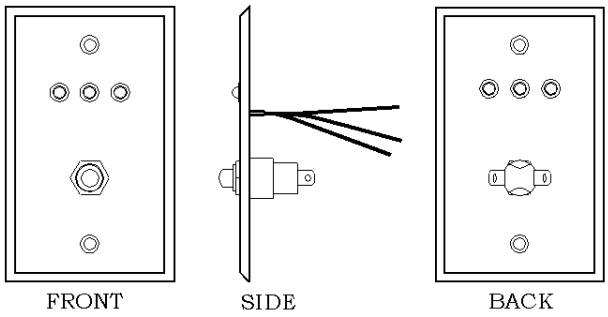
LEDs:
Green – Reset status
Red - Alarm status
Yellow – Power status

ENVIRONMENAL:

Operating Temperature: 32º to 120º Fahrenheit
Intended for indoor use only.

DUTY CYCLE:

Rated for continuous use.



Push Button Override (PBO)

Model Number: PBO
Part Number: 700022

CUT SHEET: Passive Infrared Reader (PIR)

The Passive Infrared Reader (PIR) is a device that uses an infrared sensor to monitor elevators, hallways, corridors, and passageways. Like the Magnetic Switch, the PIR is used in areas where alarm activation is not desired immediately upon Tag detection. It can also be used in hallways or other areas where a Magnetic Switch would not be feasible.

ELECTRICAL:

Operating Voltage: 12V DC
Current: Stand-by 10 mA
Relay Output: N.O./N.C. 2A/28V AC/DC maximum
Cable: needs minimum 22-gauge 4-conductor stranded, non-shielded

MECHANICAL:

Dimensions: 2.50" x 4.40" x 1.40"
Weight: 3 ounces
Color: White

OPERATING CHARACTERISTICS

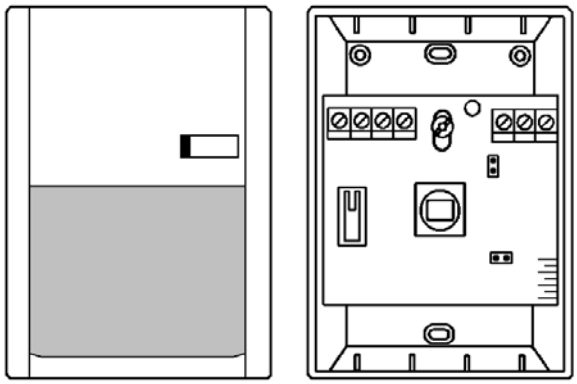
Beam Coverage: Vertical curtain up to 15 x 15 feet.
*The beam is adjustable from its normal 0º setting (perpendicular to the unit) up to 12º.

ENVIRONMENTAL:

Operating Temperature: 32º to 120º Fahrenheit
Intended for indoor use only.

DUTY CYCLE:

Rated for continuous use.

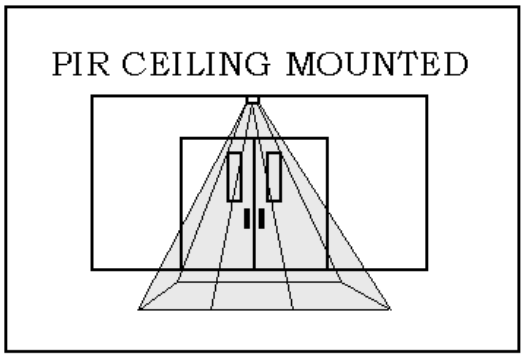


Passive Infrared Reader (PIR)

Model Number: PIR
Part Number: 300302

UL Listed:
ANSR.BP6082

Due to existing UL listing (above), not required to be listed under UL 294 (BP9480)



PIR Ceiling Mounted Coverage Area Example

CUT SHEET: Power Supply

Some installations of the Accutech System peripherals require more power than the Controller can provide. In these cases, a Power Supply is added to the system to meet the additional power requirements.

ELECTRICAL:

Operating Voltage: 120V AC, 2 amp
Output: 12V DC, 5.1 or 6.8 amps

MECHANICAL:

Construction: Metal Case
Enclosure size: 12.00" x 12.00" x 4.00"
Weight (including enclosure): 12 US pounds

OPERATING CHARACTERISITICS:

Provides 12V DC to multiple system components including:

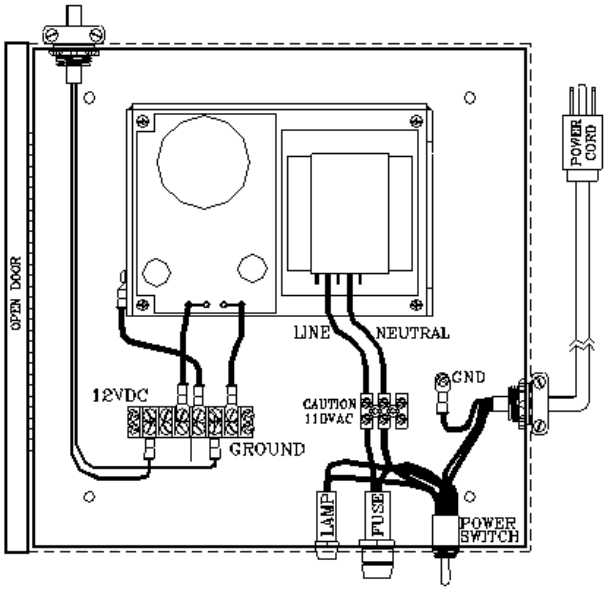
- Staff Alert Panel (SAP)
- Graphic Display Panel (GDP)
- Multiplexer
- BR 4200 Auxiliary Receivers
- Fire Panel Interface (FPI)

ENVIRONMENTAL:

Operating Temperature: 32º to 120º Fahrenheit
Intended for indoor use only.

DUTY CYCLE:

Rated for continuous use.



Power Supply

Model Number: PS51 or PS68
Part Number: 500250 (PS51), 500251 (PS68)

UL Listed 294 (BP9480)
Access Control Accessory

CUT SHEET: PTAD

DISCLAIMER: A PTAD reading is in no way meant to be a replacement for taking a Tag to an active zone to test the *range capability* of the Tag. When you use a PTAD all you really know is that the Tag has enough power to respond; it is NOT an indication of the *range capability*. In order to test the *range capability* of a Tag, you must take it to an active zone.

The PTAD is used to check the functionality of an Accutech Tag. Accutech Tags operate by internal battery. Over the course of normal operation, Tags eventually lose battery power and the Tags will need to be replaced. The PTAD is used to determine if a Tag has sufficient battery power to respond to an activating signal.

NOTE: A PTAD does **NOT** activate or deactivate Tags.

ELECTRICAL:

A PTAD requires a 9-volt battery to operate.

MECHANICAL:

Size: approximately 4.75" x 2.25" x 1.25"
Weight: 4.7 ounces

OPERATING CHARACTERISTICS:

Transmit Frequency: 128 kHz
Receive Frequency: 418 MHz

The "Active Band Removal or Low Battery on Tag" LED
A PTAD can detect a BR42 Tag in active Band Removal alarm; the "Active Band Removal or Low Battery on Tag" LED will illuminate ***blink slowly***. This may help locate lost BR42 Tags that are alarming.

A PTAD can also detect the low battery bit of *yellow* Tags. Simply turn on the PTAD and place a Tag behind the PTAD within 6 inches. If the Tag's battery is low (e.g., low enough that the Tag's operation is diminished below an acceptable level) the "Active Band Removal or Low Battery on Tag" LED will ***blink rapidly***. The Tag should then be replaced.

The "WAIT" LED
No function in PTAD.

The "Signal Strength" LEDs
The "Signal Strength" LEDs of the PTAD indicate:

- The current state of a Tag (on or off)
- Tag is Very Near (within approx. 1 foot*)
- Tag in Area (within approx. 20 feet*)

*Inexact due to variations of the remaining Tag battery power, remaining PTAD battery power, and if the Tag is alarming in Band Removal.

ENVIRONMENTAL:

Operating Temperature: 32º to 120º Fahrenheit
Intended for indoor use only.

Model Number: PTAD
Part Number: 680021

UL Listed 294 (BP9480)
Access Control Accessory

CUT SHEET: Staff Alert Panel (SAP)

The Staff Alert Panel (SAP) notifies staff when an alarm occurs in a monitored zone through a piezo buzzer and alarm-specific LEDs. Each monitored zone is labeled and marked with an LED that will light to indicate that an Alarm Condition has occurred for that particular zone. In addition, a "Fire Alarm" LED will light on the display if the fire circuit is activated.

ELECTRICAL:

Operating Voltage: 10 to 13V DC
Current Consumption: 300 mA Max
Cable: needs minimum 22-gauge, 6-conductor from each Controller

MECHANICAL:

Size: 11" x 5-3/8" x 1-3/8"
Weight: 1 US pound

OPERATING CHARACTERISTICS

LED Alarm indicators:
- Flashing Red – ALARM
- Steady Red – DOOR AJAR
- Flashing Yellow – CHECK SYSTEM
- Steady Yellow – LOITER

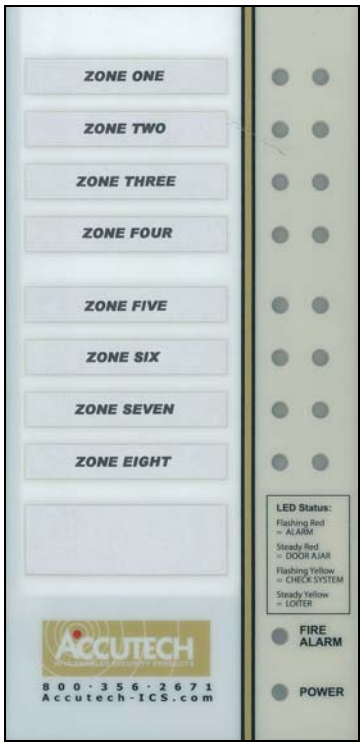
Fire Alarm LED
Power LED
Built-in Piezo buzzer

ENVIRONMENTAL:

Operating Temperature: 32º to 120º Fahrenheit
Intended for indoor use only.

DUTY CYCLE:

Rated for continuous use.



Staff Alert Panel (SAP)

Model Number: SAP
Part Number: 700080

UL Listed 294 (BP9480)
Access Control Accessory

CUT SHEET: Speakers

The Speakers provided by Accutech are 8-ohm speakers and are used in conjunction with the Central Alarm. They are located strategically so they can be heard from any location on the monitored floor.

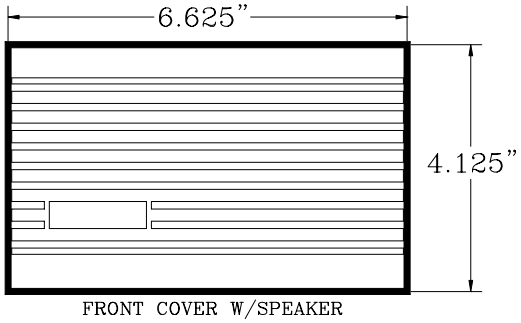
ELECTRICAL:
Operating Voltage: 12V DC
Cable: needs minimum 22-gauge, 2-conductor
Voice coil impedance: 8 ohms

MECHANICAL:
Dimensions: 6.63" x 4.70" x 2.25"

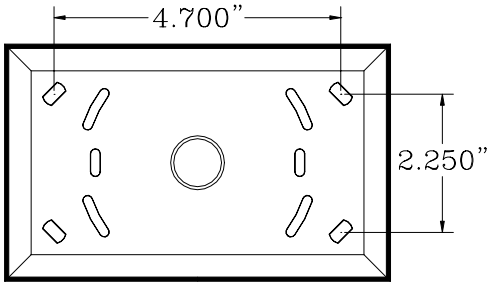
OPERATING CHARACTERISTICS:
Speakers should be located where they can be heard in several directions (such as hallway intersections) to allow staff to hear alarms as they occur.

ENVIRONMENTAL:
Operating Temperature: 32º to 120º Fahrenheit
Intended for indoor use only.

DUTY CYCLE:
Rated for continuous use.



FRONT COVER W/SPEAKER



MOUNTING PLATE

Speakers

Model Number: AS3
Part Number: 300002

CUT SHEET: Tag Activator/Deactivator (TAD)

DISCLAIMER: A TAD reading is in no way meant to be a replacement for taking a Tag to an active zone to test the *range capability* of the Tag. When you use a TAD all you really know is that the Tag has enough power to respond; it is NOT an indication of the *range capability*. In order to test the *range capability* of a Tag, you must take it to an active zone.

The Tag Activator/Deactivator (TAD) is used to check the functionality of an Accutech Tag. Accutech Tags operate by internal battery. Over the course of normal operation, Tags eventually lose battery power and the Tags will need to be replaced. The TAD is used to determine if a Tag has sufficient battery power to respond to an activating signal.

NOTE: A TAD **CAN** activate or deactivate Tags, preserving Tag battery life and preventing nuisance alarms.

ELECTRICAL:

A TAD requires a 9-volt battery to operate.

MECHANICAL:

Size: approximately 4.75" x 2.25" x 1.25"
Weight: 4.7 ounces

OPERATING CHARACTERISTICS:

Transmit Frequency: 128 kHz
Receive Frequency: 418 MHz

The "Active Band Removal or Low Battery on Tag" LED
A TAD can detect a BR42 Tag in active Band Removal alarm; the "Active Band Removal or Low Battery on Tag" LED will illuminate ***blink slowly***. This may help locate lost BR42 Tags that are alarming.

A TAD can also detect the low battery bit of *yellow* Tags. Simply turn on the TAD and place a Tag in the Tag receptacle. If the Tag's battery is low (e.g., low enough that the Tag's operation is diminished below an acceptable level) the "Active Band Removal or Low Battery on Tag" LED will ***blink rapidly***. The Tag should then be replaced.

The "WAIT" LED
The "WAIT" LED illuminates briefly during Tag activation/deactivation.

The "Signal Strength" LEDs
The "Signal Strength" LEDs of the TAD indicate:

- The current state of a Tag (on or off)
- Tag is Very Near (within approx. 1 foot*)
- Tag in Area (within approx. 20 feet*)

*Inexact due to variations of the remaining Tag battery power, remaining TAD battery power, and if the Tag is alarming in Band Removal.

ENVIRONMENTAL:

Operating Temperature: 32º to 120º Fahrenheit
Intended for indoor use only.

Model Number: TAD
Part Number: 660021

UL Listed 294 (BP9480)
Access Control Accessory

CUT SHEET: Tag Test Station (TTS)

The Tag Test Station (TTS) is used for Tag assignments. In a similar fashion to a Tx wand antenna, the TTS emits a small Tx Activation Field that activates Tags. Once activated a Tag sends a signal to the Receiver. The Receiver sends this information to the Multiplexer, which sends it to the computer with the Accutech Software. The Tag Reader Status dialog box appears on the PC screen where it can be assigned or unassigned.

The TTS is connected to a Controller, which is connected to a Multiplexer.

ELECTRICAL:
Operating Voltage: 30V AC (provided by Controller)
Cable: required minimum 18-gauge, 2-conductor

MECHANICAL:
Size: 5.00" x 7.00" x 1.50"
Weight: 10 ounces

OPERATING CHARACTERISITICS:
Transmits at 132 Khz continuously

ENVIRONMENTAL:
Operating Temperature: 32º to 120º Fahrenheit
Intended for indoor use only.

DUTY CYCLE:
Rated for continuous use.

Tag Test Station (TTS)
Part Number:
700010 (I)
700020 (R)

CUT SHEET: Timer

A Timer allows the user to engage or disengage certain system functions on a time schedule. A typical application of a Timer would be at a perimeter door that has high traffic during the day but almost no traffic at night. During the day it may make sense to allow the free ingress and egress of staff and visitors, but at night, locking the door would mean added security for staff and residents.

ELECTRICAL:

Operating Voltage: 6 to 12V AC/DC
Relay Inactive: 14 mA
Relay Active: 40 mA
Contacts: N.O. & N.C.
Contact Rating: 1A @ 26V DC
0.5A @ 115V AC

MECHANICAL:

Size: 8.25" x 8.25" x 4.00" (includes enclosure
Weight: 6 US pounds (includes enclosure)

OPERATING CHARACTERISTICS

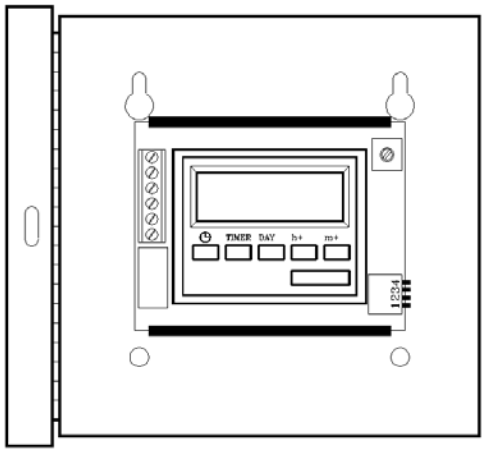
Internal 10-year Lithium Battery will provide clock memory backup for 6 months continuously
Relay Hold in Time Adjustment: 1 to 60 seconds
Time format: 24 hour (military) format

ENVIRONMENTAL:

Operating Temperature: 32º to 120º Fahrenheit
Intended for indoor use only.

DUTY CYCLE:

Rated for continuous use.



Timer

Model Number: DNT
Part Number: 700018

CUT SHEET: Tx wand antenna

A Tx wand antenna located at a zone generates a Tag-activating radio frequency signal called the "Tx Activation Field." When a Tag is activated it sends a signal to the Receiver. The Receiver then sends the signal to the Controller, which validates the signal before initiating any action such as locking a door, deactivating an elevator, or triggering system alarms.

Due to its ferrite bar, the Tx wand antenna must be mounted a minimum of 3 inches away from any metal. This includes door frames, conduit, and lathe.

ELECTRICAL:

Operating Voltage: 30V AC (provided by Controller)
Wire Connections: Terminal Block
Cable: required minimum 18-gauge, 2-conductor, shielded

MECHANICAL:

Construction: Vacuum molded ABS
Size: 13.25" x 2.50" x 2.25"
Weight: 1.5 US pounds
Mounting Surface: Four 3/16" screws

OPERATING CHARACTERISTICS:

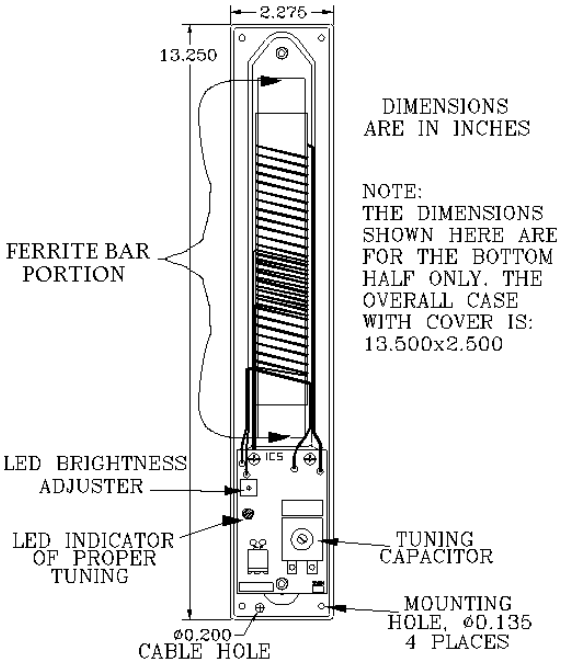
Tuning Frequency: Nominal 131 kHz,
129-133 kHz for Stagger
Output Impedance: 300 ohms nominal

ENVIRONMENTAL:

Operating Temperature: 32º to 120º Fahrenheit
Intended for indoor use only.

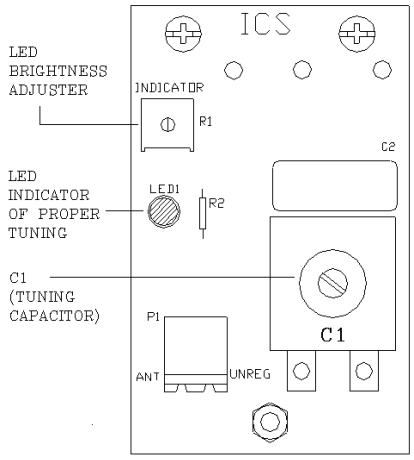
DUTY CYCLE:

Rated for continuous use.



Tx wand antenna (without cover)
Model Number: TW
Part Number: 700068

UL Listed 294 (BP9480)
Access Control Accessory



Tx wand antenna PCB

CUT SHEET: Voice Alarm

A Voice Alarm, usually located at a monitored zone, will repeat a recorded message (up to 20 seconds) continuously when an alarm occurs.

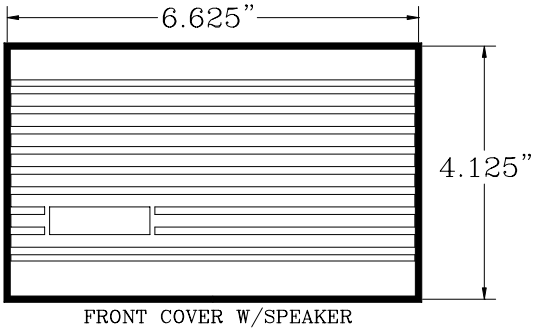
ELECTRICAL:
Operating Voltage: 12V DC
Current Consumption: 300 mA maximum

MECHANICAL:
Size: 6.63” x 4.13” x 1.75”
Weight: 1.5 US pounds

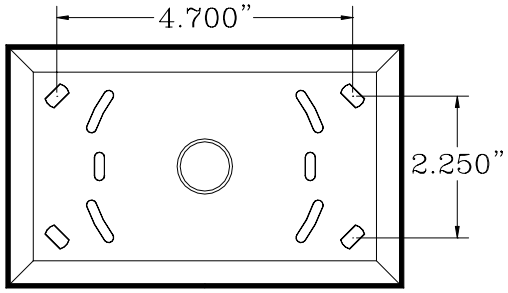
OPERATING CHARACTERISITICS:
Recording Duration: 20 seconds (maximum)
Speaker Output: 8-ohm

ENVIRONMENTAL:
Operating Temperature: 32º to 120º Fahrenheit
Intended for indoor use only.

DUTY CYCLE:
Rated for continuous use.



FRONT COVER W/SPEAKER



MOUNTING PLATE

Voice Alarm

Model Number: VA
Part Number: 700019

CUT SHEET: Zone Receiver

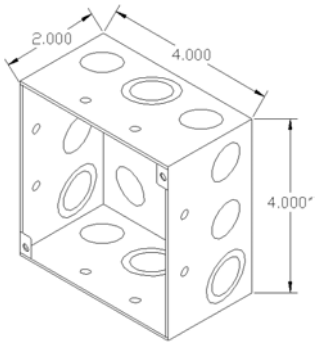
The Zone Receiver is used to detect signals from an activated Tag. The Zone Receiver is always located near the monitored zone. When the Controller is mounted at the zone, the Zone Receiver is housed in the Controller enclosure. When the Controller is mounted away from the zone, the Zone Receiver is mounted externally in a 4"x4"x2" electrical box at the zone. Zone Receivers monitor both zone events and Band Removal events while BR 4200 Auxiliary Receivers only monitor Band Removal events.

ELECTRICAL:

Operating Voltage: 12V DC regulated
Cable: needs minimum 22-gauge, 12-conductor

MECHANICAL:

Size: If the Controller is located away from the zone, the Receiver is mounted in a 4.00" x 4.00" x 2.00" electrical box at the zone.
*Allow 7" depth for clearance of the BNC Rubber Duck antenna



OPERATING CHARACTERISTICS:

Transmit Frequency: 418 MHz
Receive Frequency: 418 MHz
Frequency range: 40 feet radius (360º)

Jumpers settings:

JP1 (SS)	Off
JP2 (Rx Test)	Off
JP3 (Tag D)	Off
JP4 (BR)	On
JP5 (Reset)	Off

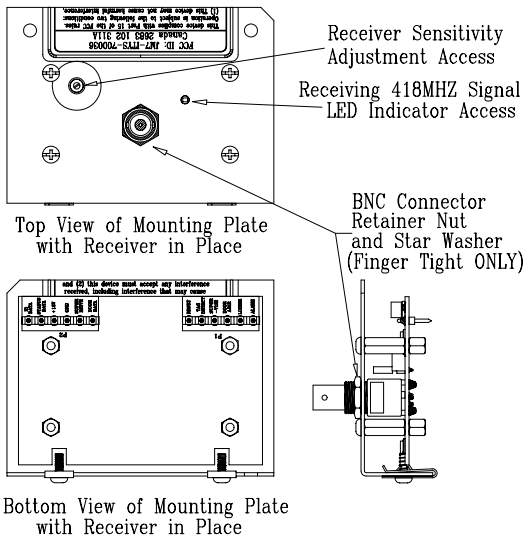
ENVIRONMENTAL:

Operating Temperature: 32º to 120º Fahrenheit
Intended for indoor use only.

DUTY CYCLE:

Rated for continuous use.

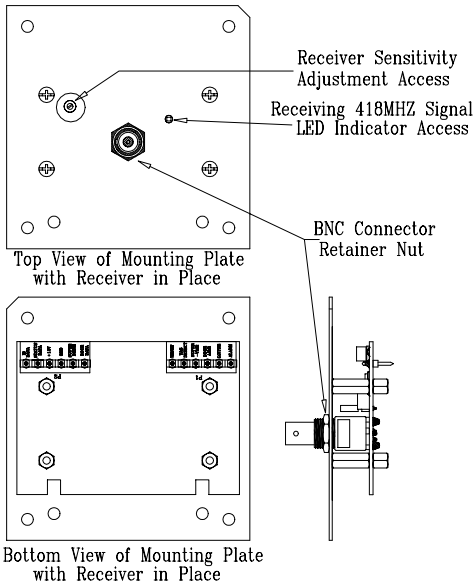
Internally Mounted Zone Receiver



Zone Receiver (Internal)
Model Number: ESRI
Part Number: 660076

UL Listed 294 (BP9480)
Access Control Accessory

Externally Mounted Zone Receiver



Zone Receiver (External)
Model Number: ESRR
Part Number: 670076

Glossary

Accutech Software	Displays events in real-time on a facility's custom floor plan.
BR 4200 System Tag	A small wristwatch-sized device that is worn by an infant. In addition to the functionality of an IS 3200 System Tag, the BR 4200 System Tag will alarm if the band is removed or tampered with in any way.
Central Alarm	An alarm triggered by the Accutech Security System; can create up to 8 distinct tones and drive up to 5 speakers.
Controller	Coordinates and controls all of the devices and functions of the Accutech IS 3200/BR 4200 System.
Delayed Egress Circuitry	Allows free egress after 15 pounds of constant force for 3 seconds due; due to fire and life safety codes.
Door Ajar alarm	An alarm condition; occurs when a door is open longer than the preset time period allows.
Egress	The act of entering or exiting, especially from an enclosed place.
Egress alarm	An alarm condition occurs while a Tag is in the Tx activation field and door is opened.
Elevator Deactivation	Circuitry that prevents a resident wearing a Tag from calling or using an Elevator to leave a floor.
ES 2200 System Tag	ES 2200 System Tags are small wristwatch-sized devices worn by a resident or attached to an asset. When a resident or patient enters a Tx Activation Field, the Tag sends a signal to the zone Controller, via the Receiver. The zone Controller processes this information for appropriate control action or response (e.g. sounding alarms, locking doors, etc.).
Escort Function	A function of the Keypad; used to escort residents through a monitored zone and to reset zone equipment once an alarm has occurred.

Fire Panel Interface (FPI)	The unit used to connect multiple IS 3200/BR 4200 Systems to the facility's fire panel. During this time, the Magnetic locks are deactivated, allowing a resident wearing a Tag to leave the facility. The IS 3200/BR 4200 System will still alarm provided there is still power to the system.
Graphic Display Panel (GDP)	Provides staff with a visual representation of the floor being monitored. GDPs are custom-made to a facility's floor plan and notify staff when an alarm condition occurs in a monitored zone through a piezo buzzer and alarm-specific LEDs
Ingress	The act of coming and going, especially from an enclosed place.
IS 3200 System Tag	A small wristwatch-sized device that is worn by a resident or attached to an asset. IS 3200 System Tags are assigned to a specific resident or asset (via the Tag Test Station and Accutech Software). Once assigned, the computer associates a name, room number and any other pertinent information about the resident/asset with that Tag.
Keypad	A 12-button device used to reset the system when the alarm is activated and to provide visual indicators for Tag detection, alarms and escorts.
Local Alarm	A single tone alarm that is usually mounted near the monitored zone.
Loiter Alarm	An alarm condition, occurs when a Tag remains in the Tx activation field for longer than a preset period of time.
Magnetic Lock	As a general term, it describes the device used to lock a door when a Tag is detected. Specifically, it describes a Lock that remains engaged as long as a Tag is within the Tx activation field and for an adjustable amount of time afterwards.
Magnetic Switch	Used on a door when alarm activation is not desired unless the door is opened when a monitored resident is near that door.
Masking	In PIR applications, limiting the beam by placing stripes of tape over the lens.

Master Code	User Number 1 code for the Keypad, used for Keypad programming purposes only.
Monitored Zone	Any door, hallway, elevator, or other passageway that has a Transmit (Tx) antenna or Zone Receiver associated to it.
Multiplexer	Relays event information from the Controller to Graphic Display Panels (GDPs) and the Accutech Software.
Passive Infrared Reader (PIR)	A device that uses an infrared light to detect motion. Used in place of a Magnetic Switch in hallway applications.
Push Button Override (PBO)	A switch (push button) that temporarily overrides a Magnetic Lock, allowing someone on the outside of the locked door to enter.
Receiver	A device that detects the signal of an activated Tag, usually mounted in the Controller above the drop ceiling or on the wall next to the door being monitored. For centrally located systems, the Receiver is mounted separately at the door. A short rubber antenna protrudes from the cover.
Remote BR Receiver	Receiver designed to detect BR 4200 events.
Staff Alert Panel (SAP)	A display panel used to indicate to staff where an Alarm, Door Ajar, Loiter, or Supervise warning condition has occurred; employs bi-color LEDs, an adjustable Piezo Buzzer and digital logic to control its outputs.
Supervisor	A built-in self-diagnostic circuit that continuously monitors the Tx Activation Field and periodically simulates a Tag in the zone.
Tag Activator/Deactivator (TAD)	Turns IS 3200/BR 4200 system Tags on and off.
Tag	A wristwatch-sized device that, upon activation in a monitored zone, transmits back the Controller through the Receiver.
Tag Test Station (TTS)	Used with the Accutech Software for Tag assignments.
Tx wand antenna	Generates a tag-activating radio frequency signal near a monitored zone. This signal is referred to as the “Tx activation field.”

Tx activation field

A radio frequency field created by a Transmit (Tx) antenna to detect Tags.

Installation Manual
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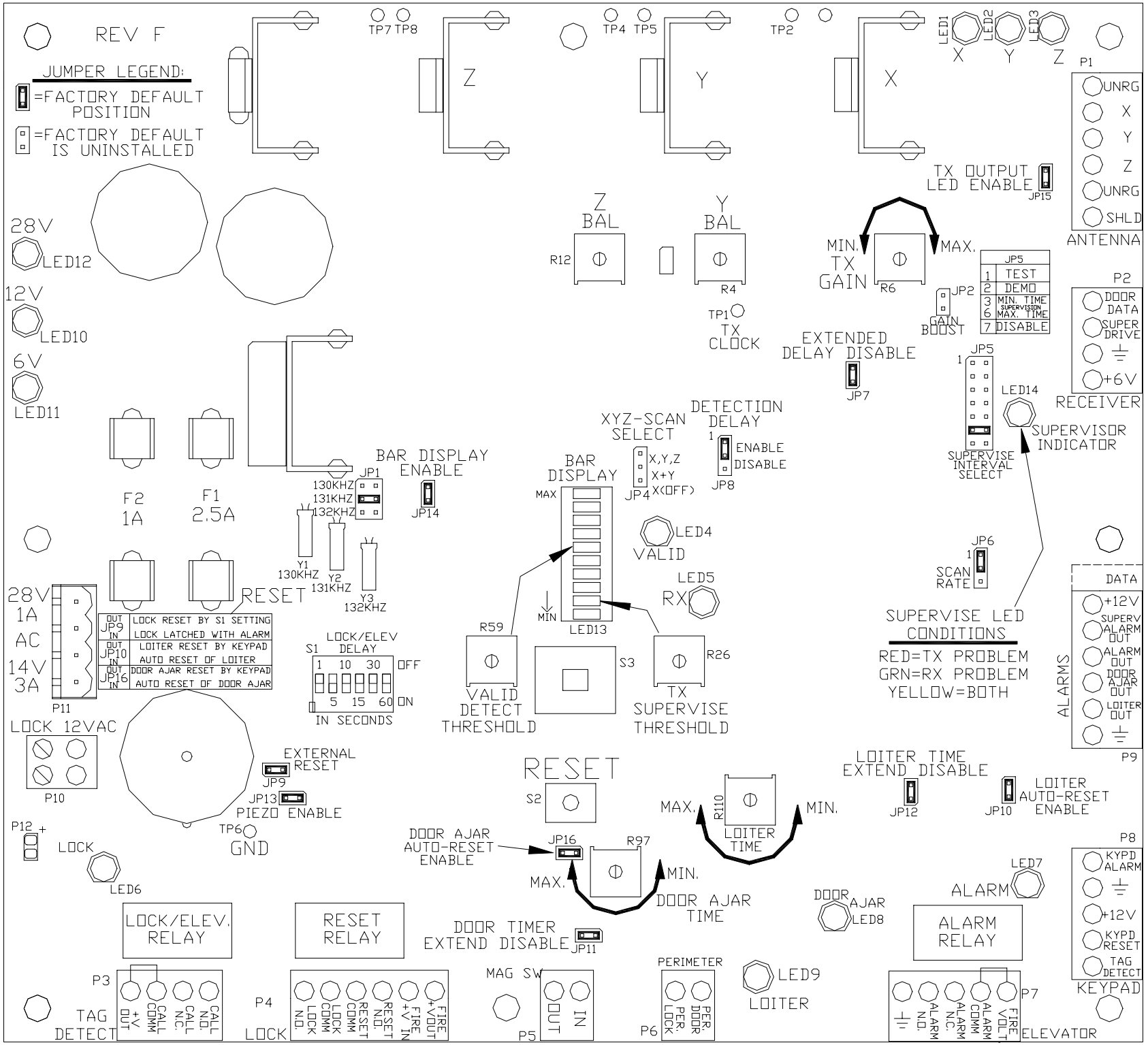
REV F
JUMPER LEGEND:
=FACTORY DEFAULT POSITION
=FACTORY DEFAULT IS UNINSTALLED
TP7 TP8
Z
TP4 TP5
Y
TP2
X
LED1 LED2 LED3
X Y Z
P1
UNRG
X
Y
Z
UNRG
SHLD
ANTENNA
TX OUTPUT LED ENABLE
JP15
28V
LED12
12V
LED10
6V
LED11
Z BAL
R12
Y BAL
R4
MIN.
TX GAIN
MAX.
R6
JP2
GAIN BOOST
JP5
1 TEST
2 DEMO
3 MIN. TIME
6 SUPERVISION MAX. TIME
7 DISABLE
TP1
TX CLOCK
EXTENDED DELAY DISABLE
JP7
P2
DOOR DATA
SUPER DRIVE
+6V
RECEIVER
JP5
LED14
SUPERVISOR INDICATOR
SUPERVISE INTERVAL SELECT
F2
1A
F1
2.5A
JP1
130KHZ
131KHZ
132KHZ
BAR DISPLAY ENABLE
JP14
XYZ-SCAN SELECT
X,Y,Z
X+Y
X(OFF)
JP4
DETECTION DELAY
ENABLE
DISABLE
JP8
BAR DISPLAY
MAX
MIN
LED13
LED4
VALID
LED5
RX
Y1
130KHZ
Y2
131KHZ
Y3
132KHZ
JP6
SCAN RATE
28V
1A
AC
14V
3A
P11
RESET
JP9 OUT IN LOCK RESET BY S1 SETTING
LOCK LATCHED WITH ALARM
JP10 OUT IN LOITER RESET BY KEYPAD
AUTO RESET OF LOITER
JP16 OUT IN DOOR AJAR RESET BY KEYPAD
AUTO RESET OF DOOR AJAR
LOCK/ELEV DELAY
S1
1 10 30 OFF
5 15 60 ON
IN SECONDS
R59
VALID DETECT THRESHOLD
S3
R26
TX SUPERVISE THRESHOLD
SUPERVISE LED CONDITIONS
RED=TX PROBLEM
GRN=RX PROBLEM
YELLOW=BOTH
DATA
+12V
SUPERV ALARM OUT
ALARM OUT
DOOR AJAR OUT
LOITER OUT
ALARMS
P9
LOCK 12VAC
P10
EXTERNAL RESET
JP9
JP13
PIEZO ENABLE
TP6
GND
RESET
S2
LOITER TIME EXTEND DISABLE
JP12
JP10
LOITER AUTO-RESET ENABLE
P12 +
LOCK
LED6
DOOR AJAR AUTO-RESET ENABLE
JP16
R97
MAX.
MIN.
DOOR AJAR TIME
R110
MAX.
MIN.
LOITER TIME
P8
KYPD ALARM
+12V
KYPD RESET
TAG DETECT
KEYPAD
LED7
ALARM
DOOR AJAR
LED8
LOCK/ELEV. RELAY
RESET RELAY
DOOR TIMER EXTEND DISABLE
JP11
ALARM RELAY
P3
+V OUT
CALL COMM
CALL N.C.
CALL N.O.
TAG DETECT
P4
LOCK N.O.
LOCK COMM
RESET N.O.
+V IN
+V OUT
LOCK
MAG SW
OUT
IN
P5
PERIMETER
PER. LOCK
PER. DOOR
P6
LED9
LOITER
ALARM N.O.
ALARM N.C.
ALARM COMM
FIRE VOLT
P7
ELEVATOR